



12th INTERNATIONAL SCIENTIFIC CONFERENCE  
EMPLOYMENT, EDUCATION AND ENTREPRENEURSHIP

# EMPLOYMENT, EDUCATION AND ENTREPRENEURSHIP

October 26-28, 2023 Belgrade, Serbia





## **THEMATIC PROCEEDINGS**

*Publisher:*

**Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia**

*Editors:*

**Vlado Radić, Maja Cogoljević, Ljiljana Dimitrijević**

*Reviewers:*

**Mirjana Radović Marković, Miljana Barjaktarović, Milan Gavrilović**

CIP - Каталогизација у публикацији  
Народна библиотека Србије, Београд

330.1(082)

37(082)

331(082)

INTERNATIONAL Scientific Conference Employment, Education and  
Entrepreneurship (12 ; 2023 ; Beograd)

[Thematic proceedings] / 12th International Scientific Conference  
Employment, Education and Entrepreneurship, October 27, 2023 Belgrade ;  
[editors Vlado Radić, Maja Cogoljević, Ljiljana Dimitrijević]. -  
Belgrade : Faculty of Business Economics and Entrepreneurship, 2023  
(Valjevo : Valjevoprint). - 508 str. ; 30 cm

Tiraž 100. - Napomene i bibliografske reference uz tekst. -  
Bibliografija uz svaki rad.

ISBN 978-86-6069-216-2

1. Radić, Vlado, 1955- [уредник]

а) Економија -- Зборници б) Образовање --  
Зборници в) Запошљавање -- Зборници

COBISS.SR-ID 130215433

**Copyright © 2023**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, [www.vspep.edu.rs](http://www.vspep.edu.rs)  
Business School of Vocational Studies, "Prof. Dr. Radomir Bojković ", Kruševac, Serbia,  
[www.indmanager.edu.rs](http://www.indmanager.edu.rs)  
Stanisław Staszic State University of Applied Sciences in Piła, Poland [www.pwsz.pila.pl](http://www.pwsz.pila.pl)  
Faculty of Philosophy, St. Kliment Ohridski University of Sofia, Sofia, Bulgaria, [www.phls.uni-sofia.bg](http://www.phls.uni-sofia.bg)  
International College of Interdisciplinary Studies, USA, [www.americanschoolofgenealogy.com](http://www.americanschoolofgenealogy.com)  
Faculty of Entrepreneurship, University of Tehran, Iran, [www.ut.ac.ir](http://www.ut.ac.ir)  
University of Telecommunications and Postal Traffic, Sofia, Bulgaria, [www.utp.bg](http://www.utp.bg).  
Institute for Economic Research at the Bulgarian Academy of Sciences, Sofia, Bulgaria, [www.iki.bas.bg](http://www.iki.bas.bg)  
Belgrade Banking Academy, Belgrade, Serbia, [www.bba.edu.rs](http://www.bba.edu.rs).

**Jointly organize**  
**Twelfth International Scientific Conference**  
**EMPLOYMENT, EDUCATION AND ENTREPRENEURSHIP (EEE2023)**  
**Belgrade, Serbia, October 26-28, 2023**



## ***SCIENTIFIC COMMITTEE OF THE CONFERENCE***

**Academician Mirjana Radovic Marković, PhD**

**President of the Scientific Committee**

Faculty of Business Economics and Entrepreneurship, Belgrade Serbia

**Academician Vlado Radić, PhD**

**Vice President of the Scientific Committee**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Imani Silver Kyaruzi PhD,**

QAHE-University of Ulster, Great Britain

**Hasan Hanić, PhD,**

Belgrade Banking Academy, Belgrade, Serbia

**Ayinla Omolaja Muhammed, PhD**

International College of Management and Technology, Nigeria

**Emine Demiray, PhD**

Anadolia University, Turkey

**Radojko Lukić, PhD**

Faculty of Economics, University of Belgrade, Serbia

**Balazs Laki, PhD**

Edutus University, Budapest, Hungary

**Snezhana Ilieva, PhD**

University "St. Kliment Ohridski", Sofia, Bulgaria

**Boufeldja Ghiat, PhD**

Faculty of Social Sciences Oran University, Oran, Algeria

**Gabriel Kabanda, PhD**

University of Zimbabwe, Harare, vice president of Zimbabwe Academy of Sciences

**Shaik Azahar Shaik Hussain, PhD**

University of Malaysia Sarawak, Malaysia

**David Edward G. Jimenez, PhD**

Ateneo de Manila University, Philippines

**Dikabo Mogopodi, PhD**

University of Agriculture and Natural Resources, Gaborone, Botswana

**Mohammad Reza Zali, PhD**

Faculty of Entrepreneurship, University of Tehran, Iran

**Eduard Stioca, PhD**

Faculty of Economic Sciences, Lucian Blaga University of Sibiu, Sibiu, Romania

**Serzhanov Vitalij Viktorovych, PhD**

Faculty of Economics, Uzhhorod National University, Ukraine



**Conference Proceedings**

**Lydia Bares Lopez,**

University of Cadiz, Spain

**Kemal Yildirim, PhD**

Beyt Nahrin The Mesopotamian Academy of Sciences and Art, Istanbul, Turkey

**Salah Koubaa, PhD**

University Hasan II of Casablanca, Morocco

**Fadil Mušinović, PhD**

B2 Higher Vocational College, Ljubljana, Slovenia

**Piotr Senkus, PhD**

Faculty of Economic Sciences at the University of Warsaw, Poland

**Sandra Đurović, PhD**

Faculty of Business Economics and Law, University Adriatic, Bar, Montenegro

**Nano Ružin, PhD**

Faculty of Business and Economics, Skoplje, North Macedonia

**Jan Polcyn PhD**

Stanisław Staszic State University of Applied Sciences, Piła, Poland

**Gabrijela Popovic, PhD**

Faculty of Applied Management, Economics and Finance, University Business Academy in Novi Sad, Serbia

**Vera Karadjova, PhD**

Faculty of Tourism and Hospitality, Ohrid, Republic of North Macedonia

**Carmine D'Arconte, PhD**

Faculty of Economics, University of Rome Three, Italy

**Volodymyr Andryshyn, PhD**

Faculty of Economics, Uzhhorod National University, Ukraine

**Aidin Salamzadeh, PhD**

Faculty of Entrepreneurship, University of Tehran, Iran

**Eugen Popescu, PhD**

Lucian Blaga University of Sibiu, Sibiu, Romania

**Brahmi Mohsen, PhD**

Faculty FEM Sfax University, Sfax, Tunisia

**Elena Shustova, PhD**

Kazakh Humanitarian Law Innovative University, Kazakhstan

**Christo Kaftandjiev, PhD,**

University "St. Kliment Ohridski", Sofia, Bulgaria

**Tatjana Vujović, PhD**

Faculty of Philosophy, University of Montenegro, Niksic, Montenegro

**Mirjana Radman-Funarić, PhD**

Josip Juraj Strossmayer University of Osijek, Faculty of Tourism and Rural Development in Požega, Croatia



**Conference Proceedings**

**Marija Čukanović Karavidić, PhD**

Ministry of Education, Science and Technological Development, Belgrade, Serbia

**Maja Cogoljević, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Dragana Vojteški – Kljenak, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Miljana Barjaktarović, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Mihajlo Rabrenovic, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Slavoljub Šljivić, PhD**

Business College of Applied Studies „Prof. Radomir Bojković“, Kruševac, Serbia

**Milan Gavrilovic, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Ljiljana Dimitrijevic, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Gordana Gavrić, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Aleksandra Tošović Stevanović, PhD**

Institut za međunarodnu politiku i privredu, Beograd, Serbia

**Slobodan Jovanović, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Aleksandra Jovanović, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

## ***ORGANIZING COMMITTEE***

**Vladan Cogoljević, PhD**

**President of the Organisation Committee**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Dušan Cogoljević, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Nikola Radić, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Katarina Njegić, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Snežana Moretić Mičić, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

**Marija Lukić, PhD**

Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia

# ***THE CONTENTS***

<b>PREFACE.....</b>	<b>17</b>
<b>ROUNDTABLE ON GLOBAL ENTREPRENEURSHIP: AN OVERVIEW .....</b>	<b>19</b>
Mirjana Radović-Marković	
<b>APPLICATION OF ECONOMIC FUNCTIONS .....</b>	<b>23</b>
Bojan Radišić	
Mirjana Radman-Funarić	
Glorija Bertelović	
<b>ANALYSING online violences and their CONSEQUENSES FROM CHINESE ASPECT.....</b>	<b>30</b>
Zoltán Peredy	
Wang Jiayi	
Balázs Laki	
<b>SIDE DEMAND FOR HIGHER EDUCATION: CAUSES, CONSEQUENCES AND COUNTERMEASURES.....</b>	<b>41</b>
Serzhanov Vitaly	
Abramov Fedir	
Andryshyn Volodymyr	
<b>ACCOUNTING FOR SOCIAL ENTREPRENEURSHIP DEVELOPMENT AND GROWTH .....</b>	<b>51</b>
Ivana Tomašević	
Sandra Djurovic	
Nikola Abramović	
<b>21<sup>ST</sup> CENTURY LEADERSHIP SKILLS AND STAFF MOTIVATION.....</b>	<b>61</b>
David Edward G. Jimenez	
<b>HISTORY OF THE DEVELOPMENT OF THE AUSTRIAN SOCIAL PARTNERSHIP .....</b>	<b>71</b>
Eperjesi Zoltán	
<b>CONNECTING SCIENCE ACADEMIES, EDUCATIONAL INSTITUTIONS, RESEARCH INSTITUTIONS AND COMMUNITIES FOR ECONOMIC SYNERGY AND IMPACT.....</b>	<b>83</b>
Dikabo Mogopodi	
Khola Mogotsi	
Onalerona Pitlagano	
<b>MASTERING TIME MANAGEMENT AT WORK .....</b>	<b>84</b>
Kemal Yildirim	
Muhamad Omolaja	
Sladjana Vujičić	
<b>DEVELOPMENT OF ENTREPRENEURIAL DIGITAL COMPETENCES THROUGH EDUCATION .....</b>	<b>89</b>
Mirjana Radović-Marković	
Mohsen Brahmi	



Conference Proceedings

<b>PROBLEMATIZATION AS A WAY OF CREATION INTERESTING KNOWLEDGE IN ENTREPRENEURSHIP ....</b>	<b>90</b>
Salah Koubaa Mateusz Tomanek Zakia Benhida	
<b>CRM IN HIGH EDUCATION.....</b>	<b>96</b>
Carmine D'Arconte Zorana Nikitovic	
<b>A CYBERSECURITY MODEL WITH AI/MACHINE LEARNING AND METAVERSE–BASED BIG DATA ANALYTICS ARCHITECTURE FOR SDG IMPLEMENTATION AND EEE IN AFRICA .....</b>	<b>107</b>
Gabriel Kabanda	
<b>THE NEED FOR EDUCATION FOR INTERFAITH DIALOGUE AS A CONDITION FOR STABILITY AND ECONOMIC DEVELOPMENT OF THE REPUBLIC OF NORTH MACEDONIA .....</b>	<b>108</b>
Nikola Gjorshoski	
<b>INCREASE OF FISCAL BURDEN IN ROMANIA IN 2023 – IMPACT ON THE ECONOMY .....</b>	<b>118</b>
Emanuel George Mesteru Nikola Radić	
<b>DETERMINANTS OF YOUNG PEOPLE IN AGRICULTURE - THE EXPERIENCE OF THE EU AND SERBIA ...</b>	<b>127</b>
Aleksandra Tošović-Stevanović	
<b>PERFORMANCE TRADE OF THE EUROPEAN UNION AND SERBIA – METHODOLOGICAL AND EMPIRICAL ANALYSIS .....</b>	<b>134</b>
Dragana Vojteški Kljenak Radojko Lukić	
<b>MACROECONOMIC FACTORS AS DETERMINANTS OF THE BELGRADE STOCK EXCHANGE: EVIDENCE FROM THE ORDINARY LEAST SQUARES METHOD.....</b>	<b>147</b>
Sunčica Stanković Dragan Cvetković Miljana Barjaktarović	
<b>GREEN MARKETING – A CONCEPT PREFERRED BY THE MODERN CONSUMER .....</b>	<b>155</b>
Ljiljana Dimitrijević Maja Cogoljević Vladan Cogoljević	
<b>TESTING PSYHOMETRIC PROPERTIES OF SEHC SCALE IN SERBIAN CONTEXT .....</b>	<b>164</b>
Vesna Jovanović Katarina Njegić Vesna Milanović	



Conference Proceedings

<b>RESEARCH ON THE SALES IMPACT OF MODERN COMMUNICATION TECHNOLOGIES IN THE REPUBLIC OF SERBIA.....</b>	<b>174</b>
Maja Cogoljević Ljiljana Dimitrijević Vladan Cogoljević	
<b>TRADE BARRIERS BETWEEN CHINA AND THE UNITED STATES OF AMERICA DURING THE PERIOD OF 2017 – 2020. ....</b>	<b>184</b>
Davor Bešić Nikola Radić Vlado Radić	
<b>IMPACT OF THE WAR IN UKRAINE ON INFLATION IN THE EUROPEAN UNION .....</b>	<b>195</b>
Dragan Momirović Raica Milićević Ninoslav Erić	
<b>IMPACT OF TARGET INFLATION RATE ON FINANCIAL STABILITY OF REPUBLIC OF SERBIA ECONOMY .....</b>	<b>204</b>
Miloš Roganović Đorđe Vidicki	
<b>THE ASSESSMENT REVISION OF THE MECHANISMS EFFICIENCY IN RISK MANAGEMENT IN THE SERBIAN BANKING SECTOR – FOCUSING ON EXTERNAL FRAUD.....</b>	<b>214</b>
Tamara Vesić Milan Gavrilović Jovana Vesić	
<b>FAMILY BUSINESS DEVELOPMENT IN SERBIA FROM THE ASPECT OF RURAL TOURISM POTENTIAL... ..</b>	<b>224</b>
Edita Kastratović Milan Dragić	
<b>THE SUCCESS OF INVESTING IN SERBIAN INVESTMENT FUNDS .....</b>	<b>234</b>
Milan Gavrilović Jovan Petronijević Cvetko Lazović	
<b>CONTEMPORARY CONTROVERSES ABOUT THE RELATIONSHIP BETWEEN INFLATION AND UNEMPLOYMENT – A COMPARATIVE ANALYSIS .....</b>	<b>241</b>
Milan Radičević	
<b>RESEARCH ON THE INNOVATIVE CAPACITY OF SMEs IN SERBIA, CONCERNING THE PROTECTION OF INTELLECTUAL PROPERTY .....</b>	<b>250</b>
Nenad Ravić Djordje Spasojević Tamara Vesić	



Conference Proceedings

<b>ENTREPRENEURSHIP IS THE BACKBONE OF THE ECONOMIC GROWTH OF THE NATIONAL ECONOMY .....</b>	<b>258</b>
Milica Cvetković Vladimir Đorđević Aleksandar Momčilović	
<b>CODEPENDENCE OF THE DEVELOPMENT OF SELECTIVE TOURISM, ORGANIC PRODUCTION, AND THEIR FINANCING .....</b>	<b>265</b>
Milan Beslač Vladan Cogoljević Slavoljub Vujović	
<b>FUNCTIONALITY OF KNOWLEDGE ACQUIRED DURING FORMAL EDUCATION .....</b>	<b>275</b>
Gordana Gavrić Marija Čukanovic Karavidić Fadil Mušinović	
<b>DIGITALIZATION AND ECONOMIC GROWTH OF SMALL COUNTRIES IN THE AGE OF GLOBALIZATION .....</b>	<b>282</b>
Mirjana Radović-Marković Dušan Marković Vera Karadjova	
<b>CONTRIBUTION OF INDUSTRY 5.0 IN PROMOTING SUSTAINABLE DEVELOPMENT .....</b>	<b>289</b>
Vlado Radić	
<b>FACTORING FROM THE ASPECT OF NATIONAL AND INTERNATIONAL LAW .....</b>	<b>300</b>
Milica Miloradović Nevenka Vojvodić Miljković	
<b>TRADITIONAL SOCIO-CULTURAL OBSTACLES TO THE DEVELOPMENT OF ENTREPRENEURSHIP IN SERBIA.....</b>	<b>307</b>
Pešić Jenačković Dragana Simić Žikica	
<b>THE ROLE OF ARTIFICIAL INTELLIGENCE IN INVESTMENT FUNDS MANAGEMENT .....</b>	<b>316</b>
Jovan Petronijević Tamara Vesić Alen Popović	
<b>RISKS OF USING ARTIFICIAL INTELLIGENCE IN INVESTMENT FUNDS MANAGEMENT.....</b>	<b>323</b>
Jovan Petronijević Milan Gavrilović Nikola Radić	





Conference Proceedings

<b>COMPETITIVE STRATEGY AND SUPPLY CHAIN, AND CORPORATE GOVERNANCE – THE FRUSTRATION OF THE MANAGEMENT FUNCTIONS – PART I .....</b>	<b>329</b>
Miodrag Cvetković	
<b>COMPETITIVE STRATEGY AND SUPPLY CHAIN, AND CORPORATE GOVERNANCE – THE FRUSTRATION OF THE MANAGEMENT FUNCTIONS – PART II .....</b>	<b>338</b>
Miodrag Cvetković	
<b>THE APPLICATION OF BLOCKCHAIN TECHNOLOGY IN EDUCATION .....</b>	<b>347</b>
Jelena Bačević Vladan Pantović Vojkan Vasković	
<b>ADVANCED INTERNET TECHNOLOGIES FOR ECONOMISTS, LAWYERS AND MANAGERS New core curriculum development .....</b>	<b>356</b>
Dragorad Milovanović Vladan Pantović Slađana Vujičić	
<b>LEGAL FORMS OF BUSINESS ASSOCIATIONS AND COMPANIES IN THE SERBIAN COMMERCIAL CODE OF 1860 .....</b>	<b>365</b>
Slobodan Jovanović	
<b>IS THE ROMAN SOCIETAS (CONTRACT OF PARTNERSHIP) STILL ALIVE TODAY?.....</b>	<b>372</b>
Aleksandra Jovanovic Aneta Atanasovska Cvetkovic	
<b>DETERMINING THE APPLICABLE LAW FOR CROSS-BORDER INFRINGEMENT OF PERSONALITY RIGHTS IN THE MEDIA.....</b>	<b>381</b>
Jelena Vlajnić Živorad Rašević Snežana Plavšić Prelević	
<b>THE INTERPRETATION OF LAWS AND LEGAL GAPS .....</b>	<b>389</b>
Sandra Pajić Šavija	
<b>WOMEN AND THE ACQUISITION OF THE RIGHT TO INDEPENDENTLY UNDERTAKE LEGAL TRANSACTIONS .....</b>	<b>398</b>
Snežana Prelević Plavšić Živorad Rašević Danijela Despotović	



**Conference Proceedings**

<b>INFLUENCE OF POLITICAL RISK AND COUNTRY RISK ON THE CAPITAL ALLOCATION OF INSURANCE COMPANIES .....</b>	<b>409</b>
Marija Lukić Tatjana Piljan	
<b>MANAGEMENT OF COMPETENCIES AND SKILLS IN THE PROJECT TEAM .....</b>	<b>418</b>
Goran Lapčević Milan Krstić Eugen Popescu	
<b>ADVANCEMENTS IN HEALTHCARE AND HUMAN RESOURCE MANAGEMENT: CHALLENGES AND OPPORTUNITIES IN THE AGE OF TECHNOLOGY .....</b>	<b>427</b>
Usman Iqbal Suleman Atique Mihajlo Rabrenović	
<b>ANALYSIS OF CHANGING TRENDS IN PUBLIC RELATIONS INDUSTRY – PUBLIC RELATION AGENCIES AS LEADERS OF THE FEMALE DOMINANCE IN MANAGEMENT POSITIONS IN CROATIA .....</b>	<b>432</b>
Marina Đukić Tatjana Ileš Mirela Belaj	
<b>THE IMPACT OF INNOVATIVE VIDEO GAME TECHNOLOGY ON THE BUSINESS CLIMATE ON THE CITY OF NOVSKA .....</b>	<b>443</b>
Marijana Mitrović	
<b>LOBBYING'S EFFECTS ON ORGANIZATIONAL TRANSFORMATION .....</b>	<b>452</b>
Renata Čupić	
<b>DIGITALIZATION AND ITS IMPACT ON THE DEVELOPMENT OF MICRO AND SMALL ENTERPRISES IN THE REPUBLIC OF CROATIA .....</b>	<b>462</b>
Josipa Pleša	
<b>COMMUNICATION CHANGES AND CHALLENGES BEFORE, DURING, AND AFTER THE PANDEMIC IN BUSINESS .....</b>	<b>470</b>
Ivana Brkljača	
<b>THE INFLUENCE OF STRATEGIC COMMUNICATION ON TRUST BETWEEN THE PATIENT AND DENTIST – FOCUS GROUP WITH ITALIAN PATIENTS .....</b>	<b>480</b>
Etienne Šajn	



**Conference Proceedings**

<b>THE CODE OF ETICS APPLICATION IN THE CREATION OF HEADLINES ON PORTALS REGARDING THE CASE OF MASS MURDER IN ELEMENTARX SCHOOL VLADISLAV RIBNIKAR.....</b>	<b>489</b>
Marija Gojković Rade Babović	
<b>WHAT IS A STARTUP .....</b>	<b>498</b>
Siniša Pekevski	
<b>ECOTOURISM AS AN OPPORTUNITY FOR THE DEVELOPMENT OF HEALTHY SUSTAINABLE TOURISM IN THE REPUBLIC OF SERBIA .....</b>	<b>505</b>
Ana Milojevic Jelisijević Shaik Azahar Shaik Hussain	
<b>UNDERSTANDING CONSUMER WORD PREFERENCES USING THE MAXFIDD METHOD – CASE STUDY.....</b>	<b>512</b>
Lea Cok Jani Toroš	



## ***PREFACE***

The twelfth consecutive International Scientific Conference "Employment, Education and Entrepreneurship" (EEE 2023), organized by the Faculty of Business Economics and Entrepreneurship, was held on October 27, 2023.

Over 130 authors and co-authors submitted 60 papers for the conference, of which 24 were from abroad. It should be noted that the works were sent by authors from Romania, North Macedonia, Croatia, Bosnia and Herzegovina, Slovenia, Hungary, Bulgaria, Italy, Philippines, Morocco, Poland, Malaysia, Great Britain, Ukraine, China, Montenegro, Turkey, Nigeria, Botswana, Sweden, Tunisia, Zimbabwe, Australia and Norway.

The main goal of the conference was to come to a conclusion about how to contribute to the increase in employment, the improvement of the quality of education and the development of entrepreneurship in Serbia and the countries of the region through the presentations of experts from theory and practice who deal with the mentioned problems.

All papers were reviewed and after certain corrections were accepted for presentation and printing in the Proceedings. The conference took place in separate units: plenary part, round table and work by sessions. The plenary part of the conference had the theme of employment, education and entrepreneurship in modern times, in which panelists made presentations related to female entrepreneurship in Africa, business project management (BPM) and the concept of 4E (Employment, Enterprise, Entrepreneurship and Employability).

Since technologies are changing at a high speed and their impact is crucial for business, education and entrepreneurship, it is necessary to adapt to these new conditions. In this sense, education is faced with new challenges that impose different behavior, adaptation, flexibility and closer cooperation with the National Employment Service. The education of personnel who are not prepared for the market is not productive, so it is necessary to change the structure of educational programs and continuously adapt teaching to the demands of the market. Special emphasis is placed on international cooperation, through which one can see one's own possibilities and work on their improvement.

The tradition of holding an international scientific conference indicates the willingness of the Faculty of Business Economics and Entrepreneurship to persevere in efforts to align its social activities with new requirements, obstacles and challenges. The continuity of holding the conference is reflected in the fact that in the twelve years of its holding, more than ten volumes of thematic collections with over 1000 published papers have been generated.

We hope that the acquired knowledge, experiences and exchange of opinions will help the participants to embark on new scientific endeavors, in research that is the basis of understanding the state and relationships in the world and around us, and that they will take the initiative to prepare new scientific papers for our next conference in 2024 . years.

In Belgrade, October 2023

*Editors*



# ***ROUNDTABLE ON GLOBAL ENTREPRENEURSHIP: AN OVERVIEW***

*Mirjana Radović-Marković<sup>1</sup>*

## ***ABSTRACT***

*Global entrepreneurship is a dynamic and multifaceted contributing field economic development, drives innovation and responds to the challenges and opportunities of the global constantly changing business environments. The purpose of this round table was to determine the perspectives of sustainable development of global entrepreneurship. Participants concluded that a discussion on global entrepreneurship is vital to facing global challenges, promoting international cooperation and encouraging innovation.*

**Key words:** *global entrepreneurship, KOF globalization index, global entrepreneurship index (GEI), science, technology, innovation, entrepreneurial opportunities, marketing communication .*

## ***ROUNDTABLE HIGHLIGHTS***

Prof. Dr. Radović-Marković from Faculty of Entrepreneurship and Business Economics, opened the roundtable and emphasized the close connection between globalization and entrepreneurship. In doing so, she highlighted numerous studies that assessed the impact of globalization on entrepreneurship, but only on the example of a few countries. However, a broader picture is needed for analysis, that is, our goal is to study the impact of globalization on entrepreneurship through the analysis of data from many countries around the world, said prof. Dr Radović-Marković. In her presentation, she stated that her research was based on examining the impact of globalization on small countries. Referring to the scientist Kuznets, she pointed out that 60 years ago he called all countries with less than 10 million inhabitants small. Accordingly, the "Kuznets criterion" was applied in her research. This research is based on a literature review and data from the KOF globalization index for measuring the level of globalization and the global entrepreneurship index (GEI). The analysis was done for the period before the Covid 19, that is. from 2014-2019 and after the Covid 19.

Comparing the global entrepreneurship index and the globalization index (2014-2019), her analysis showed a moderate correlation between the level of globalization and the level of entrepreneurship for countries in the region, i.e. correlation is  $R^2 = 0.4012$ . There are clear indicators of global economic recovery from the pandemic in the world, which is reflected in positive entrepreneurial initiatives in finding new opportunities in starting a business. Rates of entrepreneurial activity are still lower in most countries compared to the pre-pandemic period. The decline was more than half in Poland, Slovakia and Norway. However, there are exceptions, notably in Saudi Arabia and the Netherlands, where there has been an increase in entrepreneurial activity over the past two years.

According to GEM from Feb. In 2023, the absolute entrepreneurial gender gap (male minus female) exceeded seven percent in five economies: four in Europe (Serbia, Lithuania, Croatia and Latvia), plus the United Arab Emirates. For example, the percentage of adults who start or manage new businesses in Serbia was 10.5% in 2022 (GEM, 2023). Although male new entrepreneurship was higher at 14.7% and female new entrepreneurship was lower by 6.4%, which means that there were more than two Serbs starting a new business for every woman doing the same. Research also shows that due to less work experience of female entrepreneurs, their businesses have a lower survival rate. She pointed out that more than half of women-

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, mradovic@gmail.com



## Conference Proceedings

owned businesses in Serbia continued to operate after the individual or co-owners left the business. In addition to Serbia, we have the same example in the United Arab Emirates and Taiwan.

In conclusion, Prof.dr Radović-Marković stated that globalization affects the development of entrepreneurship in numerous countries in a different way in accordance with their national policies and the level of industrial development.

Other presenter was Prof. Dr Usman Iqbal from School of Population Health-Faculty of Medicine and Health University of New South Wales, Australia. He talked on Global Entrepreneurship from a view of health care. At the very beginning he stressed that there are approximately 594 million entrepreneurs in the world in 2023, which is around 7.4% of the total population. This is a 2.1% increase from the 582 million estimated in 2020. The growth in entrepreneurship positively impacts job creation, innovation, and economic development. In addition, he mentioned that women constitute about 43% of entrepreneurs worldwide, with the largest percentage of female entrepreneurs being between 40 and 59 years old. It's estimated that there are approximately 252 million female entrepreneurs globally. Additionally, another 153 million women are operating established businesses, concluded prof. Dr Iqbal. His presentation is focused on Entrepreneurial Opportunities in Healthcare. In line with this, he considered as following:

- Healthcare Delivery Models: New healthcare delivery models, like Accountable Care Organizations (ACOs) and Direct Primary Care (DPC) practices, create entrepreneurial prospects.
- Health and Wellness Tech: Consumer demand for health and wellness products spurs growth in fitness trackers, nutrition apps, and holistic wellness solutions.
- Elderly Care Services: An aging population drives the need for innovative elderly care solutions, including assisted living technologies.
- Global Health: Entrepreneurs addressing healthcare disparities and access issues in underserved regions can make a significant impact.
- Regulatory and Compliance Solutions: Evolving healthcare regulations fuel demand for startups offering compliance and regulatory solutions for healthcare providers.

In conclusion, he noted that the global entrepreneurship in healthcare is a dynamic force for positive change. Namely, by embracing innovation, fostering collaboration, and staying true to our commitment to patient well-being, we can drive transformative advancements in the healthcare industry. At last, prof. Dr Iqbal pointed out that the world's health challenges are vast, but with entrepreneurial spirit and a global perspective, we can create a healthier and more equitable future for all.

Prof. Dr Dikabo Mogopodi from Africa Science Leadership Programme Fellow-Botswana, discussed on connecting science academies, educational institutions, research institutions and communities for economic synergy and impact. She noted that Science, Technology and Innovation (STI) are critical for the transformation of economies, reduction of poverty, attainment of the Sustainable Development Goals and integration of the African continent into the global knowledge economy. The African Union Agenda 2063, which was launched in 2013, emphasized the value of knowledge development and the contribution of science and innovation to accomplishing the continent's goals. STI was seen as the key to an advanced and prosperous Africa. STI was recognized as the locomotive for achieving prosperous and developed Africa. Transforming African economies would require the continent to be knowledge-based and innovation driven and would require rigorous investment in research and development (R&D), knowledge, science and technology in order to ensure a path marked by sustained economic growth, global competitiveness, inclusiveness, and environmental sustainability. Of priority is the enhancement of entrepreneurial culture among young people in the STI ecosystem to advance African developmental goals. The age of innovation and entrepreneurship should be led by youth, who are the engine of national development and advancement. Science academies could play a critical role in fostering entrepreneurship and developing a greater entrepreneurial consciousness. Further science academies could encourage and influence universities to incorporate innovation and entrepreneurship within their STI curricula. In light of this, Botswana Academy of Science (BAS), an autonomous non-profit organization established by scientists in Botswana in 2015, has set out on a mission to inculcate a culture of innovation and





## Conference Proceedings

entrepreneurship amongst young scholars in the STI space. BAS has previously partnered with the Organization of Women in Science Botswana Chapter to highlight activities of Women in STEM who have succeeded in translating their research output to business. BAS in partnership with Academy of Science of South Africa (ASSAf), the Lesotho Academy of Science and Technology (LAST), has been organizing a series of seminars/webinars together, with the goal of setting in motion concrete actions that advance Africa's STI4SDGs priorities. Further BAS has within its meetings/conferences focused on highlighting research that improves production and utilization of natural resources indigenous to Botswana which have great potential for wealth creation and for contributing to economic development as well as for addressing poverty eradication, she concluded. Further, prof. Dr Dikabo Mogopodi recommended that this has been done by engaging with institutions such as Natural Products Association of Botswana (NPAB) and Botswana Community Based Organizations Network (BOCOBONET).

Prof. Dr Cristo Kafandijev from Sofia University St Kliment Ohridski, Bulgaria had a speech on Chinese marketing communication. He pointed out that the marketing communications in China is changed and was affected by a huge transformation process. Namely, it is the world's most dynamic and challenging markets. In addition, he stressed the rise of information and communication technologies and their impact on a closer communication between advertisers and consumers. Consequently, this have led to the changing business marketing requirements. Regarding China, social media marketing is particularly important for maximizing brand awareness and attracting consumers. Social media marketing activities (SMMAs) such as interactivity, informativeness, word-of-mouth-WOM, personalization, and trendiness significantly strengthen the relationship quality factors such as commitment, trust, and satisfaction, which in turn positively increase consumer online repurchase intentions in China's e-commerce industry .In line with this, prof.Kafandijev noted that social media marketing is of paramount importance to build e-reputation in China. With 95% of people who live in large Chinese cities having an account with at least one social network, social media is an effective tool for building brand awareness.

Prof. Kafandijev concluded that engaging with customers through social media and other channels can help build trust and loyalty. During presentation , he used multimedia which contributed to its interest.

## *CONCLUSION*

The Global Entrepreneurship Roundtable is about collective efforts and activities individuals, businesses and organizations around the world in creating and running businesses with innovative ideas and the goal of economic growth. It covers a wide range of activities, from startups and small businesses to multinational corporations. Key points to take away considerations in understanding global entrepreneurship include:

- Innovation: Entrepreneurship is often driven by innovative ideas and solutions to problems, which leads to the development of new products, services and technologies.
- Economic Growth: Entrepreneurship plays a vital role in fostering economic growth by creating jobs, generating wealth and increasing productivity.
- Global reach: In the modern era, entrepreneurship is not limited by geographical boundaries. Entrepreneurs can access global markets and collaborate with individuals and businesses worldwide.
- Challenges: Entrepreneurs face a number of challenges, including access to finance, regulatory obstacles and market competition. Adaptability and resilience are essential features.
- Support ecosystem: Many countries have developed support ecosystems for entrepreneurs, offering resources such as incubators, accelerators and government initiatives to encourage entrepreneurship.



## Conference Proceedings

- Types of entrepreneurs: There are different types of entrepreneurs, including social entrepreneurs who focus on solving social issues and serial entrepreneurs who launch more jobs.
- Technology and Digitization: The digital age has transformed entrepreneurship, making it easier starting and growing a business. E-commerce, online platforms and telecommuting have expanded possibilities.
- Sustainability: There is a growing emphasis on sustainable entrepreneurship, which takes into account environmental and social impacts of business activities.
- Global Challenges: Entrepreneurs also play a role in solving global challenges such as climate change, health innovation and poverty reduction.
- Cultural and regional differences: Entrepreneurship varies across regions and cultures, subinfluenced by factors such as access to resources, cultural norms and government policies.

Finally, we can conclude that a discussion on global entrepreneurship is vital to foster economic growth, facing global challenges, promoting international cooperation and encouraging innovation. The discussion about this promotes cultural exchange, which is key in our interconnected world. For these reasons, we thank all the participants, who were gathered from different parts of the world and contributed to this topic from different angles of consideration. Therefore, they made this roundtable global both in terms of participation and subject matter.



Conference Proceedings

***APPLICATION OF ECONOMIC FUNCTIONS***

*Bojan Radišić<sup>1</sup>*  
*Mirjana Radman-Funarić<sup>2</sup>*  
*Glorija Bertelović<sup>3</sup>*

***ABSTRACT***

*Economic functions are the backbone of business, a crucial concept in economics. They describe the relationship between different economic variables and play a significant role in modeling real economic situations. Economic functions enable drawing conclusions about how changes in factors like prices, income, or consumer preferences will affect demand, supply, and prices. The goal in most economic situations is to achieve optimal outcomes, such as profit maximization or cost minimization. Cost functions, as one of the economic functions, allow the application of mathematical methods like differential calculus to determine the best actions or resources that will achieve economic goals. Economic functions are a tool that helps economists quantitatively analyze economic phenomena, make decisions, and shape policy. Their use contributes to a better understanding and management of the economy, aiding in the development and interpretation of economic concepts such as supply and demand. Knowledge of economic functions is crucial for understanding and improving business.*

***Key words:*** *economy, economic function, business, mathematical method*

***JEL Classification:*** *M21, C02,*

***ECONOMIC FUNCTIONS***

Mathematical functions used to describe economic phenomena are called economic functions. They form the foundation of economic theory, allowing the modeling and prediction of the behavior of economic agents, such as consumers and producers. They also analyze how changes in economic conditions reflect on the overall economy. Economic functions are instrumental in making business decisions, such as setting product prices, determining optimal levels of production and costs, and devising marketing strategies. Ultimately, economic functions enable mathematical modeling and understanding of complex economic processes, supporting informed decision-making in the field of economics.

The most commonly used economic functions include: demand function, supply function, production function, cost function, revenue function, and profit function.

The concept of demand indicates the quantity of a product or service consumers are willing and able to buy at various prices within a specific time frame. "The quantity demanded for products or services is the amount consumers plan to spend at a given moment and place to purchase a certain type of goods or services at different (alternative) prices." (Karić, 2006). The demand function  $f(p) = a - bp$  can also be represented by a mathematical expression. The demand function expresses a linear relationship between the price 'p' and the quantity demanded 'f(p)', where 'a' and 'b' are constants determining the shape and slope of the function.

---

<sup>1</sup> J. J. Strossmayer University of Osijek, Faculty of Tourism and Rural Development in Pozega, bradisic@ftr.hr

<sup>2</sup> J. J. Strossmayer University of Osijek, Faculty of Tourism and Rural Development in Pozega, mradmafunic@ftr.hr

<sup>3</sup> J. J. Strossmayer University of Osijek, Faculty of Tourism and Rural Development in Pozega, gbertelovic@vup.hr



## Conference Proceedings

Supply indicates the quantity of products or services that producers are willing and able to offer at different prices over a specific time period. "Supply is the readiness of producers to offer, at a certain time and place for sale, a certain quantity of a good or service at different (alternative) prices." (Karić, 2006).

When supply meets demand, the market is in equilibrium. In this state, prices stabilize, and the quantity of trade is maximized. At the equilibrium point, buyers are willing to purchase as much as sellers are ready to offer. "Thus, the free decisions of buyers and sellers are in a position to establish the equilibrium price. It cleanses the market in the sense that it does not know market surpluses that would burden producers nor market shortages that would frustrate consumers." (Ferenčak, 2003, 28).

The production function is an economic concept that describes the relationship between investment in production factors (labor, capital, raw materials) and the quantity of products or services a company can produce. The production function can be expressed in the form of an equation or a graph illustrating the quantity of products a company can produce concerning the quantity of invested production factors.

The cost function is an economic concept that describes the relationship between the quantity of production factors used in the production process and the total costs incurred by the company. The cost function is one of the key concepts in economics as it enables companies to analyze and optimize their production costs. Based on the cost function, companies can make decisions regarding the selection of optimal combinations of production factors, achieving economies of scale, determining product prices, and gaining a competitive advantage.

The revenue function is an economic concept that describes the relationship between the quantity of products or services a company sells and the total revenue the company generates from sales. The revenue function is usually depicted as linear or nonlinear, depending on the nature of the market and consumer behavior. In a linear revenue function, revenue increases proportionally with the increase in the quantity of products sold. This relationship assumes that the price of the product remains constant regardless of the quantity sold.

The profit function is an economic concept that describes the relationship between a company's revenue and costs, resulting in the total profit the company earns. The profit function can be expressed mathematically or graphically to illustrate the impact of changes in revenue and costs on the overall profit. In its simple form, the profit function can be expressed as:  $Profit = Revenue - Cost$ . The analysis of the profit function allows companies to identify the optimal level of production or sales strategy to achieve maximum profit.

## ***PARTIAL DERIVATIVES IN ECONOMIC FUNCTIONS***

Partial derivatives measure how the value of a function changes concerning the change in only one of the independent variables, while all other variables are considered constant. This operation is particularly crucial in multidimensional calculus and the analysis of functions with multiple variables.

It is noteworthy that the partial derivative  $\partial_i f(P_0)$  is, in fact, the "ordinary" derivative at the point  $P_0$ , constrained by the function  $f$  on the direction through  $P_0$  that is parallel to the  $i$ -th coordinate vector. (Ungar, 2005)

Partial derivatives are a fundamental tool in the analysis of functions with multiple variables and are essential for understanding changes in economics, engineering, physics, and many other scientific disciplines.



## Conference Proceedings

### *Extrema of Functions*

Function  $f(x, y)$  is called a function of two variables dependent on two independent variables  $x, y$ . The domain of the function  $f(x, y)$  is the set of all ordered pairs  $(a, b)$  where  $a$  is from the set of values that the variable can take  $x$ , while  $b$  is from the set of values that the variable can take  $y$ :  $(x, y) \rightarrow f(x, y)$ . The graph of function  $f(x, y)$  of two variables  $x$  and  $y$  is a set of all points that form a surface in three-dimensional space  $R^3$  (Neralić & Šego 2009).

**Definition:** Function  $f(a, b)$  is called a **local maximum** if there exists a circle in the domain of  $f$  with the center in  $(a, b)$  such that:

$$f(a, b) \geq f(x, y)$$

for every point  $(x, y)$  in the domain. (Barnett et al., 2006)

**Definition:** Function  $f(a, b)$  is called a **local minimum** if there exists a circle in the domain of  $f$  with the center in  $(a, b)$  such that:

$$f(a, b) \leq f(x, y)$$

for every point  $(x, y)$  in the domain. (Barnett et al., 2006). Points of local minima and maxima are called points of **local extremes**.

**Theorem 1 (Necessary condition for extremes)** Let  $T = f(a, b)$  be a point of local extremum of the function  $f(x, y)$  then all first partial derivatives are equal to 0:

$$\frac{\partial f(a,b)}{\partial x} = 0 \quad (1)$$

$$\frac{\partial f(a,b)}{\partial y} = 0 \quad (2).$$

A point where all first partial derivatives are equal to zero is called a **stationary point**.

**Theorem 2 (Sufficient condition for extremes)** Let  $T = f(a, b)$  be a stationary point of the function  $f(x, y)$  and let  $H$  determinant be defined as:

$$H = \begin{vmatrix} \frac{\partial^2 f(a, b)}{\partial x^2} & \frac{\partial^2 f(a, b)}{\partial x \partial y} \\ \frac{\partial^2 f(a, b)}{\partial x \partial y} & \frac{\partial^2 f(a, b)}{\partial y^2} \end{vmatrix}$$

1. If  $H > 0$  tada funkcija ima ekstrem u  $f(a, b)$ :
  - a. For  $\frac{\partial^2 f(a,b)}{\partial x^2} > 0$  then the function has a local minimum at  $T$ ,
  - b. For  $\frac{\partial^2 f(a,b)}{\partial x^2} < 0$  then the function has a local maximum at  $T$ .
2. If  $H < 0$  the function does not have an extremum at point  $T$ .
3. If  $H = 0$  further examination is required to determine if there is an extremum at point  $T$ .

### *Function Elasticity*



## Conference Proceedings

In accordance with the definition of demand, a reduction in the price of a product stimulates the demand for it, just as a higher price reduces demand. Elasticity of the function is a concept that measures the relationship between the change in one variable (most commonly price) and the change in another variable (most commonly quantity demanded or supplied). The elasticity of the function enables the analysis of the market's reaction to changes in prices, income, costs, or other factors.

The coefficient of partial elasticity of two variables  $f(x, y)$  with respect to the variable  $x$  is defined as follows:

$$E_{f,x} = \frac{x}{f(x,y)} \frac{\partial f(x,y)}{\partial x} \quad (3)$$

The coefficient of partial elasticity  $E_{f,x}$  na razini  $(x, y) = (x_0, y_0)$  approximately explains the percentage increase in function value  $f$ , if variable  $x$  from the level  $x_0$  increases by 1%, and variable  $y$  remains unchanged.

The coefficient of partial elasticity of two variables  $f(x, y)$  with respect to the variable  $y$  is defined as follows:

$$E_{f,y} = \frac{y}{f(x,y)} \frac{\partial f(x,y)}{\partial y} \quad (4)$$

The coefficient of partial elasticity  $E_{f,y}$  on level  $(x, y) = (x_0, y_0)$  approximately explains the percentage increase in function value  $f$ , if variable  $y$  from the level  $y_0$  increases by 1%, and variable  $x$  remains unchanged.

If the coefficient of partial elasticity is greater than 1 (in absolute value), it indicates elastic demand, meaning that a change in price has a relatively large impact on the change in demand. If the price elasticity is less than 1, it indicates inelastic demand, meaning that a change in price has a relatively small effect on the change in demand. If the coefficient of partial elasticity is equal to 1, it is unitary elasticity, where price and demand change equally. (Chiang, A.C., 1994).

Cross-elasticity coefficients are a special case of partial elasticity coefficients and describe the behavior of the demand function for one product when the price of another product changes:

- The product is a normal good if an increase in the price of that product (good) causes a decrease in the demand for that good.
- The cross-elasticity coefficient is positive; the products are substitutes – if an increase in the price of one leads to an increase in the demand for the other (e.g., coffee and tea).
- The cross-elasticity coefficient is negative; the products are complements – if an increase in the price of one leads to a decrease in the demand for the other (e.g., coffee and sugar).

## ***APPLICATION OF ECONOMIC FUNCTIONS IN TRADE***

With the aim of achieving and maximizing profit, specific business segments in the company have been analyzed to provide insights into functions crucial for managing operations and making strategic decisions. It is essential to determine the dependencies of the demand functions for product A and product B.

The store offers two types of products: product A and product B. When acquiring tools, each unit of product A is purchased at a price of 2 euros, and each unit of product B at 3 euros. The company has assessed the equations of daily demand for these two products:

$$x(p_1, p_2) = 75 - 40p_1 + 25p_2 \quad (\text{demand for product A})$$

$$y(p_1, p_2) = 80 + 20p_1 - 30p_2 \quad (\text{demand for product B})$$

where  $p_1$  is the selling price of a product A and  $p_2$  the selling price of product B.



## Conference Proceedings

The daily cost function is known:

$$T(p_1, p_2) = 2x + 3y.$$

Firstly, to determine the dependencies of the demand functions for product A and product B, the calculation of partial and cross-elasticities was performed at the price levels  $p_1 = 2$  euros and  $p_2 = 3$  euros. According to formulas (3) and (4), it follows:

$$Ex_1(p_1, p_2) = \frac{-40p_1}{75 - 40p_1 + 25p_2}$$

$$Ex_1(2,3) = -1,1429$$

$$Ey_1(p_1, p_2) = \frac{20p_1}{80 + 20p_1 - 30p_2}$$

$$Ey_1(2,3) = 1,3333$$

$$Ex_2(p_1, p_2) = \frac{25p_2}{75 - 40p_1 + 25p_2}$$

$$Ex_2(2,3) = 1,0714$$

$$Ey_2(p_1, p_2) = \frac{-30p_2}{80 + 20p_1 - 30p_2}$$

$$Ey_2(2,3) = -3$$

If the price  $p_1$  increases by 1%, while  $p_2$  remains the same with prices  $p_1 = 2$  and  $p_2 = 3$  euros, the value of the demand function for product A will decrease by 1.14%. In the case where the price of  $p_1$  remains the same, and  $p_2$  increases by 1% at the same prices, the demand for the specified product will increase by 1.07%. The products are substitutes.

Similarly, the value of the demand function for product B will increase by 1.33% if the price of  $p_1$  increases by 1%, and  $p_2$  remains the same with prices  $p_1 = 2$  € and  $p_2 = 3$  €. In the case where the price of  $p_1$  remains the same, and  $p_2$  increases by 1% at the same prices, the demand for the specified product will decrease by 3%. The products are substitutes.

Therefore, from the solutions, it can be concluded that product A and product B are substitutes. This result is logical since they are related products sold by the same trading company. An increase in the price of one product from this company leads to an increase in the demand for the other product.

Furthermore, the daily costs of the trade are given by the formula:

$$T(p_1, p_2) = 2x + 3y.$$

The revenue function is determined by multiplying the demand function by the product price. Thus, the demand function for product A is multiplied by the selling price of product A, and the demand function for product B is multiplied by the selling price of product B. To obtain the total revenue, these two functions are summed up:

$$R(p_1, p_2) = p_1 \cdot x(p_1, p_2) + p_2 \cdot y(p_1, p_2)$$

$$R(p_1, p_2) = 75p_1 + 80p_2 + 45p_1p_2 - 40p_1^2 - 30p_2^2$$

During the analysis of business components, the profit function is calculated by subtracting expenses from revenue.

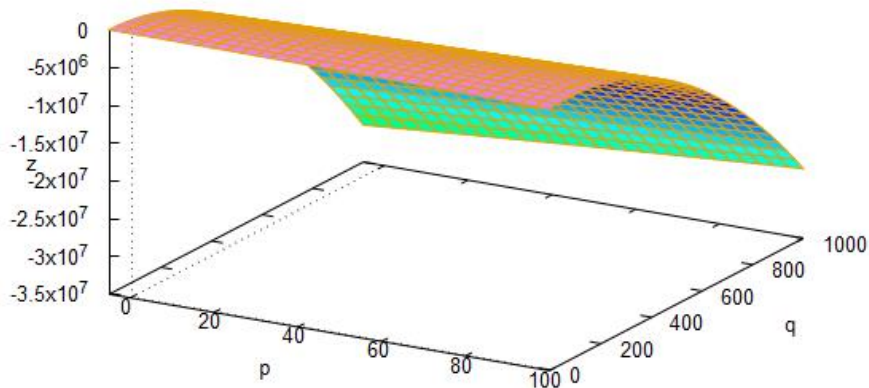
$$P(p_1, p_2) = R(p_1, p_2) - T(p_1, p_2)$$

$$P(p_1, p_2) = 95p_1 + 120p_2 + 45p_1p_2 - 40p_1^2 - 30p_2^2 - 390$$





Conference Proceedings



Graph 1: Trade revenue function

Source: authors

When determining the maximum revenue, we employ the method of critical points in the theorems of necessary and sufficient conditions for extrema.

$$H = \begin{pmatrix} \frac{\partial^2 P}{\partial p_1^2} & \frac{\partial^2 P}{\partial p_1 \partial p_2} \\ \frac{\partial^2 P}{\partial p_2 \partial p_1} & \frac{\partial^2 P}{\partial p_2^2} \end{pmatrix}$$

$$\frac{\partial^2 P}{\partial p_1^2} = -80$$

$$\frac{\partial^2 P}{\partial p_1 \partial p_2} = 45$$

$$\frac{\partial^2 P}{\partial p_2^2} = -60$$

$$\frac{\partial^2 P}{\partial p_2 \partial p_1} = 45$$

$$\det H = \begin{vmatrix} -80 & 45 \\ 45 & -60 \end{vmatrix}$$

$$\det H = -80 \cdot (-60) - 45 \cdot 45$$

$$\det H = 2775$$

Given that the second derivative of the profit function with respect to  $p_1$  at the stationary point is less than zero, and the determinant of the Hessian matrix is greater than zero, the maximum of the function can be calculated using formulas (1) and (2):

$$80p_1 - 45p_2 = 95/ \cdot 9$$

$$45p_1 - 60p_2 = -120/ \cdot (-16)$$

---


$$720p_1 - 405p_2 = 855$$

$$-720p_1 + 960p_2 = 1920$$

---


$$555p_2 = 2775/ : 555$$

$$p_2 = 5$$





### Conference Proceedings

$$80p_1 = 95 + 45 \cdot 5$$

$$80p_1 = 320 / : 80$$

$$p_1 = 4$$

The profit function attains a local maximum at a point M(4,5).

$$P(p_1, p_2) = 95p_1 + 120p_2 + 45p_1p_2 - 40p_1^2 - 30p_2^2 - 390$$

$$P(4,5) = 100$$

$$x(p_1, p_2) = 75 - 40p_1 + 25p_2$$

$$x(4,5) = 40$$

$$y(p_1, p_2) = 80 + 20p_1 - 30p_2$$

$$y(4,5) = 10$$

The business will achieve a maximum profit of €100 when it sells 40 units of product A at a price of €4 each and 10 units of product B at a price of €5 each.

### **CONCLUSION**

Analysing economic functions empowers economists to predict market behavior. Based on these functions, conclusions can be drawn about how changes in factors like price, income, or consumer preferences will impact demand, supply, and prices. In most economic situations, the goal is to achieve optimal results, such as profit maximization or cost minimization. Economic functions, like cost functions, enable economists to use mathematical methods, such as differential calculus, to determine the best actions or resources that will achieve these goals.

Essentially, economic functions are tools that allow economists to quantitatively analyze economic phenomena, make decisions, and shape policy, contributing to a better understanding and management of the economy. The use of functions in economics is crucial as it contributes to the development, interpretation, and understanding of economic concepts such as supply and demand, as well as other economic phenomena. Understanding functions, their properties, and applications can greatly contribute to the development and improvement of businesses. The application of knowledge about functions leads to progress in both fundamental and advanced aspects of business, enabling predictions regarding the quantity of production needed to meet the market demand, as well as determining the price at which these products will be sold.

### **REFERENCES**

Barnett, R., Ziegler, M., Byleen K. (2006). Primijenjena matematika za poslovanje, ekonomiju, znanosti o živom svijetu i humanističke znanosti. Zagreb, Grafotisak.

Chiang, A. C. (1994). Osnovne metode matematičke ekonomije. Zagreb, MATE.

Ferenčak, I. (2003). Počela ekonomije. Osijek, Ekonomski fakultet Osijek.

Karić, M. (2006). Mikroekonomika. Osijek, Ekonomski fakultet u Osijeku.

Neralić L., Šego, B. (2009). Matematika. Zagreb, Element.

Ungar, Š. (2005). Matematička analiza u Rn. Zagreb, Golden marketing – Tehnička knjiga.



Conference Proceedings

***ANALYSING online violences and their CONSEQUENSES FROM CHINESE ASPECT***

Zoltán Peredy<sup>1</sup>  
Wang Jiayi<sup>2</sup>  
Balázs Laki<sup>3</sup>.

**ABSTRACT**

*Internet technology continues to develop, people have entered into the new online era, the access to information has become easier and faster, but everything has benefits and drawbacks at the same time. Protection of personal privacy, the spread of Internet rumors, the frequent occurrence of cyber violence, so that people are concerned about how to make the network as proper tool to promote social progress. Furthermore, you also began to concern about the uncertain state of the online network era including numerous unknown hidden pitfalls and traps in which Internet users have been living. As the platform of opinion exchange shifts from offline to online forms, exploiting the opportunities of the different social media websites and fora. Social sentiment wide spreading on the Internet, and Internet users actively participate in groups that agree with their moral judgments based on past experiences, attempting to use group pressure to achieve their expected "outcome justice". When the group begins to follow the "herd" behavioral patterns, the rumor becomes the determinant factor of cyber violence. This one will have crucial impact to the person in the whirlpool of cyber violence, such as the person's daily life, violating the personal rights, when cyber violence reaches a certain scale. This paper aims to discuss the processes of cyber violence revealing the possible reasons, proposing relevant measures to solve the problem*

**Key words:** Internet rumors; Cyber violence; Public opinion influences; Social media websites

**JEL Classification:** I26, K24, O33

**INTRODUCTION**

In the 21st century, the new scientific and technological revolution is developing rapidly, leading to new major breakthroughs that will profoundly change the face of the economy and society. The Internet has gradually become an indispensable part of people's daily life, expressing their opinions about the Internet events. "Freedom of speech" is a basic human right, but it also questioned in today's society because "freedom of speech" can lead to "Internet rumors". Rumors" can turn into "cyber violence", which were once a positive force making important contributions to society, are going down a radical path, deviating from the expected path. You can clearly see the negative impact of the double-edged sword of the Internet, as online rumors begins openly challenging the moral boundaries of traditional society, resulting negative destructive effects. What causes the linkage and evolution between online rumors and online violence? What are the specific processes and mechanisms underlying the evolution between the two? How to effectively prevent and respond to the evolution of both? The answers to these questions will not only help to clarify the evolution of online rumors and online violence in a broader and deeper context, but also help to curb negative online information activities and reduce the harm caused by them. "The

---

<sup>1</sup> Edutus University, Tatabánya, Hungary, peredy.zoltan@edutus.hu

<sup>2</sup> Edutus University, Budapest, Hungary, xdfwjy0714@gmail.com

<sup>3</sup> Edutus University, Budapest, Hungary, laki.balazs@edutus.hu



## Conference Proceedings

evolution of "Internet rumors" to "Internet violence" poses a challenge for the development of today's society. This paper is aiming to understanding the reasons beyond the emerging online rumors and concluding some recommendation and future research directions.

### ***METHODOLOGY***

By analyzing the online issues of related online violence incidents, you can explore the interconnection between the development of online violence incidents and online media agenda. This research work based on using literature research methods and case study analysis. The literature research method mainly refers to collecting, identifying and organizing literature, and forming a scientific understanding of facts through the study of literature (domestic and international documents including statistics, databases, working papers and reports, previous publications). Case study is an investigation of a specific individual, unit, phenomenon, or topic. Gathering relevant illustrative examples to reveal the true nature of the online cyber violence, the hidden pitfalls behind it, explore the inherent governing rules of widespreading the online violence and clarifying the possible future necessary counteractions against the cyber violence. The conclusions drawn from data and the recommendations reflect the subjective professional opinion of the authors.

### ***THEORETICAL BACKGROUND OF CYBER VIOLENCE***

As definition, rumor means an unverified information that can be true or false (Alkhodair et al., 2020). The rumor functions includes the following main categories: information exchange, ego enhancement, social integration, and social segregation. As far as the consequences are concerned, they impact on rumor senders/recipients, on the rumor targets, and the social climate (Tianjun et al., 2022). Online rumor sharing shows raising trend largely due to the proliferation of different social media platforms, which can be accessed by anyone at any time from any place. From this reason, numerous scholars have devoted their attention to online rumor sharing (Kim et al., 2018; Pal et al., 2020). By looking through China Knowledge Network numbers of studies related to "cyber violence" were nearly 3,000 in 2022, which mainly focused on cyber violence legal regulation, dissemination path, the impact on different groups such as teenagers, and analysis of the causes. However, very few studies focused on the formation and widespreading of cyber violence. Generally, the research on online violence in China is fragmented (Wu, 2012).

According to the search of the Social Science Citation Index indicated that online rumor or online violence referred to as "Cyberbullying" or "Online shaming" definition in foreign countries, but there is no specific discussion on it. Based on the Chinese scholars, cyber violence can define in both narrow and broad senses. One of which is that cyber violence is the violence committed by Internet users using the Internet medium, so that social violence is reflected in the Internet space. In the narrow sense, cyber violence is the soft violence committed against the person involved in cyber violence with the support of the Internet medium, which can deal a heavy blow to the persons. Nevertheless, cyber violence is a soft violence against the person involved in cyber violence with the support of online media, which can inflict a heavy blow to the person's spirit (Yubo, 2017). Cyber violence is the dissemination of personal information of a certain group of Internet users, such as, victims of cyber violence. Through the Internet media to disseminate the personal information of a specific group of people, i.e., victims of cyber violence, initiate or induce other Internet users to carry out, siege and verbal abuse, slander and other malicious acts against the victims, bringing certain impact on the victims' physical, mental and life (Chen, 2021). Furthermore, cyber violence is different from violence in the traditional sense, a certain number of Internet users gathered into a "righteous group", in the name of freedom of expression, at the expense of the personal freedom of others, is a kind of "lynching before trial" on the Internet (Lin, 2017).



## Conference Proceedings

Most scholars described the motivation of cyber violence mainly arised from moral prejudgment and emotional catharsis due to the simple righteousness of the cyber community, which makes moral prejudgment on a hot topic and may act violently against the parties involved in this event when it does not meet their own expectations (Yubo Hou, 2017). The violence is not without malicious slander. From social aspects, the differences in the social environment, social moral decline, real life contradictions intensify the crowd's instinctive desire for self-release, discontent or repression. In this context, you do not dare to expose yourselves, you can seeking network platform channels to release pressure and relieve frustration (Liu, 2008). The anonymity and interactivity of the network allows network users to hide their real identity, which weakens self-monitoring and self-restraint. In addition, the laws and regulations mainly focus on online platforms and service providers (Yang, 2018). In addition, the speech and behavior of network users are more difficult to control (Chen, 2015). In the study of the dissemination mechanism and legal regulation of cyber violence, domestic and foreign scholars will also investigate it from different perspectives (Wu, 2019). Making comparison China with other countries on cyber violence, there are differences in the definition of cyber violence, but this kind of behavior can cause negative effects on others' reputation, rights, interests and life. The cyber violence specifically expressed in the form of comments, words, pictures and videos published on the Internet, which can be slanderous, infringing on reputation, damaging rights and interests. In the present times, people get easy access to information and the low cost and high freedom of access to information have intensified the cyber violence (Du, 2020).

### *Subject and object of cyber violence*

People involved in online violence can be grouped into causers (subjects), victims (objects), and audience. Audience usually pay attention to the events but do not do anything to promote or interfere with the process of online violence, but their attention to the events will unintentionally increase the attention of online violence, make it a hot topic of public opinion, cause the media to follow the news, and indirectly promote online violence (Xu, 2020). The interested parties in cyber violence rarely attract attention in research, and their behavior generally violated the public moral consensus or the social order (Guo, 2020). The power of individuals is often very limited without the support of online opinion leaders or the media, and it is difficult to reverse the incident, as in the case of the "netizen violently beating a pregnant woman" incident. Although Saya posted a clarification on social media platforms, the effect was minimal, and it was only through the retweets of media platforms that the rumors were reversed (Chen, 2019). Cyber violence can cause a range of negative outcomes for this group, including anxiety, depression, substance abuse, sleep difficulties, increased physical illnesses, reduced school performance, dropouts, and suicide (Chen, 2021).

### *Manifestations of Internet Violence*

In recent years, the rapid development and wide spreading usage of the Internet lead to social contradictions and conflicts. Internet continue to reappear, amplify, network users for cyber violence in the implementation of the parties involved in the verbal incitement of confrontation, war marketing, verbal abuse, disinformation and defamation of the group siege behavior, and leakage of the personal privacy of the parties involved. These facts resulting in the parties involved in the whirlpool of public opinion, and even infringed on the real life of the parties involved, the psychological. The main manifestations of cyber violence summarizing in the Table 1.

*Table 1. Main types of the cyber violence*

Name	Essence of the cyber violence
Direct verbal violence and reputation damage	You can take the 2018 "netizen violently beating a pregnant woman" incident as an example. Many Internet users did not make rational



### Conference Proceedings

to the person concerned.	judgment on the news facts, following the trend of verbal abuse, which caused negative psychological consequences. Some of the news topics pointed out by the network violence are unconfirmed network events with great bias, and the inflammatory. Insulting and offensive words published by the network users may be a kind of misrepresentation, they will cause irreparable impact on the private life and career of the person concerned, seriously damage his/her reputation.
Becoming “digital refugee” in the social interactions.	This means that you can get easily access to the confidential personal information via the network. The network users don’t care about others personal rights to privacy, so the given person involved in the cyber violence incident will become a "digital refugee" that everyone will shout at and deport.
The online verbal humiliation or disclosure of the given person has also intruded into the real life of the person concerned.	Many of them can choose to block the Internet and return to their real life after the situation has subsided, but when cyber violence is facilitated by those behind the scenes, cyber violence will move from online to offline. For example, many victims of cyber violence are subjected to frequent harassing phone calls, violating of their personal rights.

*Source: Own edition based on Chen (2015), Chen (2019) and Chen (2021)*

## ***RELEVANT EXAMPLES***

### ***Distortion effects of online media and dark side of Internet***

In order to shape online violence reports into "real and objective" facts or news, media usually keep the original interview with the person concerned to enhance the authenticity of the news. The audience will understand and process the "real" news reports according to what they see (He, 2021). Enhancing the reliability of news becomes winning strategy for online media to attract traffic. In the news coverage of online violence, reporting directly the facts, even if there is no real follow-up or interview with the person concerned, adding a large number of quotes in the news coverage and obtaining information from other credible media can enhance the authenticity and reliability of news coverage. In the case of online violence, newspapers usually focus on reporting news events, giving the reporting audience a mentality of "being informed". The news content will have a certain focus, as in the case of the "Saya violently beating a pregnant woman". Saya attacked by public opinion until the news reversed and situations not previously reported in the news surface, generating further wave of discussion.

In the news reports published by the online media, in the vocabulary description of the topic of "cyber violence", certain news words appear more frequently in online news texts, showing the seriousness of the consequences of the news event and reflecting the tendency and consistency of news reporting. No matter what the purpose of the news report is, the online media cannot be comprehensive and impartial. In order to attract the audience's attention, the online media will find ways to enhance the readability of the news, and the news report will have a certain bias. This one will also affect people's perception of the news event and play a pivotal role in the direction of the online violence (Cui, 2017). According to the official statistics, the size of rural (economically less developed areas) Internet users in China was 293 million (27.9% of the national total) and the urban (economically developed areas predominantly in the eastern coastal provincial areas) Internet users was 758 million, up 10.39 million from December 2021, making up 72.1% of the national total penetration rate (CNNIC, 2022). The below Figure 1 indicates the internet users structural composition among the scholars (in public and higher education institute).

## Conference Proceedings

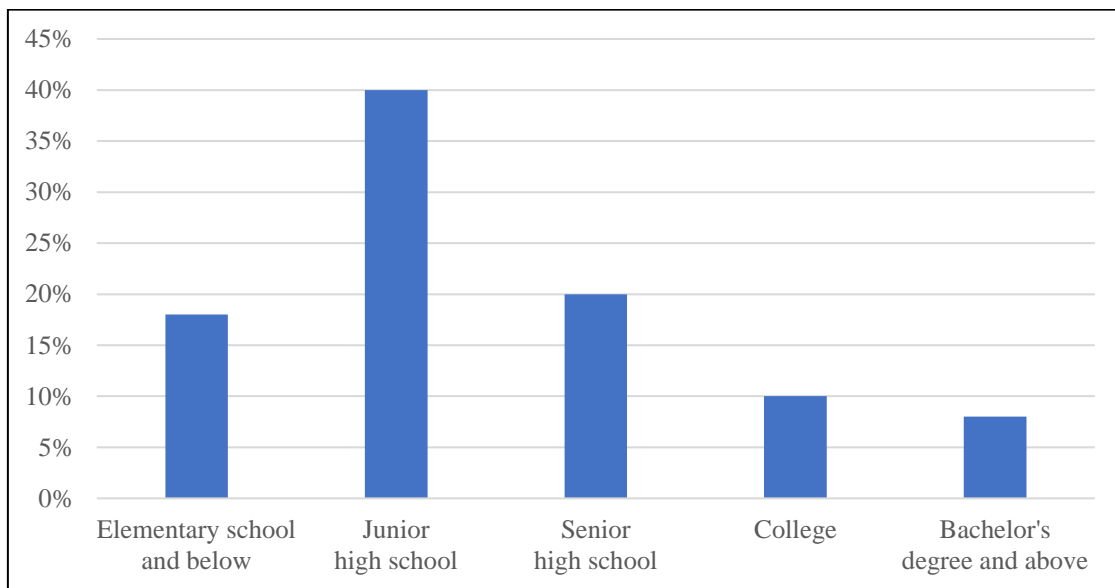


Figure 1. Academic structure of Internet users (2022)

Source: Own edition based on CNNIC (2022)

Different scholars have different classification standards and different forms of classification for the development links of cyber violence. The main classification standard classifies the development process of cyber violence into four key links: 1) initiating the issue and put it into the limelight; 2) finding the trigger; 3) promoting speed up the diffusion of the issue; 4) stimulating the awakening of the issue and keep it on the agenda (Chen, 2015). The case of "Liu Xuezhou's cyber-violence suicide" as an example illustrating that netizens play an important role in the development of online violence.

The tragedy of 15-year-old teenager generated serious debates in the Chinese Internet world. The victim pointed out that he was sold by his biological parents when he was born. Both of his step parents lost their life in an accident in his early childhood. He was continuously harassed by a teacher in elementary school. Finally, when he managed to find his biological parents, they denied to take him in, telling the media that he "was asking for housing." The last step on the way of this tragic event was cyberbullying from netizens, the comments section on Liu's Weibo was flooded with malicious remarks. People called him "cyber beggar" who "slanders his own parents" (He, 2021; Lu, 2022).

### ***Controversial impact of widely used WeChat application and TikTok video***

Along with the advent of the Internet era, social media came into being, which provides a more convenient and quicker way for the public to communicate with family, friends, and even strangers. Social media has quickly become one of the most important channels for information exchange with its unique communication methods and communication characteristics, bringing a whole new communication experience to people and bringing the frequency of communication to its peak. However, with the beginning of this progress, the frequency of online violence present on social media is also increasing. Studies show that 71% of young people use Facebook and 53% also use Instagram and Twitter. More importantly, 92% of the new generation of young people use video and audio-visual social media such as TikTok to follow and share what they see (K.Moore, 2011). The below Figure 2 illustrates the most popular, leading Chinese social media sources and their market size according to the internet users preferences.





### Conference Proceedings

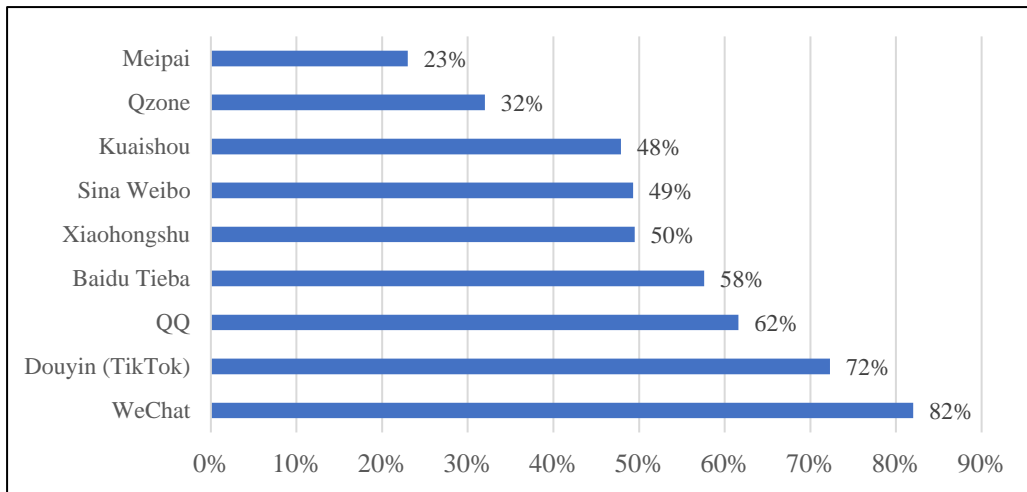


Figure 2. Share of internet users of the leading social media in China in 2022

Source: Own edition based on Statista (2022a)

In China, around 81.6 percent of the Internet users had mostly preferred WeChat for social networking in 2022. The Twitter-like site Sina Weibo, the short video app TikTok (in China Douyin) and its domestic rival Kuaishou were among the most popular social network services in China. The social media in China based on mobile-centric apps. The social media penetration rate reached to 68 percent in the country, higher than in the United States and Japan. (Statista, 2022a). WeChat has crucial impact on the Chinese society since there are not many accessible alternative solutions look like Messenger, WhatsApp, Telegram, and Signal, which are usually all blocked. In addition, WeChat includes numerous different Internet services as well (e.g. digital payment, shopping, streaming, networking) and allowing their users to get access non-Tencent services (e.g. Airbnb, Weibo - without leaving the platform). This kind of centralization can serve as a base for the central government to keep under control everything (as surveillance tool). On the other hand, this kind of "one-channel" digital technological solution can negative impact on the users in many forms of cyber violence (Zeiya, 2022). As far as TikTok is concerned, different people's homepages are pushed with different video content. Some people post photos or videos of others on TikTok for the purpose of humiliation with malicious intent towards others and use exaggerated, distorted captions and descriptions to gain attention. Unverified information easily misguides youth's value judgment. Furthermore, the youth have tendency to show irrational herd behavior. The emergence of TikTok, has made it possible for this kind of violence to spread more easily through video (Xinting, 2023).

### *Ethical inquiry of cyber violence*

In case of cyber violence, the dissemination of online issues negatively affect the real society (Jia, 2019). For some people with lower media literacy, lower literacy, less access to information due to objective reasons, and a huge information gap with ordinary Internet users, they will the news statements made by media with strong credibility will be "taken as a standard" and rarely be questioned (Lin, 2019). It is necessary to be extremely cautious in ethical analyses of emerging issues on the Internet for eliminating online violence (Yicheng, 2006).

### *Raising the cyber bullying awareness level of the society*

Due to the significant negative social impacts of cyberbullying among teenagers, it is essential to understand the motivational driving-factors to prevent the undesirable cyberbullying. The main factors includes entertainment, jokes, revenge, jealousy, retaliation, moral disengagement, pro-bullying attitudes, to attain high levels of peer status and to display their technological competencies. In this context, definitely need to elaborate and implement different Cyberbullying Awareness Programs in every country in accordance with the societal cultural characteristics and education system. These incentives aiming to raising the awareness level of the adolescents groups about cyberbullying, as well the development of their skills to cope with cyberbullying. The Figure 3 reveals the awareness of cyber bullying in selected countries on global scale. The country with the highest rate was Sweden with 91 percent, following Serbia with 85 percent, Poland and Hungary with 84 and 81 percent respectively. In China, this level is significantly lower 65 percent and the "cyberbullying" has not legally defined yet. In this context, persistent and consequent statistical research works should be carried out in the near future to understand the frequency and severity of online cyber violence among teenagers in China. The outputs can provide tangible contribution to develop "tailor made" Cyber Bullying Programs for teenagers (Yiyi, 2018).

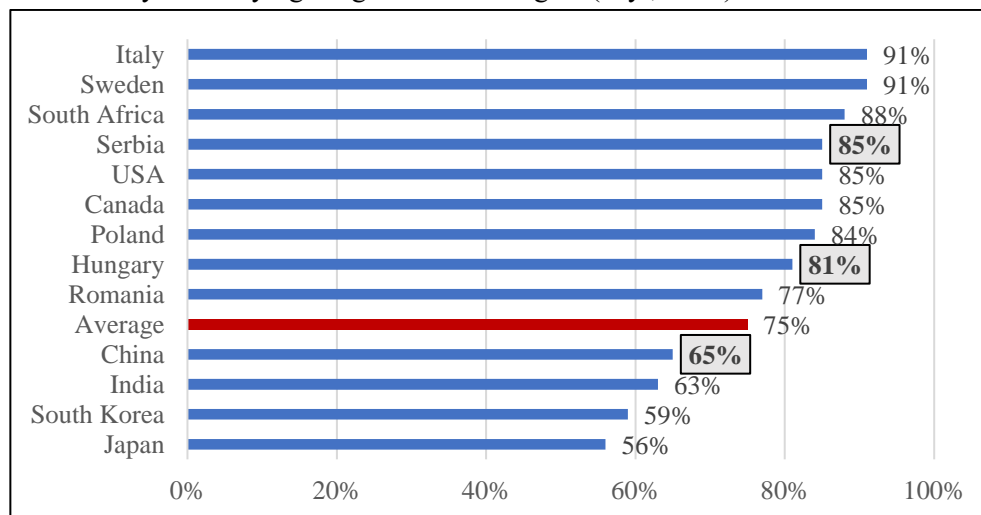


Figure 3. Overall awareness of cyber bullying in select countries worldwide as of April 2018, by country

Source: Own edition based on Statista (2022b)

### *Strengthen moral self-discipline and own privacy protection*

If the legal regulation is too strong, it may causes the consequences of overkill, the restraint of the law alone cannot fully realize the clear environment of the Internet, the key lies in the improvement of the quality of Internet users and self-awareness (Liu, 2016). The audience should always keep rational thinking about the information conveyed by the media, and it is difficult to distinguish true from false information on the Internet. It is necessary to improve ability to select, understand, evaluate, create, produce of information, maintaining rationality when facing uncertain or one-sided information, checking the authenticity of information (Liang, 2013). Being in a network environment and paying attention to privacy protection, many people unintentionally leave personal data in the network in the era of big data. Personal information will be trafficked as commodity, network fraud occurs (Wu, 2019). The expansion of the scope of cyber violence will result in the transfer of cyber violence from online to offline due to data leakage. Many victims of cyber violence have their daily lives affected, such as receiving fears and threats, or even





## Conference Proceedings

giving up their lives due to excessive stress, which can cause both mental and physical harm to the victims. Personal data leakage suspected to be illegal, and victims should use legal weapons to protect their rights (Zhao, 2019; Chen, 2021).

### ***Strengthen control and implement real-name network system***

In addition to the self-discipline of the audience, it is necessary to strengthen control, and a feasible solution implementing real-name system, which is an important measure to promote the healthy and orderly operation of the Internet space with universal and effective network management mechanism (Man Zhou, 2021). The Internet platform will require network users to fill in personal information and identity authentication, in the platform registration, verification through personal information before allowing to access. Only after registration and verification of personal information on the platform will they be allowed to leave comments or engage in other online activities in cyberspace. As an extension of real life, any behavior in the virtual space created by the Internet must comply with the social norms advocated by laws and regulations. Departure from the constraints of laws and regulations or lack of supervision, the disordered cyberspace will become a new place for criminal acts and illegal gathering platform for personal data (Yumo Zou, 2015). The implementation of the real-name system on the Internet can strengthen the control of bad media and irrational speech behavior of Internet users, preventing Internet users from being in a trouble. It is conducive to regulate and combat crimes, thus creating a healthy, orderly, controlled, rational and harmonious network ecological environment (Yu, 2015). However, it is worth noting that the implementation of the real name system on the Internet and at the same time, it is also necessary to strengthen information management to prevent data leakage, infringing on personal privacy and causing unnecessary losses.

### ***Opinion leaders***

The development of social platforms has led to the formation of opinion leaders in different fields. Some opinion leaders deliberately distorting facts and overemphasizing their personal views for their personal purposes, to influence the judgment and position of netizens, expanding the scope of influence of online violence (Zhao, 2015). Most opinion leaders have authorities in a certain field, and their views and opinions are more credible and authoritative compared to ordinary netizens. Opinion leaders also largely determine the ethics of debate and interaction on the Chinese Internet. Strengthen the effective guidance and management of opinion leaders, the responsibility should raise by setting limits on influential online bloggers or media, emphasizing accountability for the consequences of their speech, and, if necessary, including serious cyber violence in the list (Hu, 2012). If necessary, serious cyber violence should be included in public prosecution cases, and the planners, organizers, and providers of funds behind rumors and online exposure should be included in public prosecution cases. In this way, it will serve as a warning to those who commit online violence (Jihong Liu, 2018). The network should hold a correct understanding, do not "control the network" in the name of "management" of the reality (Rong, 2020).

## **CONCLUSION**

Since the 21st century, the Internet has gradually become popular, with the massive amount of information and strong interactivity leading network users to the "information superhighway", influencing people's interaction and work style, especially in recent years, with the popularity of mobile communication tools. The exposure of personal privacy, the spread of network rumors, and frequency of



## Conference Proceedings

network violence occurrence have disturbed the normal network order and environment. Due to the raising number of cyber violence incidents lead to many suicides, such as the case of Korean star Shirley or a teenager, who looked for his family. All of these incidents remind the public of the need to use the Internet as a rational tool. Internet communication eliminates the limitation of time and space, and various social hotspots spread rapidly on the Internet, attracting exponential growth in audience size and huge traffic, causing the escalation of cyber violence. Emerging cyber violence can be a product of the rapid development of the Internet, bringing social conflicts together from offline to online, and the solution to cyber violence lies in "sparing" rather than "blocking". The Internet platform provides a public virtual space for Internet users to express their opinions and views, and Internet citizens can convey certain social issues through the Internet platform, which is also an important way for the government to obtain public opinion. The Internet can be used as a "social security valve" if it is used to resist the influence of undesirable information. If public opinion is "blocked" in order to resist the influence of undesirable information, it will certainly achieve a result that will be the opposite of what it should be. In the recent years, the state has strengthened the regulation and management of the Internet. In addition, it is more necessary for network users to be conscious and self-disciplined, to maintain a rational attitude towards network issues. Nevertheless, it can also desirable to be brave in fighting against illegal and violent incidents, to strengthen media literacy, not to be manipulated, to be civilized and sensible when expressing their opinions and views on social platforms, to believe in the law, and to learn to use legal weapons to punish. Finally, the government should increase censorship, strengthen news gatekeeping and legislate against key groups generating online violence, and increase publicity to create transparent network environment with unambiguous ethical and legal rules.

## REFERENCES

- Alkhodair, S.A., Ding S.H., Fung B.C., Liu J. (2020). Detecting breaking news rumors of emerging topics in social media. *Information Processing & Management*. 57, 2, 102018. doi: 10.1016/j.ipm.2019.02.016.
- Chen, B. X. F. (2021): The Phenomenon of Low Age of Cyber Violence Subjects and Countermeasures. *Southeast Communications News*, 106-109.
- Chen, D. (2015). Network governance from the different levels of participants in cyber violence incidents. *Mao Zedong Deng Xiaoping Theory Study*, 91, 24-30.
- Chen, T. (2019). Legal regulation of privacy protection under the perspective of human flesh search. *Journal of Harbin College*, 40(7), 69-71.
- Chen, X. (2021). The regulatory path of personal information protection from the perspective of cyber violence. *Applicable Law*, 64-74.
- CNNIC. (2022). *China Internet Development Statistics Survey*. Available at: <chrome-extension://efaidnbmninnibpcapjpcglclefindmkaj/https://www.cnnic.com.cn/IDR/ReportDownloads/202212/P020221209344717199824.pdf>; (30.06.2023).
- Cui, P. (2017). Discourse analysis of news reports based on "cyber violence". *Journal of Culture*, Vol. 06, 105-107.
- Du, Z. (2020). From Spectatorship to Disorder: The Formation and Evolution of "Secondary Public Opinion" in the Public Opinion Field of "Eating Melon". *The People's Forum*, 108-111.
- Guo, S. (2020). How Mainstream Media Constructs Cultural Communication Issues in the Age of Fusion Media. *Youth Journalists*, 37-38.
- He, J. (2021). A study on the challenges and countermeasures of cyber violence to ideological and political education among middle school students, 1<sup>st</sup> Edition, *Guizhou: Guizhou Normal University Press*.
- Hu, Y. (2012). What kind of online opinion leaders do we need?. *News Reporter*, 8-13.



## Conference Proceedings

- Jia, J. (2019). Thoughts on the Construction of Network Public Opinion Guidance Mechanism in the New Era. *Audiovisual*, 124-126.
- Jihong, L. H. K. (2018). The Tension of Moral Psychology in Public Opinion: The Evolution of Internet Rumors to Internet Violence and Its Influencing Factors. *The International Press*, 37-61.
- Kim, J., Bae, J., Hastak, M. (2018). Emergency information diffusion on online social media during storm Cindy in US. *International Journal of Information Management*. doi: 10.1016/j.ijinfomgt.2018.02.003. 40153-165.
- Moore, K. (2011). 71% of online adults now use video sharing. Available at: <https://www.pewresearch.org/internet/2011/07/26/71-of-online-adults-now-use-video-sharing-sites/> (03.20.2022).
- Liang, L. (2013). Research on the Phenomenon of Online Violence from the Perspective of Legal Regulation. 1<sup>st</sup> Edition, *Chongqing University Press*.
- Lin, A. (2017). Ethical Questioning and Order Reconstruction of Cyber Violence. *Jinan Journal*, 111-117. ISSN 1671-3559. CN37-1378/N
- Lin, C. (2019). Research on the Legal Regulation of Internet Violence. *Legal Expo*, 78-80.
- Liu, R. (2008). The difference between "human flesh search", public opinion supervision and cyber violence. *News Reporter*, Issue 09, 87-89.
- Liu, X. (2016). Research on the content of online violence and its regulation in China. 1<sup>st</sup> Edition ed. *Changsha: Hunan Normal University*.
- Lu, F. (2022). Teen's tragic suicide brings cyberbullying back in focus. Available at <https://www.shine.cn/opinion/2201271250/> (01.07.2023)
- Man, Z. L. G. (2021). Research on the causes of group polarization effect of online violence in the era of self-media: Evidence analysis of structural equation modeling Evidence analysis. *Journal of Jiangxi Normal University (Philosophy and Social Science Edition)*, 115-125.
- Pal, A., Chua, A.Y., Goh, D.H.-L. (2020). How do users respond to online rumor rebuttals? *Computers in Human Behavior*, Volume 106, 106243. ISSN 0747-5632, doi: 10.1016/j.chb.2019.106243.
- Rong, W. (2020). The Reconstruction of "Agenda Setting Function" Theory by Citizen Journalism in the New Media Era. *Sound Screen World*, 24-25.
- Statista (2022a). Leading Social Network Sites in China. Available at <https://www.statista.com/statistics/250546/leading-social-network-sites-in-china/> (01.07.2023.)
- Statista (2022b). Cyber-bullying Awareness in Selected Countries Worldwide. Available at <https://www.statista.com/statistics/293192/cyber-bullying-awareness-in-select-countries-worldwide/> (01.07.2023.)
- Tianjun, S., Schilpzand, P., Yihao L. (2022). Workplace gossip: An integrative review of its antecedents, functions, and consequences. *Journal of Organisational Behavior*, 44(2), 1-61. <https://doi.org/10.1002/job.2653>
- Wu, J. (2012). Collective identity construction in online communities. 1<sup>st</sup> Edition, Beijing: Tsinghua University.
- Wu, Q. (2019). A study on the influencing factors of cyber violence. 1<sup>st</sup> Edition, Jiangxi University of Finance and Economics.
- Xinting, G. (2023). The Impact of Douyin (Chinese TikTok) on The Socialization of Chinese Youth. SHS Web of Conferences 155, 01013; doi: <https://doi.org/10.1051/shsconf/202315501013>; License CC BY 4.0
- Xu, L. (2020). The micro power structure of cyber violence and the "digital death" of individuals. *Modern Communication. Journal of Communication University of China*, 151-157.
- Yang, R. (2018). Explicit and implicit discrimination of cyber violence and its governance-Based on an investigation of the reasonable boundaries of cyber violence and cyber tolerance. *Academia Sinica*, 95-110.



### Conference Proceedings

- Yicheng, L. Y. W. (2006). The interaction between the supervision of news and public opinion and the construction of the legal system in China. *Contemporary Communication*, 46-49. ISSN: 2354-3752
- Yubo, H. Y. L. (2017). Motivation and Influencing Factors Analysis of Chinese Netizens' Internet Violence. *Journal of Peking University*, 101-107.
- Yu, G. (2015). Psychological guidance mechanism for Internet users in the era of full media. *People's Forum*, 65-67.
- Yumo, Z. J. L. (2015). Composition and Prevention of Online Privacy Infringement. *News Enthusiasts*, 60-62.
- Yiyi, X. (2018). Understanding and Preventing Youth Cyberbullying in China: Causes, Effects, and Prevention. *Asian Social Science*, 14(9). ISSN 1911-2017, Published by Canadian Center of Science and Education
- Zeyi, Y. (2022). The dark side of a super app like WeChat. When one app gives you everything, losing it becomes unbearable. MIT Technology Review. Available at <https://www.technologyreview.com/2022/10/18/1061899/dark-side-super-app-wechat/> (01.07.2023).



Book of Proceedings

***SIDE DEMAND FOR HIGHER EDUCATION: CAUSES,  
CONSEQUENCES AND COUNTERMEASURES***

*Serzhanov Vitaly<sup>1</sup>  
Abramov Fedir<sup>2</sup>  
Andryshyn Volodomyr<sup>3</sup>*

**ABSTRACT**

*The purpose of this article is to determine the factors of the emergence and spread of side demand and to determine the consequences of this process for the higher education. It is shown that one of the reasons for the deterioration of the quality of higher education can be the dominance of side demand in the market of educational services. The consequences of the spread of side demand for the higher education system will be determined both by the share of side demand in the total demand for higher education and the length of time that the higher education system is affected by side demand. In the spread of side demand, two time periods can be distinguished: the initial and late stage. The main feature of the initial stage is the reduction of the quality of educational services by individual educational institutions in the interests of students who present side demand. In contrast, the late stage of the dominance of side demand is characterized by a general decline in the quality of educational services and a breakdown in two-way information communication between education and labor markets. There are two main groups of measures that can be applied to overcome the negative consequences of side demand at the initial stage: measures to curb the growth of side demand and measures that limit the ability of educational institutions to reduce the quality of educational services in the interests of students who present side demand. It has been proven that at a late stage, effective overcoming of the negative consequences of the dominance of side demand is possible only if the above-mentioned measures are combined with measures to restore two-way information communication between the education and labor markets. A key element of measures to restore information communication between countries can be a system of dual education.*

**Key words:** *higher education, side demand, transaction costs, side bureaucratic procedures.*

**JEL Classification:** *A10, I23*

**INTRODUCTION**

In today's world, the guarantee of a country's economic growth, its technological leadership and economic power is an effective system of higher education, which is able to ensure both the proper level of training of future specialists and the scientific and technical potential of the country. At the same time, any problems in the higher education system will inevitably have negative consequences for both the economy and the social sphere of the country. The problem is deepened by the fact that it takes a long time to detect the presence of destructive processes in the higher education system, no less than the time required to train a new generation of specialists. Restoring the efficiency of the higher education system, in turn, can also take years, which will have catastrophic consequences for the socio-economic development of the country and slow down its economic growth. In view of this, it is quite obvious that there is a need for

---

<sup>1</sup> Uzhorod National University, Uzhorod, Ukraine, vitaly.serzhanov@uyhnu.edu.ua

<sup>2</sup> National Technical University "Kharkiv Polytechnic Institute, Kharkiv, Ukraine, abramov@khpi.edu.ua"

<sup>3</sup> Uzhorod National University, Uzhorod, Ukraine, vitaly.seryhanov@uyhnu.edu.ua





## Book of Proceedings

timely identification of factors that may negatively affect the ability of the higher education system to provide the appropriate level of training of future specialists. No less obvious is the development of measures to eliminate relevant factors or mitigate their negative impact on the higher education system.

Problems of higher education are in the center of attention of many researchers. So, among other things, the attention of researchers is paid to such topical issues of education as: the use of new technologies and teaching methods (Amstelveen, 2019; Chen & Lin, 2012; Elmslie & Tebaldi, 2010; Sailer & Homner, 2020), financing of higher education (Geetha Rani, 2017; Wigger & von Weizsäcker, 2001), the role of family support for higher education students (Ceja, 2006; Cutright, 2008; Roksa & Kinsley, 2019), reforming the higher education system (Berkhout, Berkhout & Webbink, 2011; Dill, 2000) and the impact of today's global challenges on the quality of education (Abu Talib, Bettayeb & Omer, 2021; Förster et al., 2023; Relyea, et al., 2023).

Also, no less attention is paid by researchers to the study of the connection between the problems of higher education and such purely economic problems, such as: the connection between innovation and higher education (Kurdadze, 2010), the impact of education on economic growth (Horii, Kitagawa & Futagami, 2008; Neycheva, 2013; Pegkas & Tsamadias, 2017), inequality in income distribution (Földvári & van Leeuwen, 2014; Hall, 2017; Russ, Bansal & Parrillo, 2017; Shukla & Mishra, 2020) and the problem of brain drain (Al-Barwani, Chapman & Ameen, 2009; Gonzalez, 1992; Haupt & Janeba, 2009; Welch, & Zhen, 2008). Researchers have also paid attention to the social aspects of higher education (Mir & Pramanik, 2017; Roman, Wood & Niederjohn, 2021; Sav 1986; Si, 2022). In the majority of studies devoted to the connections between higher education and socio-economic problems, the system of higher education is considered as a driving force and the main determinant of the socio-economic development of society. At the same time, as a rule, the ability of the higher education system to ensure the appropriate level of quality of training future specialists is not questioned.

The purpose of this article is to determine the factors of the emergence and spread of side demand and to determine the consequences of this process for the higher education system.

### ***FACTORS OF EMERGENCE AND SPREAD OF SIDE DEMAND FOR HIGHER EDUCATION***

It is traditionally believed that the only goal of a student enrolled in a higher education institution is to acquire knowledge and skills that he will need in the future to build a successful career. However, this approach is wrong, because it does not take into account all the available factors that encourage an applicant to enter a higher educational institution (Abramov, 2012). Indeed, the process of studying at a higher educational institution opens up for the student of higher education not only the possibility of obtaining a professional education, but also opens up such opportunities as:

- obtaining a long-term visa for staying in the country where the study takes place, with the possibility of further legalization;
- postponement of compulsory military service, or complete exemption from it;
- receiving financial assistance in the form of direct payments of certain sums of money or in the form of preferential lending.

In many cases, the possibility of obtaining the above-mentioned side benefits is due solely to the fact that the person applying for them has the status of a student and is in no way, with some minor exceptions, related to the student's academic success. The latter can have serious negative consequences both for the market of educational services and for the labour market and for the socio-economic development of the country in general. Due to the existence of side benefits, the demand for higher education services is not homogeneous. In its structure, two main components can be distinguished: the direct demand for higher education, which is caused by the desire of the student of higher education to obtain the necessary knowledge that he will need in his further professional activity, and the side demand for higher education,



## Book of Proceedings

which is caused by the desire of the student of higher education to obtain side benefits, access to which the process of learning in a higher educational institution opens (Abramov, 2011).

When considering the possibility of admission to a higher educational institution, the applicant takes into account the following factors: his abilities, the value of *impy* benefits, the amount of the expected salary, the quality of training of future specialists in the educational institution where he plans to enter, and the cost of education in this institution. However, when the applicant makes a decision, each of the above-mentioned factors will have a different weight depending on what type of demand for higher education dominates the market. Also, the importance of each of these factors will depend on the time that has passed since the beginning of the spread of side demand.

Let's first consider which of the above factors will play a decisive role in the short-term period, when the spread of side demand has not yet led to the degradation of the higher education system and the applicant who presents a direct demand can still count on receiving a quality education.

If the entrant's abilities are sufficient to master the course program and the value of the expected salary for him exceeds the value of all side benefits, then this entrant will present a direct demand for higher education. Accordingly, the key factor that will influence the applicant's choice of educational institution will be the quality of training of future specialists in this educational institution.

The applicant's behaviour will be completely different if for him today's value of side benefits exceeds the value of the expected salary. In this case, the applicant will present a side demand for educational services, and the main factor that will influence the applicant's choice of an educational institution will be the cost of education in this institution: the lower the cost of education, the more attractive this educational institution will be for him. The quality of training of future specialists, on the contrary, will have the opposite effect: the lower the quality of training of future specialists, the more attractive this educational institution will be.

The latter has a very simple explanation. Indeed, the main goal of an applicant who presents a side demand for higher education is to obtain side benefits, but the knowledge that they try to provide him in an educational institution, by and large, he does not need. Accordingly, the entire learning process, including attending lectures and taking exams, is perceived by him as a complex and confusing bureaucratic procedure - side bureaucratic procedure - that separates him from obtaining the desired side benefits. Going through these side bureaucratic procedures will be associated with additional costs — transaction costs of side bureaucratic procedures. Therefore, when choosing a higher educational institution, an applicant who presents a side demand for higher education, in addition to the direct cost of education, will also take into account the level of transaction costs of side bureaucratic procedures, which directly depends on the requirements put forward to students by this educational institution. It is obvious that under these circumstances, preference will be given to the educational institution that adheres to high standards of teaching academic disciplines.

Thus, in the case of the dominance of side demand, the demand for the services of higher education institutions that do not adhere to high quality standards for the training of future specialists increases, because applicants with mediocre abilities, traditional consumers of educational services of such institutions, will be joined by students who will present side demand for educational services.

An important feature of the growth of side demand for higher education in the short term is that, despite the large number of higher education applicants who are not interested in acquiring knowledge: firstly, employers are still able to more or less adequately assess the quality of a graduate's training, focusing on in which higher educational institution did he study; secondly, the system of higher education maintains a sufficient number of higher educational institutions in which applicants who have a direct demand for higher education can obtain a quality education.

If side demand becomes the dominant component of demand for higher education, then irreversible destructive processes begin in the higher education system: with an increase in the share of educational institutions that have switched to meeting the demands of students who present side demand, for institutions that still try to adhere to high education standards, it becomes increasingly difficult to withstand competition and their number is gradually decreasing. An even more threatening consequence of the



## Book of Proceedings

dominance of side demand in the long term is that it becomes more and more difficult for employers to assess the quality of a specialist's training, because, under the given circumstances, the presence of a diploma no longer guarantees that its owner has adequate training. As a result, the labor market turns into a market of «lemons» (Akerlof, 1970) and a graduate of a higher education institution, who showed direct demand, cannot count on a decent salary that compensates for his efforts spent during his studies. The gradual reduction in the level of wages is the reason that side benefits acquire an increasing relative value, and the quality of training by an educational institution of a future specialist ceases to influence the choice of an entrant to an educational institution, which contributes to the further growth of the level of side demand. Thus, a positive feedback loop is formed between the share of side demand and the low quality of training of future specialists, and destructive processes in the higher education system acquire an avalanche-like character.

The growth of side demand for higher education can occur for various reasons. Thus, one of the reasons for the growth of side demand can be a prolonged systemic economic crisis, during which there is a significant reduction in the demand for highly qualified specialists and a reduction in the level of their wages. It is obvious that, under the given circumstances, even insignificant benefits can play a significant role in the decision-making process regarding the continuation of education and the applicant's choice of a higher education institution.

Also, any actions that lead to the formation of side benefits can be the reason for the growth of side demand for higher education. At the same time, the formation of side benefits can be both conscious, a vivid example of which is intentions to support the desire of young people to obtain higher education by excessively expanding the list of side benefits that students can claim during their studies, and unconscious.

An example of the latter can be a short-sighted migration policy that allows foreigners who have entered local higher education institutions to easily legalize in the country. For foreigners from many countries, the possibility of legalization in a more or less developed country is of much greater value than the possibility of getting a good education. Therefore, a certain part of them will show a side demand for higher education in this country and will try to choose those educational institutions that will not set too high standards of teaching academic disciplines.

In the presence of a large side demand for higher education from the side of foreigners, a part of higher education institutions that could not withstand competition with other higher quality institutions can take advantage of the opportunity and offer their services to a new group of applicants. As already noted earlier, the low quality of training of future specialists, in this case, turns into a competitive advantage, and the low price for training can be achieved thanks to the hiring of less talented teachers. The consequences of these processes for the higher education system will depend on the plans of migrant graduates regarding their future employment and the overall level of side demand for higher education in a given country.

In the event that foreigners who present side demand for higher education do not plan to find employment in their new specialty, employers, in most cases, will not encounter graduates who presented side demand during their studies. Therefore, the increase in the share of entrants who have an side demand for higher education will not lead to a break in the information connection between the education and labor markets, as well as a decrease in the amount of wages that a graduate who has a direct demand can count on. Thanks to this, applicants that show direct demand and will continue to enter higher educational institutions with the aim of obtaining a quality education. In fact, this will lead to a stratification of higher education institutions with the formation of two main groups. Institutions of the first group will try to provide quality educational services by competing for applicants who are in direct demand. Institutions of the second group are turning into a component of the semi-legal scheme of legalization of illegal migrants and will in no way affect the quality of higher education in this country.

In the event that migrant graduates who presented a side demand plan to work in this country in the future in the field they acquired, the consequences of these processes for the higher education system will depend on the size of the aggregate side demand: the size of the side demand from the side of local applicants and the side demand from the side foreigners





## Book of Proceedings

Of course, it is possible to prevent the growth of side demand at the expense of foreigners who plan to legalize in the country by obtaining student status by establishing a requirement for their mandatory return to their homeland after completing their studies. However, such a solution to the problem will be harmful to the country's economy, because the demand for the return of graduates to their homeland will be extended to all students: both those who showed side demand for higher education and those who showed direct demand. As a result, the country's economy may lose a significant number of highly qualified specialists.

As can be seen from the above, the consequences of the spread of side demand for higher education will depend not only on the share of side demand in the overall structure of demand for higher education, but also on the time that has passed since the side demand reached a critical value – the level at which the weakest educational institutions begin to focus on the provision of «educational» services to entrants who present a side demand. Therefore, in the following, we will distinguish two time periods of the spread of side demand: the initial stage — the period of time from when side demand reaches a critical value to the moment of the breakdown of two-way informational communication between the education and labor markets, and the late stage — the period of time after the breakdown of informational communication between the respective markets.

### ***MEASURES TO PREVENT THE OCCURRENCE AND SPREAD OF SIDE DEMAND***

The presence of qualitative differences between the selected time periods necessitates the use of different approaches to overcome the negative consequences of the dominance of side demand. Thus, at the initial stages of the dominance of side demand for higher education, in order to prevent the emergence and spread of side demand, as well as to overcome its negative consequences, measures to curb the growth of side demand and measures limiting the reorientation of educational institutions to serving the interests of students, which present a side demand can be applied.

The basis of a set of measures to prevent the emergence and spread of side demand for higher education in the initial stages of the dominance of side demand should be measures aimed at curbing side demand for higher education. These measures consist in the complete cancellation or significant limitation of the access of higher education seekers to side benefits. As already mentioned above, the main reason for the emergence and spread of side demand is the desire of the acquirer to receive a certain side benefit, the value of which for the acquirer significantly exceeds the value of the education received. Therefore, the elimination of side benefits means the automatic disappearance of side demand. Even a partial restriction of the access of higher education recipients to side benefits will be accompanied by a reduction in side demand. Indeed, the acquirer presenting side demand carefully weighs the value of side benefit against the costs of obtaining it: both the direct cost of training and the transaction costs of side bureaucratic procedures. On the other hand, restricting the access of recipients to side benefits will necessarily be accompanied by increased control over their provision, increased requirements for applicants to receive them, and the introduction of additional side bureaucratic procedures, which will inevitably lead to an increase in the level of transaction costs of side bureaucratic procedures and a reduction in side demand. Thus, the reduction in side demand will be proportional to the reduction in the amount of side benefits provided.

However, when designing measures aimed at curbing the side demand for higher education, it must be taken into account that the provision of many side benefits plays an important social role, and their cancellation or limitation may lead to undesirable consequences. So, for example, subsidizing student education, regardless of whether the money is provided directly to students or whether part of the costs borne by the educational institution is compensated, also leads to a reduction in the costs of receiving side benefits and an increase in side demand. However, few students of higher education are able to pay the full cost of education at a higher educational institution on their own. Therefore, the cancellation of subsidies will lead not only to a reduction of side demand, but also to an unwanted reduction of direct demand, which



## Book of Proceedings

may not only cause dissatisfaction of a large part of society, but also have significant negative consequences for the country's economy, due to a reduction in the number of highly qualified specialists.

Therefore, in the case of side benefits that play an important socio-economic role, measures aimed at curbing side demand for higher education should not limit access to these benefits, but link their receipt with the presentation of direct demand.

The strongest proof of a student's direct demand for higher education is his willingness to work in his field after completing his studies. Therefore, instead of reducing the amount of subsidies or the number of students who can receive them, subsidies should be replaced by soft loans that should be returned after the end of the study period. It is obvious that a student who presents a side demand will not be able to count on employment in the field and a high salary in the future. Therefore, the replacement of subsidies with preferential lending will allow not only to effectively limit side demand, but also to provide for the country's economy the training of an adequate number of highly qualified specialists, thanks to the preservation of support for students who presents a direct demand. An additional positive consequence of such a decision is that students will be encouraged to choose those specialties that are in demand on the market. Also, the existence of a significant part of side benefits is due to the presence of old problems in society that are still waiting for their solution. In such cases, instead of restricting access to the corresponding side benefits, which may cause a wave of indignation in society, it will be more appropriate to focus on the development of measures aimed at eliminating the socio-economic problems that determine the need for the existence of the corresponding side benefits. Thanks to these measures, the society will be able not only to solve its old problems, but also to reduce the side demand for higher education.

So, for example, in many countries of the world, studying at a higher educational institution provides a postponement of compulsory military service. The presence of a postponement allows higher education seekers not to interrupt the learning process, which should have a positive effect on the quality of education. At the same time, the possibility of obtaining a deferment encourages a significant number of potential conscripts to enter higher education institutions with the sole purpose of avoiding conscription. This, in turn, leads to the formation of a large group of higher education students who, after graduation, do not plan to work in their profession and are not interested in acquiring knowledge, that is, they present a side demand.

As it can be seen, in this case, the key to solving this problem lies not in the field of higher education, but in the principles of army formation and military service rules implemented in this society. Under these circumstances, the main reason for the increase in side demand for higher education will be the unpopularity of military service in society. And no reformation of the higher education system will solve this problem. The only way to reduce the amount of side demand will be to reform not the system of higher education, but the army. Thus, it is quite obvious that the transition to a professional army and the final abolition of conscription for military service will completely eliminate the side demand caused by the desire of higher education seekers to avoid conscription for military service. However, a significant reduction of side demand can be achieved by less radical measures. Thus, the introduction of alternative service, for many conscripts who do not wish to complete military service, can become an acceptable substitute for «studying» in a higher educational institution. And increasing the wages of military personnel and introducing other measures aimed at improving the status of military personnel can increase the popularity of military service in society.

In addition to measures aimed at curbing side demand for higher education, to prevent the negative consequences of the dominance of side demand, measures can be applied that make it impossible or significantly limit the reorientation of educational institutions to work with the appropriate category of students. Indeed, those educational institutions that are beginning to compete with each other for the favor of entrants, presenting a side demand, are trying to reduce both the cost of education and the requirements placed on students regarding their learning of academic disciplines. To prevent the first problem — reducing the cost of education below the level that allows for the provision of quality educational services — a minimum price for education can be established. In order to prevent the second problem — the reduction of the requirements placed on students by educational institutions — control over the quality of the training of future specialists can be introduced, which will inevitably lead to an increase in the level of



## Book of Proceedings

transaction costs of side bureaucratic procedures for the relevant group of higher education seekers and a reduction in side demand.

The main drawback of such a «solution» to the problem is that the institution authorized to control the quality of training of future specialists must also determine what the proper level of training of specialists should be. That is, the appropriate level of training should be determined by officials administratively. To fulfill this task, the latter will have to analyze the needs of specialists in each specialty for a large number of enterprises, which in itself is already a sufficiently ambitious task, the implementation of which requires significant financial resources, which could be used much more effectively to support science and education, for example, in the form of scientific grants.

Thus, even at the late stage of the dominance of side demand, the task of administrative determination of the appropriate level of training of future specialists will be an inefficient and inappropriate procedure, even more so it will be impractical at the initial stage of the dominance of side demand, when fully functioning labor force and educational services markets can easily determine the required market the level of training of specialists independently without external intervention. The same reasons lead to the difficulty of determining the minimum acceptable price for training, because for its calculation, the appropriate level of training, the volume of classroom and laboratory classes, the permissible number of students in the group, the list of necessary equipment and much more must first be determined. However, in certain cases, measures to prevent the reorientation of educational institutions to satisfy the interests of the relevant category of students can be done without excessive administrative interference in the work of educational institutions and total control over the educational process.

So, for example, in those cases when the groups of applicants presenting a side demand can be clearly identified (as, for example, in the case of the side demand for higher education from the side of foreigners discussed above), in order to prevent the specialization of individual educational institutions in the provision of relevant services quotas may be introduced for these groups – setting a certain number or percentage of applicants from the relevant group who can be provided with educational services at this institution. Under the given circumstances, weak higher education institutions will not be able to specialize in serving the interests of only one group that presents a side demand, but will be forced to focus on all available groups of applicants, including those who present a direct demand.

The main disadvantage of this measure is the risk of discrimination. Therefore, this measure should not be applied in countries with unstable democracy. Also, to prevent possible discrimination, quotas should not be established in advance administratively, but should be determined according to the number of submitted applications – the quota should be such that the number of submitted applications for one place from representatives of this group is equal to the corresponding indicator among others groups. After all, the main goal is not to limit the right of access of this group to education, but to evenly distribute applicants from this group among educational institutions.

The measures discussed above may be effective in preventing the emergence and spread of side demand for higher education in the initial stages of the dominance of side demand, but they will be ineffective in restoring the proper functioning of the higher education and labor markets, because these measures are aimed exclusively at reducing side demand and are unable to ensure restoration of the appropriate level of direct demand for higher education. Indeed, as already shown above, in the long run, one of the most dangerous consequences of the dominance of side demand is the information gap between the higher education market and the labor market. As a result, employers are unable to adequately assess the level of training of graduates and offer them an appropriate salary.

Therefore, reducing the side demand for higher education will not be sufficient to motivate young people to enter higher education institutions for the purpose of obtaining an education, because future graduates cannot expect to receive a salary of such a level that will compensate them for the efforts that were spent on mastering the appropriate profession. The situation is further complicated by the fact that most of the measures to prevent the emergence of collateral demand provide for the limitation or complete cancellation of collateral benefits, as a result of which the barrier that separates the student who presents a direct demand is significantly increased, because the entire burden of obtaining a higher education falls on the shoulders of students. Accordingly, at the later stages of the dominance of side demand, the



## Book of Proceedings

consequence of applying these methods will be not only a change in the structure of the general demand for higher education, but also a reduction in the general demand for educational services.

Eliminating the negative consequences caused by the dominance of side demand for higher education in the long term is impossible without the simultaneous application of both measures aimed at preventing the emergence and spread of side demand and measures aimed at restoring two-way information communication between the market of higher education and the market of qualified workforce. The system of dual education should become an integral component of the latter.

Indeed, the direct involvement of potential employers in the educational process provided by the dual education system allows solving most of the problems of all stakeholders, both in the labor market and in the higher education market. So, on the one hand, the involvement of potential employers in the educational process allows universities to more accurately identify the needs of the labor market and adjust their educational programs. On the other hand, potential employers, thanks to their close interaction with future specialists, have the opportunity to more accurately assess the quality of their training. However, the most important advantage of the dual education system, as a measure to eliminate the effects of the dominance of side demand, is that students can once again count on a salary that will correspond to the efforts they made during their studies. The latter should lead to a significant reduction in the absolute and relative value of side demand for higher education.

Thus, at the late stage of the dominance of side demand, a set of measures to overcome the negative consequences of the dominance of side demand, in addition to measures to prevent the emergence and spread of side demand for higher education, should also include measures to restore two-way information communication between the markets of higher education and skilled labor force.

## CONCLUSION

Thus, the following conclusions can be reached.

First, a high level of side demand for educational services can cause a number of negative consequences, namely: loss of information communication between the market of educational services and the labor market, a drop in the quality of higher education and a decrease in the scientific potential of the country.

Secondly, any reforms of higher education that do not take into account the presence of side demand for higher education will be accompanied by the introduction of formal rules, which will be characterized by a high level of target inefficiency.

Thirdly, in the late stages of the dominance of side demand, the application of measures to curb side demand and measures limiting the reorientation of educational institutions to serve the interests of students who present side demand is insufficient and should be supplemented by measures to restore two-way information communication between educational services and labor markets.

## REFERENCES

- Abramov, F.V. (2012). Vplyv neformal'nykh instytutitsiynykh faktoriv pobichnoho spozhyvannya na dynamyku yakosti vyshchoyi osvity [The impact of informal institutional determinants of side demand on the dynamics of higher education]. *Ekonomichnyy chasopys*, 21(9–10), 29–31.
- Abramov, F.V. (2011). Kachestvo vyssheho obrazovannya y korruptsiya v vuzakh: faktory dynamyky [Quality of higher education and corruption in higher education: determinants of dynamics]. *Ekonomichnyy chasopys*, 21(11-12), 8-10.



**Book of Proceedings**

- Abu Talib, M., Bettayeb, A.M., Omer, R.I. (2021). Analytical study on the impact of technology in higher education during the age of COVID-19: Systematic literature review. *Education and Information Technologies*, 26 (6), 6719–6746.
- Akerlof, G.A. (1970). The Market for “Lemons”: Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, 84(3), 488-500.
- Al-Barwani, T., Chapman, D., Ameen, H. (2009). Strategic Brain Drain: Implications for Higher Education in Oman. *Higher Education Policy*, 22(4), 415–432.
- Amstelveen, R. (2019). Flipping a college mathematics classroom: An action research project. *Education and Information Technologies*, 24(2), 1337–1350.
- Berkhout, E., Berkhout, P., Webbink, D. (2011). The Effects of a Dutch High School Curriculum Reform on Performance in and After Higher Education. *De Economist*, 159(1), 41–61.
- Ceja, M. (2006). Understanding the Role of Parents and Siblings as Information Sources in the College Choice Process of Chicana Students. *Journal of College Student Development*, 47(1), 87-104.
- Chen, J., Lin, T.F. (2012). Do Supplemental Online Recorded Lectures Help Students Learn Microeconomics? *International Review of Economics Education*, 11(1), 6-15.
- Cutright, M. (2008). From helicopter parent to valued partner: Shaping the parental relationship for student success. *New Directions for Higher Education*, 144, 39-48.
- Dill, D.D. (2000). Capacity Building as an Instrument of Institutional Reform: Improving the Quality of Higher Education through Academic Audits in the UK, New Zealand, Sweden, and Hong Kong. *Journal of Comparative Policy Analysis*, 2(2), 211–234.
- Elmslie, B.T., Tebaldi, E. (2010). Teaching Economic Growth Theory with Data. *The Journal of Economic Education*, 41(2), 110-124.
- Földvári, P., van Leeuwen, B. (2014). Educational and income inequality in Europe, ca. 1870–2000. *Cliometrica*, 8(3), 271–300.
- Förster, N., Forthmann, B., Back, M.D. et al. (2023). Effects of the COVID-19 pandemic on reading performance of second grade children in Germany. *Reading and Writing*, 36(2), 289–315.
- Geetha Rani, P. (2017). Financing higher education and education loans in India: interstate differentials and determinants. *Journal of Social and Economic Development*, 19(1), 42–59.
- Gonzalez, A. (1992). Higher education, brain drain and overseas employment in the Philippines: towards a differentiated set of solutions. *Higher Education*, 23(1), 21–31.
- Hall, J. (2017). Educational Quality Matters for Development: A Model of Trade, Inequality, and Endogenous Growth. *Eastern Economic Journal*, 43(1), 128–154.
- Haupt, A., Janeba, E. (2009). Education, redistribution and the threat of brain drain. *International Tax and Public Finance*, 16(1), 1–24.
- Horii, R., Kitagawa, A., Futagami, K. (2008). Availability of Higher Education and Long-Term Economic Growth. *The Japanese Economic Review*, 59(2), 156–177.
- Kurdadze, M. (2010). Innovation, High Technology Sectors, Higher Education and Human Capital: Education System Reform in Georgia. *Transition Studies Review*, 17(2), 464–470.
- Mir, S.A., Pramanik, S. (2017). Socio-religious affiliation and higher education participation of Muslim minorities in India: a probit analysis. *Journal of Social and Economic Development*, 19(2), 365–386.
- Neycheva, M. (2013). Does higher level of education of the labor force cause growth? Evidence from Bulgaria. *Economic Change and Restructuring*, 46(3), 321–339.
- Pegkas, P., Tsamadias, C. (2017). Are There Separate Effects of Male and Female Higher Education on Economic Growth? Evidence from Greece. *Journal of the Knowledge Economy*, 8(1), 279–293.
- Relyea, J.E., Rich, P., Kim, J.S. et al. (2023). The COVID-19 impact on reading achievement growth of Grade 3–5 students in a U.S. urban school district: variation across student characteristics and instructional modalities. *Reading and Writing*, 36(2), 317–346.





**Book of Proceedings**

- Roksa, J., Kinsley, P. (2019). The Role of Family Support in Facilitating Academic Success of Low-Income Students. *Research in Higher Education*, 60(4), 415–436.
- Roman, I. L., Wood, W.C., Niederjohn, S. (2021). Higher Education and Economic Mobility: Who Punches Above Their Weight? *Atlantic Economic Journal*, 49(3), 317–319.
- Russ, M., Bansal, G., Parrillo, A. (2017). The “Knowledge City” and the “Experience City”: the Main, Mediating, and Moderating Effects of Education on Income and Economic Inequality. *Journal of the Knowledge Economy*, 8(3), 804–829.
- Sailer, M., Homner, L. (2020). The Gamification of Learning: a Meta-analysis. *Educational Psychology Review*, 32(1), 77–112.
- Sav, G.T. (1986). The politics of race in higher education: Governing boards and constituents. *Public Choice*, 48(2), 147–155.
- Shukla, V., Mishra, U.S. (2020). Expansion in Education and Its Impact on Income Inequality: Cross-sectional Evidence from *The Indian Journal of Labour Economics*, 63(2), 331–362.
- Si, W. (2022). Higher education expansion and gender norms: evidence from China. *Journal of Population Economics*, 35(4), 1821–1858.
- Welch, A., Zhen, Z. (2008). Higher Education and Global Talent Flows: Brain Drain, Overseas Chinese Intellectuals, and Diasporic Knowledge Networks. *Higher Education Policy*, 21(4), 519–537.
- Wigger, B., von Weizsäcker, R. (2001). Risk, Resources, and Education: Public Versus Private Financing of Higher Education. *IMF Economic Review*, 48(3), 547–560.



Book of Proceedings

***ACCOUNTING FOR SOCIAL ENTREPRENEURSHIP  
DEVELOPMENT AND GROWTH***

*Ivana Tomašević<sup>1</sup>,  
Sandra Djurović<sup>2</sup>,  
Nikola Abramović<sup>3</sup>*

***ABSTRACT***

In global economy, innovative solutions for social issues like: unemployment, youth employment, social inclusion, culture, environment, education etc, are developed with social entrepreneurship. Those solutions in many cases change the system and motivate whole society to move into new direction. Studies show that there is need for researching social entrepreneurship in particular in Western Balkan countries where legislative, tax and accounting procedures influence and limit growth and impact of social entrepreneurship. We present in this paper our research on social entrepreneurship initiatives that are established with a goal of long-term duration - in form of social enterprise. In establishing this type of hybrid organization, we propose method that takes into consideration clear vision about social goals, financial sustainability, stakeholders and impact measurement. Model is adopted from previous research in this field but presents new standardized approach. We also show that even deciding about type of registration in national register will impact their growth possibilities. The aim of the paper is to identify methodology that can be used for consistent measurement of social value creation across countries allowing comparability between social enterprises. Paper proposes social balance scorecard that is modified to adopt to specific hybrid structure of social enterprise. Aspect presented in proposed model need to be taken in consideration in drafting Law on Social enterprises therefore this research has applicative as well as scientific improvements. While in accounting businesses have adopted IFRS we propose to use accounting methods to create hybrid standards in measuring performance of social ventures.

***Key words:*** *Entrepreneurship, Accounting, Social Entrepreneurship, Social Enterprise, Social Innovation, Tax Accounting for Business*

***JEL classification:*** *M41, M48, G32, L31, O35*

***INTRODUCTION***

Under **social entrepreneurship** in this paper we assume a process through which social problems are solved in an innovative way. In other words, in social entrepreneurship there are innovative solutions for social problems that change the system and motivate the entire society to move in a new direction [1]. There are various definitions of **Social entrepreneurship** but most common knowledge is that it "is the use of start-up companies and other entrepreneurs to develop, fund and implement solutions to social, cultural, or environmental issues." This concept may be applied to a variety of organizations with different sizes, aims, and beliefs [2].

---

<sup>1</sup> Faculty of Business Economics and Law, University Adriatic, Bar, Montenegro, ivanatomasevic1@gmail.com

<sup>2</sup> Faculty of Business Economics and Law, University Adriatic, Bar, Montenegro, sandra.djurovic.fpe@gmail.com

<sup>3</sup> Faculty of Business Economics and Law, University Adriatic, Bar, Montenegro,  
nikola.abramovic.fpe@gmail.com



## Book of Proceedings

At one side we have for-profit entrepreneurs that typically measure performance using business metrics like profit, revenues and increases in stock prices. While at the other side social entrepreneurs are non-profits with goal of generating a positive "return to society" and therefore must use different metrics. In other words, in social entrepreneurship success is measured by positive return to society by achieving various social-economics goals and environmental goals.

Interest in social entrepreneurship grows when the state and enterprises face challenges such as growing inequalities in society and social exclusion. This approach then provides innovative solutions for employment, poverty reduction and inclusion of vulnerable groups. Today, many activities in the field of local community development, as well as in the field of achieving higher goals of society, can be classified as social entrepreneurship. Social entrepreneurship is seen as differing from other forms of entrepreneurship in the relatively higher priority given to promoting social value and development versus capturing economic value [3].

Commercial entrepreneurship bases its principles on making profits, and making efficient use of resources. The company should achieve the best possible results, with as few employees as possible, and with as little investment in them. When earning profits at the end of the year, it is split between the owner. By contrast, the principles of social economy rest on civil society, that is, citizens. This means that a social enterprise operates in order to not profit, but to achieve or to fight for a particular social goal. Such a company is established with the aim of environmental protection, and it directs its business towards achieving this goal. Similarly, the business of these companies can be directed at opening rand places, that is, reducing unemployment, fighting poverty, and more. We need to emphasize that social entrepreneurship as a process that catalyzes social change and addresses important social needs in a way that is *not dominated* by direct financial benefits for the entrepreneurs however financial benefits can be also achieved, they are not excluded. Financial benefits and creating economic value are necessary for sustainability social entrepreneurship initiatives. In this research we are presenting the need for multidisciplinary approach in analysis of development of social entrepreneurship. Social enterprises create new value to the society and this value needs to be measured using various methods. While in accounting we have International Financial Reporting Standards (IFRS) as international standards that enable comparability and equal measurement of performance for business entities that operate in different countries; for measuring value of social entrepreneurship, we don't have similar international standard for measurement of performance. This leads to situation where social entrepreneurship is developing initiatives that create value which is not visible and therefore not adequately supported by national laws nor by national and international funding. This research will present two challenges that social enterprises face. First challenge comes since the start of their social initiative where their registration form as well as their choice of business activity will influence their growth possibilities. National legislation is very rigid and sometimes it limits their growth. Second challenge comes from the measurement of their performance and what would be adequate method to capture the value to the society that they are creating.

## ***LITERATURE OVERVIEW***

Lately, social entrepreneurship has gained considerable popularity and it is considered that a new generation of consumers requires and values social entrepreneurship. The popularization of this concept has also contributed to the well-known big companies such as Coca-Cola, Proctor and Gamble, Ben & Jerry, Dannone, T-com and others. In order to improve their image, they have introduced various social programs of the Company. Weather they have done it at the will of the management or due to the pressure of the state and legal regulations they are behaving more responsibly towards the social community and they have introduced various changes in their business as to contribute, for example, better attitude towards the environment, inclusion of vulnerable groups or improvement of life in the local community and society. Due to the acceptance of the concept of social entrepreneurship, we observe trends such as: the use of solar energy and bio-degradable packaging in the process of production, consumer education to recycle, the





## Book of Proceedings

employment of people with disabilities, and through the popularization and expansion of social entrepreneurship, new forms of companies have emerged that put economic focus in the focus of their business development and social benefits such as: incubators, accelerators, high technology investment companies.

A review of the literature on social entrepreneurship emerging from a number of domains reveals that it is fragmented and that there is no coherent theoretical framework. Therefore, unique characteristics of social entrepreneurs and the context within which they must be analyzed [4].

Special attention needs to be devoted to multidisciplinary research of social entrepreneurship in particular with finance and accounting. Editorial boards in field of accounting [5] are interested in firms that operate with a dominant profit motive where traditional accounting -based performance measures are used in their analysis. Research shows 2 types of accounting-based entrepreneurship research [5] [6]. First one regarding information disclosure to existing or potential owners or shareholders – those research deal with issues of disclosure of information and information transparency. Second type of research, which is more in line with our research problem, deals with accounting – related measurement process that might promote social entrepreneurship. When it comes to business ventures in Europe accounting measuring process is standardized by International Accounting Standards Board and which issued International Financial Reporting Standards (IFRS). Each state can adopt standards and make obligatory for business ventures to report using IFRS. However, social ventures don't have accounting standards that can generally be applied [5]. In our analysis we show that based on type of registration in national registers some social ventures must report using IFRS (those registered in Commercial court as business entities) while others don't have the same obligation (those registered as NGOs).

While general accounting rules apply for measuring economic performance of social ventures registered as businesses in Commercial court there is still need to measure intangible assets like social value creation (examples would be: social ventures that are supporting employment, job creation, creating new social value or social innovation etc.). Currently there is no standard for policy makers to evaluate or compare impact of certain social entrepreneurship initiative, or impact from work of one social venture. Example would be that there are no standards for comparing business incubators from one country to another. This comparison would be necessary for research purposes as well as for spreading best practices between countries, within industry or similar.

Literature presents various methods [7] that can be used as standards for assessing performance across social ventures like balance scorecard or triple bottom line or similar.

In recent research [8] conducted by Kocollari, Ulpiana, and Ennio Lugli 76 models that were most often discusses in articles or published in academic journals were selected and 4 clusters of models were formed based on qualitative, holistic, quantitative and managerial aspect (Table 1).

*Table 1. Models in articles published in academic journals in the field of business, management and accounting as keywords*

Cluster	Models
Quantitative	Social Return on Investment (SROI) Stakeholder Value Added (SVA)
Holistic	Global Reporting Initiative (GRI) Social Balanced Scorecard (SBSC)
Qualitative	Triple Bottom Line (TBL) Social Rating (SR)
Managerial	Eco-Management and Audit Scheme (LCA) Investors in People (IiP)

Their research is one step closer towards the standardization as focus is shifted on mostly used models where two were selected in each category. However, it is still necessary to evaluate the financial and managerial burden that models can cause on social venture as well as if there is possibility for same method to be used as standard across: countries, various types of social ventures and social innovations.



## Book of Proceedings

Special area of interest in Accounting literature in recent years is measuring performance of innovations [9] which is closely related to social entrepreneurship field as in both situations it is necessary to measure intangible assets.

### *METHOD*

In analyzing social entrepreneurship in this paper, we focus our analysis only on social entrepreneurship initiatives that are established with a goal of long-term duration - in form of social venture or social enterprise. This means social enterprises that are registered in form of businesses in Commercial Court or in form of NGOs which are registered in National Register of NGOs. Both type of entities that are required to fulfil reporting obligations for various stakeholders – internal and external. Depending on type of registration state requirements for social ventures registered as commercial entities are more rigid as they are obliged to report according to IFRS.

It is important to identify the difference in reporting needs between commercial entities and social ventures – although they are registered same way. As stated above social enterprise is a business that operates in a different way, i.e., striving to achieve a social purpose – this is stated in their Statutes or in their Decisions of establishment. By this we mean that like any other company and it is focused on the realization of revenues - but social enterprise uses profit by investing in programs and activities that positively influence: society, local community and the natural environment.

The social enterprise achieves its social mission through:

- Reinvesting profits
- Employment of those who are striving comes to work or are left out of the labor market
- Provide social, medical and education services to vulnerable individuals or groups who do not have them at their disposal
- Investments or changes in business to protect the environment
- Contributing or developing cultural activities in the community

In case of social enterprises, their stakeholders need to measure impact of the enterprise's activity on society, local community and natural environment. Therefore, measuring performance with Social Return on Investment or any other method presented in Table 1 is more favorable than presenting accounting reports based on national Accounting Law and adopted IFRS.

Although social ventures also resemble humanitarian organizations, they are not the same. The difference comes from business activity. Social enterprises engage in economic activity - by selling their products and services on the market try to earn money and profit, after which they invest in money to induce positive change in society. Humanitarian organizations, unlike them, do not engage in economic activity. This specific has impact on social enterprise registration requirements, accounting/reporting needs and tax issues.

We also finally differentiate social enterprises from socially responsible companies (commercial entities) such as Coca Cola or another large company that carries out socially responsible programs. In contrast, social enterprises do not distribute profits and in their mission have a clearly defined social purpose for which they are founded. Any business can be socially responsible but not established for this purpose unlike a social enterprise.

Understanding difference between social enterprise and other entities is necessary for understanding reporting needs of social enterprises as well as for understanding the necessity for standardization. This is necessary for financial, registration and accounting purposes. It is important to understand this term in order to be able to answer questions like: how do we capture value of social enterprises? Is social impact measurable and how?

Throughout years various techniques can be used for capturing value of social enterprises. In this research we have focused on model developed by Roberts Enterprise Development Foundation (REDF) in the

## Book of Proceedings

United States in 2000. This model uses traditional cost-benefit analysis to combine benefits that are coming from economic activity and are measured in accounting system and benefits to society coming from the existence and work of social enterprises [10]. Figure 1. is adopted from their method and considering the specific of social enterprises and the description presented above we consider that both business elements as well as social elements need to be presented.

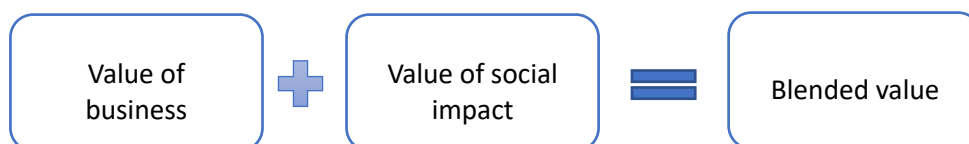


Figure 1. Model adopted from REDF approach

We have used this model in evaluating two social enterprises in Montenegro one is business incubator (Foundation Business Start-up Center) and the other one is technology park (Tehnopolis Ilc). Both entities are established and registered differently. Business incubator is registered as Non-government Foundation in National Register of NGOs. Technopolis is registered as Limited Liability Company in Commercial Court. Their common goals are job creation, business development, support for innovation and transfer of knowledge. Their registration form, on the other side is creating legal frame in which they can operate and grow – in one case limiting and in another enabling their growth. Standard performance management at the level of state for measuring value of their social impact doesn't exist therefore we might argue that financial support for these social entities might stop if value is not adequately captured by their stakeholders.

## ***DISCUSSION OF FINDINGS***

The operation of social enterprises is organized in many ways, depending on the goal that is to be achieved. In 2011, the initiative of social entrepreneurship at the European Union level was launched, so the European Commission creates opportunities for the emergence and development of these enterprises, by adapting to the social, financial, administrative and legal sphere. Different types of business that can be reduced under the definition of social entrepreneurship are:

- a. Companies whose commercial business is focused on achieving a social goal, most often social innovations;
- b. Enterprises that invest part of their profits in achieving social goals,
- c. Those companies that are guided by social and democratic principles, that is, those that seek to achieve social justice.

The form of organizing social enterprises cannot be reduced to one category because some companies act in the form of social cooperatives, some as private companies common while others are organized in the form of non-governmental organizations (NGO, associations, volunteer organizations, charities, foundations).

Finding the right legal form is as important as the other stages in business development because it will directly affect our success. When choosing a legal form, we must take into account: the type of activity we will be dealing with; whether we want to make profit or not; whether we start a business alone or in a partnership, etc.

In Montenegro, there are two options most common options that social entrepreneurs choose when choosing a registration, which is whether we will register as a *company* or as an *association of citizens* (NGO). In our research example we have one social enterprise registered as company and this is Tehnopolis in Niksic and the other one Business Center Bar registered as NGO.



## Book of Proceedings

Legal normative frameworks establishment, business and development of the social enterprise described in the following laws:

- Company Law
- Law on Non-Governmental Organizations
- Law on Vocational Rehabilitation and Employment of Persons with Disabilities
- Law on Volunteer Work

In Montenegro there is no law on Social enterprises however some laws dealing with social issues or environmental issues cover some areas. Like Law on professional rehabilitation of persons with disabilities identifies some form of special companies and their way of organization. However, it is necessary to emphasize that legal form of registration is still defined in Company Law and in the Law on NGO.

As the primary task of social enterprises is to achieve a certain social goal, it is necessary to look at the ways of financing such enterprises. The form of financing will influence accounting and performance measurement.

Social enterprises registered as NGO cannot generate commercial revenues more than 4000 euro per year. In order to generate revenue from some of commercial activities, which they will later reinvest for obtaining social goals, social enterprises need to be registered as companies in Commercial court. Depending on the size of the company, market and goals the most beneficial registration is as limited liabilities entity. In order to distinguish them from other business entities in their Statute social enterprises need to state their social purpose and that the profit will not be shared but reinvested for achieving social goals.

It should be emphasized that, social enterprises can be large, sustainable and strive to enter the international markets – this is why at the registration they are considered as commercial organization. On the other hand, small social enterprises encounter barriers to the internal market because they are insufficiently (financially) strong to choose for the desired or optimal conditions with banks, participating in public tenders, applying for the provision of structural funds and other benefits that market-strengthened companies have. Small and large social enterprises have same concerns about obtaining funds for financing and investing in obtaining their social purpose [12].

The first opportunity for the business of social enterprises can be obtained from state or European funds, or by investing directly in the company by a third party. However, there are other sources of financing for social enterprises is based on:

- a) Donor funds of members of the company or founder,
- b) Funds paid or donated as gifts
- c) Funds paid or credited by the State,
- d) Resources available to public funding sources, and
- e) Own financing.

Before registration social enterprises need to evaluate which sources of financing, they will be able to acquire. This decision will influence their accounting and revenue generation as well as size of the tax that they pay to the state.

When most of funding comes from commercial activity (selling products, providing services or renting to the market) that it is necessary and obligatory to record revenues as own under 202 field in Income statement – Income from sales.

In case of NGOs the revenue is recorded at 206 Other sources of funding. It is obligatory to state where other sources of funding are coming from and to separately record those coming from Donor funding or coming from supporting social action of enterprise. When it comes to recording expenses and associating expenses to revenue there are strict procedures to be followed. However, for NGOs and SMEs in Montenegro due to the size of accounting and general practice of outsourcing of accounting service accounting procedures are not always followed. This needs to be further researched as well as how accounting standards can contribute to measurement of performance and transparency in creating value.

## Book of Proceedings

The prevalent approach in traditional accounting involves the identification, acquisition, measurement, and analysis of financial data in order to support companies' decision-making process (International Standard Accounting Board, 2010). When it comes to social enterprises different priorities, resources, and forms of organization, may have different information needs for their internal and external reporting processes. Social ventures, based on their stakeholder's needs can adopt various reporting methods but at present their registration form will provide them flexibility or it will create additional burden. On the other hand, their stakeholders due to issues of legal requirements, transparency and comparability of results can require certain registration form.

Table 2 shows the differences in accounting reporting needs.

Social enterprise	Registration form	Revenue generation sources	Reporting needs
Technopolis	Limited Liability Company	Doing their business (renting space, consulting, logistic support etc.- as defined in their Statute) National and international programs and projects Other sources as per business or social activity	Required to report according to IFRS Reports presented to public on Tax Authority Web Portal Supervised by Law on Commercial Entities Need to comply to: Law on public procurement Law on Value Added Tax- their income generating activities need to have VAT if they generate income above 18000 euro.
Business Start up center Bar	NGO	National and international grants- donations. Membership fees, gifts, voluntary contributions Interest on deposits, dividends and income from economic activities if it is less than 4000 euro per year	Required to submit end year reports and present them to public on their website Supervised by Law on NGO No need to calculate VAT on their invoices

Although table shows that from accounting reporting purposes it is more favorable to be registered as NGO there are revenue generating limitations that come with this type of registration.

One-size-fits-all model for social enterprise doesn't exist however, we propose to start from using holistic approach (presented in Table 1) and developing Social Balance Scorecard SBSC. We are proposing modified Kaplan and Norton Balanced Scorecard [13] putting both financial and social goals together. The central argument of the balanced scorecard is that financial measures are not enough to measure the performance of social enterprises therefore additional elements need to be included [14]. In adopted model desired social goals are placed above all and they tie social enterprise's internal, external goals, stakeholders and resources.



Figure 2. Model adopted from Kaplan [13] [15]





## Book of Proceedings

In using this model social enterprise will need also to consider their resources in form of networks and skill set that they need [15] and that they can further grow and develop. Previous research on business incubators also shows that there is statistically positive relationship between applying balance scorecard and improving performance of business incubators as social enterprises [15].

In this model still most important issue from accounting perspective still is measurement of social impact and value that social enterprises are creating. Financial sustainability is clearly visible from Accounting reports that social enterprises need to submit to authorities or to public. Managing stakeholder's perspective and internal performance measurement are closely tied and need to be in line in order to be able to develop quantitative performance measurement which will be able to capture social value creation (social impact).

Social impact is considered to be the most relevant performance-based dependent variable related to social entrepreneurship however even in defining social impact term theory is offering various concepts depending of diversity of contexts (as social enterprise can have various goals like creating jobs, protecting environment, developing education, supporting health, reducing poverty and similar). Social impact has been conceptualized in the literature using terms such as social value [7], social performance [5], social return on investment (SROI) [16], and social accounting [5].

Depending on context capturing value can be challenging. New research in this area also recognizes new term – social innovation [9] and researchers are actually proposing new accounting methods that will promote and demonstrate the value of innovation and implement at the appropriate infrastructure to measure this value. In other words, as shown in Figure 2 we have Financial Accounting as well as Managerial Accounting to capture financial value and financial sustainability of social enterprise. At the other end there are internal performance measurement tools which are separately measuring impact, social value and social innovation (in both entities that we have researched). Performance measurement in our example is based primarily on the requirement of external stakeholders and customers. In both cases analyzed various databases for measuring impact co-exist -, there is no uniform approach. Emily Barman, Matthew Hall and Yuval Millo argue [9] that there is need for designing new *accounting methodology* for Social return on Investment – this is interdisciplinary approach between accounting and social entrepreneurship where entrepreneurs are using accounting methodologies to develop tools to prove the benefits of their social innovations.

## CONCLUSION

Research on social entrepreneurship in the function of creating new jobs can be viewed from a social and scientific point of view. When it comes to scientific theory there is lack of attention to the defining of social problems in SE has implications for the domain for problems do not exist unless they are recognized and defined, and those that define problems have influence on how these will eventually be addressed [1]. Analysis of Framing social problems in social entrepreneurship reveals that social actors are concerned with creating an ecosystem to support social entrepreneurs. Scientific theory therefore suggests that social entrepreneurs are and should be the agents of change.

When it comes to social point of view launching of social entrepreneurship directly influences the creation of jobs, the development of local self-government, the creation, strengthening and spreading of awareness of environmental protection, social innovation, health care, education and other segments that affect the quality of life.

Social entrepreneurship is a relatively new form of business, and the introduction of such a system invokes the economic system of the state as a whole, and the factors of economic development change. It is necessary for the state to undertake all necessary activities in order to achieve partnership with such enterprises, and thus act together to fight the problems of civil society. The lack of appropriate legislative when it comes to registration of social enterprise has some very important consequences in measuring this social impact in Montenegro. First state authorities and researchers are not able to obtain statistic about the



## Book of Proceedings

exact number of social enterprises registered in Montenegro – some can be registered as NGOs in National Register of NGOs while others can be registered in Commercial Court. In both Registries researchers cannot distinguish them from other entities registered there therefore it is impossible to measure their impact at the level of society on various indicators like employment, GDP growth, education etc. It is necessary to identify stakeholders to create dialogue and initiate the process of removing obstacles like this and to appropriately measure the impact of social entrepreneurs in Montenegro. This research proposes general model for measuring performance and impact that can be used for social enterprises. It uses existing theory where all levels of Social Balance Scorecard presented in Figure 2 need to be included in drafting the Law on social enterprises. Focus of law needs to be to regulate social entrepreneurship market but we argue that in drafting the law all levels of performance and all needs must be taken in consideration in order not to impose unnecessary burden on social enterprise. There is example in surrounding EU countries where adoption of Law on social enterprises reduced social entrepreneurship initiatives because with new regulations social entrepreneurs were demotivated to enter this field.

Developing most suitable model for social enterprise is a complex and demanding task behind whose actions the decisions are made at high state levels, i.e. at the community level. Social entrepreneurship, on the other hand, focuses on a certain social aspect, while the tools for achieving the goal remain the same, and they represent more operative activities in relation to activities for the development of the social economy.

Financing the social economy system implies the disposal of funds from the Structural Funds at the level of the Member States of the European Union in order to improve certain areas and equate them with the conditions in the territory of the Member States of the Union. These funds may be used by interested parties whether it is a private or public sector, since they have a common goal of developing a strategy for assessing and designing a social economy model. It is in both cases however very necessary to measure impact and having the standardized accounting methodology to measuring social impact is very beneficial. It will enable comparability, holistically measuring return based on invested amounts. Benefits of the model proposed can be of applied importance as measuring performance can improve the role that social enterprises have in local community [16] [17] and application of methodology will improve the performance. Scientific importance is that this research is putting light on challenges for creation of performance measurement standards for social enterprises. This research is promoting simplified SBSC model that linked with model adopted from REDF approach can lead to holistic approach of capturing value. At the end it promotes using accounting tools for measuring impact which should be further researched as to finding most adequate tools to adopt to the SBSC model shown in Figure tool and to join Financial sustainability output with Internal Performance measurement tools allowing comparability of performance, results and impact between organizations. Recent studies on social entrepreneurship are increasingly in agreement concerning the need to adopt tools for measuring the results achieved by social enterprises in order to produce information for decision making process [18]. Most comprehensive recent research on social entrepreneurship that tried to capture intellectual structure of social entrepreneurship research by analyzing 1296 research papers containing 74237 cited references [19]. They have identified three future research directions in the field of social entrepreneurship. One of those directions is recognizing social enterprises as entities that operate in unique market conditions with hybrid organization structure therefore there is need for further research and analysis of their work and how they relate to non-for-profit organizations [19]. There is common understanding in research that standards for measuring an organization's social impact are underdeveloped on both theoretical and empirical grounds [20], with this research we provide contribution to overcoming this gap.

## REFERENCES

Hervieux, C., Voltan, A. (2018). Framing social problems in social entrepreneurship. *Journal of Business Ethics*, 151(2), 279-293.



**Book of Proceedings**

- Dees, J. G., The meaning of social entrepreneurship. Available at: [https://centers.fuqua.duke.edu/case/wp-content/uploads/sites/7/2015/03/Article\\_Deas\\_MeaningofSocialEntrepreneurship\\_2001.pdf](https://centers.fuqua.duke.edu/case/wp-content/uploads/sites/7/2015/03/Article_Deas_MeaningofSocialEntrepreneurship_2001.pdf) (10.07.2023.)
- Mair, J., Marti, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business*, 41(1), 36-44.
- Weerawardena, J., Sullivan Mort, G. (2006). Investigating social entrepreneurship: A multidimensional model. *Journal of World Business*, 41(1), 21-35.
- Nicholls, A. (2009). We do good things, don't we?: Blended Value Accounting' in social entrepreneurship. *Accounting, organizations and society*, 34(6-7), 755-769.
- Poister, T. H. (2008). Measuring performance in public and nonprofit organizations. John Wiley & Sons, New York.
- Moss, T. W., Short, J. G. Payne, G. T., Lumpkin, G. T. (2011). Dual identities in social ventures: An exploratory study. *Entrepreneurship theory and practice*, 35(4), 805-830.
- Kocollari, U., Lugli, E. (2020). Social Accounting at Work: An Analysis of Social Impact Measurement Models, 31-43.
- Barman, E., Hall, M., Millo, Y. (2020). Demonstrating Value: How Entrepreneurs Design New Accounting Methods to Justify Innovations. *European Accounting Review*, 1-30.
- Rotheroe, N., Richards, A. (2007). Social return on investment and social enterprise: transparent accountability for sustainable development. *Social Enterprise Journal*, 3(1), 31-48.
- Somers, A. B (2005). Shaping the balanced scorecard for use in UK social enterprises. *Social Enterprise Journal*, 1(1), 43-56.
- Young, D. R. (2017). *Financing nonprofits and other social enterprises: A benefits approach*, Edward Elgar Publishing, Cheltenham Glos
- Kaplan, R. S., Norton, D. P. (1999). The balanced scorecard for public-sector organizations. *Balanced Scorecard Report*, 15(11).
- Mamabolo, A., Myres, K. (2020). Performance Measurement in Emerging Market Social Enterprises using a Balanced Scorecard. *Journal of Social Entrepreneurship*, 11(1), 65-87.
- Rania, S. Y., Suliman El Talla, A., Shobaki M. J., Abu-Naser, A. (2020). Performance Improvement and Its Impact on the Application of the Balanced Scorecard in Business Incubators.
- Hall, M., Millo, Y. (2018). Choosing an accounting method to explain public policy: Social return on investment and UK non-profit sector policy. *European Accounting Review*, 27(2), 339-361.
- Ronchetti, J: L. (2006). An integrated Balanced Scorecard strategic planning model for nonprofit organizations. *Journal of Practical Consulting*, 1(1), 25-35.
- Teece, D. J., Augier, M. (2016). The Palgrave Encyclopedia of Strategic Management, In *Business Ecosystem*, Palgrave Macmillan, London.
- Hota, P: K., Subramanian, B., Narayanamurthy, G. (2019). Mapping the intellectual structure of social entrepreneurship research: A citation/co-citation analysis. *Journal of Business Ethics*, 166, 89-114.
- Rawhouser, H., Cummings, M., Newbert, S. L. (2019). Social impact measurement: Current approaches and future directions for social entrepreneurship research. *Entrepreneurship Theory and Practice*, 43(1), 82-115.





Book of Proceedings

**21<sup>ST</sup> CENTURY LEADERSHIP SKILLS AND STAFF MOTIVATION**

David Edward G. Jimenez<sup>1</sup>

**ABSTRACT**

*As employee motivation greatly affects any institution's productivity levels and its sustainability, it is important for any administrator or manager to create policies and implement effective ways to do so. This study aims to see the impact of non-monetary factors, specifically 21<sup>st</sup> century leadership skills, as a source of motivation for employees in an educational institution. A survey of employees' perceptions and expectations on leadership skills were collected and analyzed for any gaps. A leadership motivation model is then presented to help gauge perceived and expected leadership skills that affect employees' motivation for sustained productivity. The study then will be able to help leaders in technical vocational educational institutions to learn and practice necessary skills to effectively manage their employees to higher productivity continuously leading to higher quality education for its students.*

**Key words:** *employee motivation, leadership skills, education*

**JEL Classification:** *I25, D83*

**INTRODUCTION**

With numerous technical vocational educational institutions in the province of Pampanga in the Philippines, it will be no surprise that competition will be very challenging and success will not be effortless. Marketing of various programs, attracting students to enroll and attracting and keeping employees will definitely be challenges for management of any educational institution. Moreover, maintaining a pool of employees, both for administrative and teaching positions are key to one institution's success as they are essentially the service providers.

Many factors affect the reasons as to the attraction and retention of human resources. Typically, financial incentives and non-monetary benefits are provided to be competitive against employees leaving and transferring to other institutions. However, in certain situations where financial resources are limited, how can management or administrators still provide enough motivation to maintain their workforce to be productive in achieving its mission and vision?

This study aims to answer the question on whether non-monetary benefits can promote motivation in a company. Specifically, can certain leadership qualities be a source of motivation for employees to be productive at work?

The objectives of the study then are the following:

- To determine which 21<sup>st</sup> century leadership skills employees look for in their leaders.
- To determine which 21<sup>st</sup> century leadership skills or qualities are a source of motivation for employees.
- To formulate a model of employee motivation for technical vocational institutions to be able to use for its operations

---

<sup>1</sup> Ateneo de Manila University, Philippines, [djimenez@ateneo.edu](mailto:djimenez@ateneo.edu)



## Book of Proceedings

This study will be able to help in the operations, especially, in human resource management of technical vocational institutions in motivating their employees to be productive and increase retention. When financial resources are tight and limited, are there alternative approaches to motivation? The establishment of an employee motivation model will guide current and future administrators.

However, the study was done particular to one technical vocation institution in a city in the province in the Philippines. Conclusions of this study will be a reflection of this background. Also, respondents of the study have not reached the statistical minimum; however, the entire population of staff was able to answer the surveys. Thus, reflecting the entire institution.

### ***REVIEW OF RELATED LITERATURE AND STUDIES***

Human Resource Management is one of the major business functions of any organization. Many of its further sub functions include, Hiring, Job Evaluation, Performance Evaluation and Motivation, among others. This entails then a complexity in managing your human resources, most especially in motivating and keeping your employees productively active with their tasks and responsibilities.

#### ***Motivation***

Motivation has been defined as “The willingness to exert high levels of effort toward organizational goals, conditioned by the effort’s ability to satisfy some individual need” (Robbins, 2015). An organization’s success then on attaining its goals is dependent upon its human resources’ sources of motivation. Knowledge on motivational factors has been of great importance to managers and administrators of institutions as worker’s outputs are the basis of sales and success of many companies. The effects of motivation on employees have been extensively studied across decades. Scientific Management, for example, proved that workers are mainly motivated by financial sources, such as wages (Taylor, 1911). Thus, came about during the industrial revolution, the concept of paying employees by piece. A standard rate was given and paid for, for every item a worker is able to accomplish in a day.

Further studies in motivation also included a hierarchy of needs (Maslow, 1943) where it was stated that individuals go through a pyramid of needs that one has to meet first before one can go up in the succeeding needs group. Physiological needs, such as needs for food and shelter, come in first. Second are the safety needs, such as security and stability. Third are social needs, such as being with family or friends. Fourth and Fifth are self esteem and self-actualization needs. Incentives then given should be dependent upon the level at which one person is at.

Herzberg (1959) also introduced the Two Factor Theory where it is stated that individuals are motivated by two factors, one intrinsic, the other, extrinsic. Intrinsic factors, also called motivation factors, are a source of motivation if they are present or given to employees. Examples such as the nature of one’s work or being provided recognition will provide motivation. However, the absence of which has a neutral effect. On the other hand, extrinsic factors, also called hygiene factors, are a source of demotivation if they are absent or not given to employees. Examples such as poor working conditions or poor infrastructure lead to dissatisfaction. However, the presence of which has a neutral effect.

#### ***Leadership***

As previously mentioned, human resource management, requires individuals at positions of power in an organization to deal with its complexity; in short, their leaders. Leadership is defined as “The ability to



## Book of Proceedings

influence a group toward achievement of goals” (Robbins, 2015). Thus, in order to influence a group toward accomplishing certain tasks, employees must be motivated by the leader.

Given the changes, as well in the times and in the industry, many challenges and characteristics of leaders are required of them. “Learning leadership is fundamental because it is about setting direction, taking responsibility for putting learning at the centre and keeping it there. This becomes increasingly complex in 21st century settings, calling for innovation and going beyond the heroics of individual leaders. Many need to be involved, bringing in diverse partners at different levels.” (OECD, 2013)

Furthermore, an article from thinkstrategicforschools.com (2015) also suggests a list of qualities of a 21<sup>st</sup> century educational leader. They state that there are 9 essential sets of characteristics for our current time.

1. 21st Century School Leaders are visionary. They ...
  - Want the world to be a better place
  - Want to make a difference
  - Believe in collective genius
  - See now and the future as collaborative
2. 21st Century School Leaders are emotionally intelligent. They ...
  - Lead from the heart, align vision with passion and unite people
  - Use a distributed leadership model
  - Empower others and unleash passions
  - Actively seek and promote Talent Development in their teams
  - Use an abundance not scarcity mindset
  - Recruit smarter more creative people than themselves
  - Think ‘Yes’ and then work out ‘How?’ and encourage others to adopt this approach
  - Are supportive, authentic and sincere
  - Do not use a ‘blame’ approach and ultimately take responsibility for everything that happens in the school or organization
  - When necessary, hold people accountable to the vision and their individual responsibilities
3. 21st Century School Leaders master self-leadership. They ...
  - Are driven by purpose, not ego, power or money
  - Have grit and commit to see tasks through
  - Develop ‘Focus’ as a 21st Century Skill and simplify wherever possible
  - See their work as joy, creating their own happiness and making a difference to the lives of others
  - See failure as a growth point, an iteration and ask what have I/we learnt from this and plan next steps
  - Are courageous and conquer their fears and limiting thoughts
  - Manage their well-being
4. 21st Century School Leaders embrace change and innovation. They ...
  - See opportunities and possibilities in everything
  - Are Change Agents and Change Advocates
  - Understand how to manage organizational change
  - Nurture a desire to innovate in their teams
5. 21st Century School Leaders welcome and value diversity. They ...
  - Seek different perspectives and empower others
  - Are compassionate, responsible Global Citizens
  - Empathize and adjust communication and styles of collaboration across cultures and generations
6. 21st Century School Leaders develop a 21st Century Mindset. They ...
  - Have a growth mindset
  - Have a positive attitude



## Book of Proceedings

- Think outside the box
  - Think strategically
  - Are solution-oriented, proactive and non-reactive
  - Use data analysis to inform decision-making
  - Seek constant improvement for themselves and the organization they are leading, pushing themselves outside their comfort zone
7. 21st Century School Leaders are learners. They ...
- Focus on learning for themselves and the organization
  - Use systems thinking, design thinking, innovation and disruption to create Learning Organizations
  - Are reflective lead learners
  - Are Instructional Leaders
  - Are learning partners with students and teachers
  - Seek different perspectives about the future of learning
8. 21st Century School Leaders are connected with the world. They ...
- Develop fluency with digital and social media
  - Develop agile and flexible partnerships with others
  - Are intercultural and Intergenerational savvy
  - Understand that Sustainability must be embedded into the curriculum
9. 21st Century School Leaders take action. They ...
- Operate with a strong results focus
  - Emphasize the importance of efficiency, productivity and priorities
  - Solve problems effectively
  - Create the future.

### *Leadership and Motivation*

Since employees are motivated by various factors, this study aims to search for an area of intersection between motivations by leadership. Can leaders in an institution and his or her styles and characteristics be a source of drive for employee to accomplish their tasks?

Ajang (2007) in his study found that "Organisational/management styles were ranked as the 4th most important motivation factor." Among other sources, leadership has been given much importance by employees, giving them drive to increase productivity. However, in this article, it was not mentioned which particular and specific set of characteristics are source of motivation.

Benteaa and Anghelachea (2011) concluded that "...professional position given by the level of continuous training held influences job satisfaction. The overall satisfaction and attitudes of satisfaction towards Leadership-interpersonal relations and work organizing-communication are higher..." Thus, interaction between leaders and their subordinates matter. It can breed or deter satisfaction of employees with their work leading to either an increase or decrease in productivity. Similar to the previous study, employees are motivated by their leaders and their relationships with them. But no specific leadership qualities mentioned once more.

Nader (1988) found that "Environmental factors that impact on leadership include the following: The appropriateness of the leader's style to the situation will have a major impact on the behaviour of the group ...and Leader qualifications and knowledge will build group confidence and loyalty. Successful leaders will take advantage of the motivating and satisfying aspects of jobs while offsetting or compensating for those factors that demotivate or dissatisfy. There is evidence that this theory works better in predicting job satisfaction and leader acceptance than increasing subordinate performance. "



**Book of Proceedings**

Thus, even if leadership style has been discussed, no specific set of skills or characteristics have been mentioned; moreover, nothing about 21<sup>st</sup> century leadership skills in particular. But it further stresses how leadership affects performance of employees under him or her.

Abbema (2013) suggests that "...leaders and mentors motivate by creating freedom, encouraging self-initiation and having a congruency with personal values." It also is argued that, "...for fulfilling competence, leaders and mentors used confirming and praising of competence and stimulating continuous development. Also, employees and protégées admired their leaders' and mentors' competent behaviour."

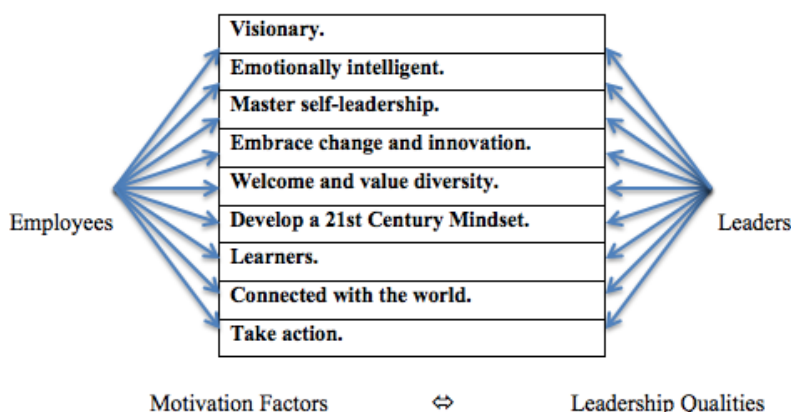
In this case, particular leadership skills were mentioned to be motivational, such as encouraging self-initiation, stimulating continuous development in workers' skills and the way of providing validation towards their employees good work outputs. However, the skills mentioned are not particularly matched with the 21<sup>st</sup> century leadership skills.

Furthermore, Gümüş (2015) concluded, "The motivation and success of the employees is not possible if the administrator doesn't share information and experience with them. In the orders, transactions and actions based only on fear, administrations based on pressure, it is the employee who is harmed."

In this case, as part of the 4<sup>th</sup> definition of a 21<sup>st</sup> Century School Leader, they are "compassionate" and they "empathize and adjust communication and styles of collaboration across cultures and generations" has been mentioned. This article touched on 1 of the 9 characteristics then and has validated one particular character set. Based on these readings, it can be established that there is an opportunity to establish leadership characteristics needed in order to be able to motivate employees. A considerable amount of research has been done about leadership and its impact on motivation. However, not much has been done on the specific 21<sup>st</sup> century leadership skills. Are the 21<sup>st</sup> century characteristics necessary leadership qualities? And if they are found in the leader, do they motivate employees even more?

***Framework***

As different people respond to different motivating factors, it is important to be able to find out what these are. In leaders then, it is important to establish the set of characteristics in them that will motivate their employees.



*Figure 1. Leadership Qualities*

The leadership quality motivation framework will provide the leadership qualities employees find motivating. As such, from the results, leaders will be guided as to which characteristics they have to adapt, by either improving one's particular characteristic or learning the behavior, to positively affect the worker's performance at work.



## Book of Proceedings

### *METHODOLOGY*

All 10 employees of Asia Pacific Academy of Management, Science and Technology (administrative staff and full time faculty members) were asked to answer a questionnaire to find out the following:

- What 21<sup>st</sup> century leadership skills are expected from educational leaders
- Are the 21<sup>st</sup> century leadership skills motivating factors for the staff

These questions were answered by giving a list of the 21<sup>st</sup> century skills definitions and the staff was asked to rank them from 1-7 (7 being the highest) as applicable to them.

Below is the list of statements:

1. I am motivated at work when Educational leaders want the world to be a better place.
2. I am motivated at work when Educational leaders want to make a difference.
3. I am motivated at work when Educational leaders believe in collective genius.
4. I am motivated at work when Educational leaders see now and the future as collaborative.
5. I am motivated at work when Educational leaders lead from the heart, align vision with passion and unite people.
6. I am motivated at work when Educational leaders recruit smarter more creative people than themselves.
7. I am motivated at work when Educational leaders are supportive, authentic and sincere.
8. I am motivated at work when Educational leaders do not use a 'blame' approach and ultimately take responsibility for everything that happens in the school or organization.
9. I am motivated at work when Educational leaders are driven by purpose, not ego, power or money.
10. I am motivated at work when Educational leaders see their work as joy, creating their own happiness and making a difference to the lives of others.
11. I am motivated at work when Educational leaders see failure as a growth point, an iteration and ask what have I/we learnt from this and plan next steps.
12. I am motivated at work when Educational leaders are courageous and conquer their fears and limiting thoughts.
13. I am motivated at work when Educational leaders see opportunities and possibilities in everything.
14. I am motivated at work when Educational leaders are Change Agents and Change Advocates.
15. I am motivated at work when Educational leaders understand how to manage organizational change.
16. I am motivated at work when Educational leaders nurture a desire to innovate in their teams.
17. I am motivated at work when Educational leaders seek different perspectives and empower others.
18. I am motivated at work when Educational leaders are compassionate, responsible Global Citizens.
19. I am motivated at work when Educational leaders empathize and adjust communication and styles of collaboration across cultures and generations.
20. I am motivated at work when Educational leaders think outside the box.
21. I am motivated at work when Educational leaders think strategically.
22. I am motivated at work when Educational leaders are solution-oriented, proactive and non-reactive.
23. I am motivated at work when Educational leaders seek constant improvement for themselves and the organization they are leading, pushing themselves outside their comfort zone.
24. I am motivated at work when Educational leaders focus on learning for themselves and the organization.
25. I am motivated at work when Educational leaders are reflective lead learners.
26. I am motivated at work when Educational leaders are Instructional Leaders.
27. I am motivated at work when Educational leaders seek different perspectives about the future of learning.
28. I am motivated at work when Educational leaders develop fluency with digital and social media.





## Book of Proceedings

29. I am motivated at work when Educational leaders develop agile and flexible partnerships with others.
30. I am motivated at work when Educational leaders are intercultural and Intergenerational savvy.
31. I am motivated at work when Educational leaders understand that Sustainability must be embedded into the curriculum.
32. I am motivated at work when Educational leaders operate with a strong results focus.
33. I am motivated at work when Educational leaders emphasize the importance of efficiency, productivity and priorities.
34. I am motivated at work when Educational leaders solve problems effectively.
35. I am motivated at work when Educational leaders create the future.

Each 21<sup>st</sup> century leadership skill is broken down into a number of statements. For example, statements 1-4 correspond to the 1<sup>st</sup> definition of the 21<sup>st</sup> century leader as visionary, statements 5-8 correspond to the 2<sup>nd</sup> definition of the 21<sup>st</sup> century leader as emotionally intelligent and so on.

Upon collation of the questionnaires, the results were tabulated and the average rating was computed per set of statements corresponding to each of the 21<sup>st</sup> century leadership skills. The results thereafter were ranked from highest to lowest.

Furthermore, open-ended questions such as the following were also asked:

1. What other factors, aside from financial rewards and incentives motivate you to do your work?
2. What other factors, aside from financial rewards and incentives demotivate you to do your work?
3. What characteristics, actions and/or habits of your educational leader motivate you to do your work?
4. What characteristics, actions and/or habits of your educational leader demotivate you to do your work?

## ***PRESENTATION AND ANALYSIS OF DATA***

All the questionnaires answered by the staff were encoded and collated. Below is the summary of the results of the survey.

*Table 1. Summary of the results of the survey*

LEADERSHIP SKILLS	STATEMENT	RATING	AVERAGE RATING
Visionary.	1	6.9	6.85
	2	6.9	
	3	6.7	
	4	6.9	
Emotionally intelligent.	5	6.9	6.825
	6	6.5	
	7	7	
	8	6.9	
Master self-leadership.	9	6.9	6.8
	10	6.7	
	11	6.9	
	12	6.7	
Embrace change and innovation.	13	6.8	6.825



## Book of Proceedings

	14	6.7	
	15	6.9	
	16	6.9	
Welcome and value diversity.	17	6.8	6.833
	18	6.9	
	19	6.8	
Develop a 21st Century Mindset.	20	6.8	6.85
	21	6.9	
	22	6.9	
	23	6.8	
Learners.	24	6.8	6.775
	25	6.8	
	26	6.6	
	27	6.9	
Connected with the world.	28	6.7	6.8
	29	6.9	
	30	6.8	
	31	6.8	
Take action.	32	6.8	6.85
	33	6.9	
	34	6.8	
	35	6.9	

*Source: Author*

Summary of average results in ascending order is in the Table 2.

*Table 2. Summary of average results*

LEADERSHIP SKILL	AVERAGE RATING
6	6.85
1	6.85
9	6.85
5	6.833333333
2	6.825
4	6.825
8	6.8
3	6.8
7	6.775

*Source: Author*

The top 3 highest qualities based on the results are developing a 21<sup>st</sup> century mindset, visionary and taking action. All three received an average rating of 6.85 out of 7 or 97.85%.

First, developing a 21<sup>st</sup> Century mindset means that educational leaders think outside the box. They do not limit themselves to what is given or the situations that restrict them. When problems are faced, they think of creative solutions. They also think strategically and are solution-oriented, proactive and non-reactive. In the same manner, they seek constant improvement for themselves and the organization they are leading, pushing themselves outside their comfort zone. Second, visionary educational leaders want the world to be a better place. They think of ways to improve their surrounding systems. They want to make a difference. They also believe in collective genius and so they see now and the future as





## Book of Proceedings

collaborative. Third, taking action means educational leaders operate with a strong results focus. As mentioned previously they are proactive. They emphasize the importance of efficiency, productivity and priorities, as they are solutions oriented as mentioned previously as well. Finally, they create the future, a positive future for all.

The implication then of the highest ranked qualities of an educational leader is that leaders should take note of these and find themselves practicing such. If, for example, they are not yet as such, they should find ways to improve themselves in imbibing these qualities, as they are found to be motivating. The lowest quality based on the results is being a learner. It received 6.775 out of 7 or 96.78%.

Educational leaders being learners mean they focus on learning for themselves and the organization. Thus, they continuously improve themselves. They also use systems thinking, design thinking, innovation and disruption to create learning organizations. They also seek different perspectives about the future of learning. Although it is ranked the lowest, this does not mean that it is not important and not motivating to employees. In fact, at the given rating, its percentage equivalence of 96.78% is actually a high value. This means then that the 21<sup>st</sup> century leadership skills are ranked at the least at 96.78%. The range difference between the rankings, in fact, is only 1.07%.

Other comments from the survey also mentioned additional characteristics for an educational leader. One said that "infectious professionalism and brilliant ideas" from upper management is a motivating factor. Another mentioned humor and warmth as well are important for leaders to have. Moreover, "Love" and Harmonious relationships between leaders and staff are also given importance.

The implication then is that most, if not all, the 21<sup>st</sup> century leadership skills are found to be motivating factors to employee. Furthermore, additional characteristics beyond the list have been mentioned to be motivating factors as well. It is now a challenge to leaders to be able to imbibe and to practice all 9 21<sup>st</sup> century leadership skills and more.

## ***SUMMARY, CONCLUSION, AND RECOMMENDATION***

Human Resource Management is one of the challenging business functions of any institution. It deals with a number of processes, including hiring, performance evaluation, and job evaluation, among others. Maintaining and motivating employees is one interest of this study.

Theories on motivation, from Maslow to Herzberg, as well as leadership, have been discussed and related studies on leadership as being motivating factors has been discussed. However, an area that this study focused on was whether the 9 21<sup>st</sup> century leadership skills in particular have been proved to be motivating factors to employees. Thus, leaders can adapt to such requirements.

Staff members of a technical vocational institution were asked to rank qualities of educational leaders that motivate them. It was deduced that all 9 21<sup>st</sup> century leadership skills are motivating factors to them as the minimum result was 96.78%. This poses a challenge to educational leaders as to how they will be as they oversee the operations and manning the ship of their institutions as they voyage to the future.

Furthermore, below are some other findings and further recommendations on the study.

*Table 3. Findings and further recommendations*

<b>Findings</b>	<b>Conclusion</b>	<b>Recommendation</b>
All 9 21 <sup>st</sup> Century Leadership skills were ranked at least 96.78% as motivating factors.	The list of 21 <sup>st</sup> century leadership skills have been validated through this study as necessary characteristics of an educational leader.	The scope of related theories on motivation and leadership may adapt 21 <sup>st</sup> century leadership skills. Further studies can be made.



### Book of Proceedings

All 9 21 <sup>st</sup> Century Leadership skills were ranked at least 96.78% as motivating factors.	21 <sup>st</sup> Century skills are applicable even in a TVI setting in the province of a particular country.	More in-depth studies should be done in university, secondary and primary school settings to widen the scope of the study and to validate findings.
Top 3 21 <sup>st</sup> century skills are having a 21 <sup>st</sup> century mindset, being a visionary and being action-oriented.	Educational Leaders should have these skills to be a source of motivation for their employees.	For HR policies to incorporate ways to find these characteristics in leaders in their hiring process. Hiring Procedure could include tests and situational interviews to look for particular candidate characteristics. As for Monitoring, regular surveys of the leader's skills could be done to provide an inventory of what is being met and what is not. As for Evaluation, results from monitoring can become part of the performance evaluation of the leader. Thus, recommendations on training and further personal and professional development can be provided for them.

Source: Author

## REFERENCES

- Ajang, P. (2022). Assessing the role of work Motivation on Employee Performance. Thesis, Umea University. [30.01.2023.] <http://umu.diva-portal.org/smash/record.jsf?pid=diva2%3A140549&dswid=-4805>
- Apak, S., Gümüő, S. (2015). A Research about the Effect of the Leadership Qualities of Public Administrators on the Motivation of the Employees. *Procedia – Social and Behavioral Sciences*, 210, 368-377.
- Bentea, C–C., Anghelache, V. (2012). Teachers' motivation and satisfaction for professional activity. *Procedia – Social and Behavioral Sciences*, 33, 563-67.
- Dessler, G. (2010). *Human Resource Management*. Prentice Hall, New York.
- Driscoll, M. (2016). 9 Essential 21st Century Leadership Skills. Think Strategic for Schools. <http://thinkstrategicforschools.com/9-essential-21st-century-leadership-skills/>. (30.01.2022).
- Heizer, J., Render, B. (2013). *Operations Management*, Prentice Hall, New York.
- Leadership for 21st Century Learning. Available at: <http://www.oecd.org/edu/ceri/leadershipfor21stcenturylearning.htm>. (30.01.2023.)
- Nader, R. Leadership and Motivation. Available at: [www.btcrd.gov.nl.ca/regionaldev/ccb/leadership/ccb\\_leadershipguide.pdf](http://www.btcrd.gov.nl.ca/regionaldev/ccb/leadership/ccb_leadershipguide.pdf) (30.01.2023.)
- Robbins, S., Judge, T. (2013). *Organizational Behavior*. Pearson, Boston.
- Van Abbema, A. E. (2022), The Motivational Leader: A Self - Determination Approach. Master's thesis, University of Twente. [http://essay.utwente.nl/62716/1/Abbema\\_van\\_Anneke\\_-\\_s\\_0174467\\_scriptie.pdf](http://essay.utwente.nl/62716/1/Abbema_van_Anneke_-_s_0174467_scriptie.pdf). (30.01.2022).



Book of Proceedings

***HISTORY OF THE DEVELOPMENT OF THE AUSTRIAN SOCIAL PARTNERSHIP***

*Eperjesi Zoltán*<sup>1</sup>

***ABSTRACT***

*Austria is one of the most economically successful and socially stable countries in the European Union and internationally. Success in the economic and social field can be clearly linked to the Austrian model of social partnership. The model of economic and social partnership is based on a system of cooperation between economic and social policy, in which employers' and employees' representatives work out compromise solutions with each other and with the government. The basic idea behind the social partnership system is that the fundamental goals of policy can be better achieved through dialogue and coordinated action by large social interest groups than through public conflict. The main feature of the Austrian social partnership is the compromise-seeking negotiating culture of the interest representing organizations concerned. The aim of my investigation is to underpin the hypothesis that the Austrian social partnership greatly contributed to the well-functioning social market economy in Austria. The most significant value of social partnership is the reconciliation of the different interests represented by the employers' and employees' organizations. The social partners' decision-making and reform efforts are always based on a broad social base. Countries where the social partners have a strong influence show better macroeconomic outcomes than countries where the social partners have little influence. Social partners' cooperation leads to improved economic performance, lower unemployment, especially among young people, higher employment and a more even distribution of income.*

***Key words:*** social partnership, parity, collective contracts, sectoral wage agreements, labour market  
***JEL Classification:*** A13, E12, E61

***INTRODUCTION***

Before describing and analysing in detail the institutional framework of the Austrian social partnership, which embodies the negotiated market economy form, I will present the three main economic forms of operation. The market-driven economy is a form of modern capitalist economy that institutionalises state intervention and limits the state's intervention in the economy to a relatively narrow range, which means that market regulation is most effective in this form of economy. In a market-driven economy, there is also state redistribution, macro-economic regulation of the state, state ownership, competition regulation and bargaining between the state and functional interest groups. However, in a market-driven economy, the state remains outside the micro-economic processes, does not intervene selectively in the activities of firms, and retains the dominant role of the market in the allocation of resources Hall-Soskice, 2001, 8).

The role of the state and banks is relatively small. Banks mainly perform the function of short-term lending, have no interests in the corporate sector and do not exert significant influence on the business policies of companies. The absence of the state in the allocation of capital gives the market mechanism of capital allocation, the stock market, the stock exchange, a decisive market. The model of a market-driven economy is best described by the Anglo-Saxon countries.

---

<sup>1</sup> Wekerle Sándor Business School, Budapest, eperjesiwsuf@gmail.com



## Book of Proceedings

The state-driven market economy is the version of the modern capitalist economy in which the state plays the most decisive role. In this economic model, the state intervenes autonomously in microeconomic processes, selectively influencing the functioning of the corporate sector. The state plays a major role in the allocation of resources alongside the market, possibly suspending or limiting the market mechanism. The State finances productive investment, company research and development, and grants preferential loans to certain groups of companies.

The internal accumulation of companies is much smaller, the capital market is not very important for the allocation of capital, while the role of banks and the state is large. In this role, banks are involved in medium and long-term lending, have significant interests in the corporate sector and exert considerable influence on firms' business policies. It is through the financial system that the state can enforce its economic priorities and thus has the tools to implement the economic policies it wishes to pursue. "The doctrine of market fundamentalism and "global free competition" has changed as a result of the economic and financial crisis, the activity of anti-globalisation movements, the growing cooperation between the countries of the South and the bankruptcy of neoliberal-oriented development policies, and the public policy agenda of neoliberalism, the ideology of the Washington Consensus, has been eclipsed worldwide" (Pongrácz A., 2019, 179.). The state control of the financial system is based on the full or partial state ownership of commercial banks. The model of a state-controlled mixed economy is most notably Japan.

In a negotiated (neo-corporative) market economy, a system of bargains between the interest groups of key economic actors coordinates the processes of the market and the state that regulate the economy. This version of the mixed economy occupies an intermediate position between the two models described above. The state's exclusion from microeconomic processes does not mean that they are exclusively market-driven.

In the bargaining economy model, the state is not an autonomous actor, but a prisoner of the interest groups in the economy. The fact that the market allocates resources between economic agents does not mean that the structural transformations of the economy are left exclusively to the market. Under the neo-corporate economic model, state intervention counterbalances market effects in the industries and firms affected, keeping these actors within the overall policy consensus.

Katzenstein has described the democratic version of the neo-corporatist model, democratic corporatism, on the basis of the following criteria.

- The ideology of social partnership: a political consensus that is a precondition for reaching compromises between opposing parties - employers, workers, state.
- A centralised and concentrated system of economic interest groups: Consensus cannot, of course, be reached directly between the social partners, but is developed jointly by their apex representative organisations. One measure of this consensus is the frequency of strikes in a given country.
- Political bargaining between political actors: the voluntary reconciliation of the conflicting objectives of the various economic actors and interest groups is achieved through a system of political bargaining. Bargaining takes place between the main economic interest groups, the state bureaucracy and political party elites on cross-cutting issues that go beyond the narrow, sector-specific interests of individual interest groups. These decisions cover issues of wages, prices, taxes, employment, social welfare, economic stability and growth. The prototype of the bargaining economy is provided by the small open economies of Western Europe: Austria, Sweden, Norway, Denmark (Bara - Szabó, 2005, 116).

## ***OVERVIEW OF THE AUSTRIAN SOCIAL PARTNERSHIP***



## Book of Proceedings

Austria is very characterised by the cooperation between large economic interest organisations and the government, the so called system of social partnership. This cooperation has been the basis for the country's post-war reconstruction, economic growth and social peace. The institutional system of social partnership is based on the principle of voluntarism, and the historically established cooperation between interest organisations is largely informal and not regulated by law. The role of the social partners is not limited to the regulation of labour relations. Collective agreements are usually drawn up by the competent subdivision of the Economic Chamber on the employers' side and by the competent body of the Austrian Trade Union Confederation on the employees' side. It is estimated that 98% of employees in the private sector are covered by collective agreements. In comparison, the figure is 62% in Germany and only 14% in the United States of America. In Austria, there are currently more than eight hundred collective agreements in force, with trade unions negotiating around four hundred and fifty collective agreements per year (Net 1).

What is special about the Austrian system is that the social partnership covers virtually all segments of economic and social policy. Consequently, Austria is an excellent example of corporatism, i.e. a comprehensive system of coordinated representation.

The Austrian social partnership system is made up of four main representative organisations, the Austrian Trade Union Confederation (ÖGB) representing employees, the Federal Chamber of Labour (Bundesarbeiterkammer - BAK) representing the employees, the Austrian Federal Economic Chamber (Wirtschaftskammer Österreich - WKÖ) representing the employers and the Austrian Federal Chamber of Agriculture (Landwirtschaftskammer Österreich - LK) representing the employers (Net 2).

The social partnership institutions are not only interest organisations that coordinate wage agreements and lobby, but are also part of the political system.

The Austrian Trade Union Confederation (ÖGB) operates in the form of an association, while the other three chambers are autonomous public administrative bodies with compulsory membership by law (Net 3). The Austrian Social Partnership is based on the principle that the participating interest organisations agree on common long-term economic and social objectives and work in a coordinated way, involving different social groups in dialogue. Social partnership does not mean that the partners deny their differences of interest. Rather, it is a process whereby conflicting economic and social interests are reconciled on the basis of a willingness to compromise on the part of the participating organisations.

Since 1957, the cooperation between the individual organisations has taken place within the framework of the Parity Committee on Wages and Prices (Die Sozialpartner Österreich, 2023).

The social partners are linked to the Austrian political system in a number of ways, with their organisations participating in the drafting of draft legislation, making proposals to the legislature and participating in the shaping of Austrian social and labour law. The social partners are also involved in the work of a number of committees and councils, such as the development of training for industrial apprentices, the monitoring of working conditions, the issuing of certificates of origin, competition and labour market policy, consumer protection policy and the development of the subsidy system.

Delegates from the social partnership institutions take part in the work of the pension, sickness and accident insurance funds, which are public institutions. The social partners are also involved in the appointment of lay judges in labour and social courts and of judges in cartel courts (Net 4).

The social partners have set out their objectives in several agreements. The current cooperation between the social partners is governed by the agreement signed on 23 November 1992, in which their objectives have been considerably extended. From now on, their main objectives are no longer limited to full employment, price stability and economic growth, but also include strengthening the international competitiveness of the Austrian economy, deepening participation in international and, in particular, European integration, improving human resources, ensuring decent working conditions and integrating environmental considerations (Sozialpartner Abkommen – Social partner Agreement, 1992, 7). The economic and social embeddedness of the interest organisations contributes to their ability to take responsible political decisions, as their activities affect not only their membership but society as a whole.





## Book of Proceedings

The main objective of the social partners is to maintain social peace while ensuring the country's comparative advantage in international competition. Cooperation between the organisations is characterised by a culture of dialogue between partners and the search for compromise and agreement based on the representation of the interests of society as a whole.

### **The core tasks of the social partnership**

The main task of the social partners is to lead the ongoing negotiations on collective agreements and to shape the conditions for dual vocational training. The social partners have the right to participate in the legislative process, have jurisdiction in labour courts and are actively involved in social policy (pension, sickness and accident insurance) (Net 5).

### **Social partnership and economic decision-making**

The social partners are involved in the consultation and drafting of draft legislation and often take the initiative on current economic and social policy issues. The social partners have accumulated a wealth of knowledge over the last almost 80 years and have a very significant advisory and legal aid activity. The social partners have important decision-making powers in the field of economic policy. The current situation raises a number of questions about the institutional set-up of the social partnership and whether the social partners should confine themselves to representing their interests. Further questions are raised by the efforts to redefine the institutional system's integration function and the representation of the most vulnerable groups in society.

The democratic legitimacy of the institutions of the social partnership is ensured by regular, free and secret elections of each member organisation. Membership, tasks, organisation and funding of the individual social partnership institutions, i.e. the individual chambers (Chamber of Commerce, Chamber of Agriculture, Chamber of Labour and Trade Union Federation), are regulated by law (Net 6).

The State delegates certain public tasks to the chambers as autonomous professional and economic organisations. The autonomous chambers are not subject to the State's instructions, but are supervised by the public authorities. In this respect, the chambers form the basis of the Austrian system of self-government (Net 7). Cooperation between individual interest representatives in Austria is based on voluntary cooperation. Historically, cooperation between interest representatives has been mostly informal and not regulated by law.

### **Wage negotiations in other EU countries**

In 22 of the 27 EU Member States, minimum wages are set by law for each economic sector. Trade unions and employers' representatives can negotiate higher wages in certain sectors. Apart from Austria, only Italy, Denmark, Sweden, Finland and Cyprus have sectoral collective agreements as opposed to the statutory minimum wage. In these countries there is no statutory minimum wage (Net 8).

### **Areas covered by collective agreements**

Collective agreements cover all claims that go beyond the statutory regulations. The most important elements are the minimum wage in the sector concerned and the regulation of holidays and Christmas money, i.e. the 13th and 14th month (Arbeiterkammer, 2023). Without collective agreements, there would be no specific regulations governing, for example, the conditions of dismissal, overtime pay, bonuses and holidays.

On the employees' side, the trade unions negotiate because the statutory representation of interests (Chamber of Labour) could only negotiate if there was no voluntary representation of interests and they have sufficient sectoral organisation. The Labour Council, which is otherwise organised on a regional and cross-sectoral basis, has other tasks.

### **The effectiveness of social partnership**



## Book of Proceedings

The OECD reports that social partnership contributes significantly to economic development, reducing income disparities and maintaining social peace. However, it is also true that the involvement of the social partners in lawmaking hinders the implementation of reforms.

### **The costs of compulsory membership of chambers**

The monthly Chamber of Labour fee amounts to 0.5% of the health insurance premium. For a gross salary of €2,200, membership of the Chamber of Labour costs €6.19 per month. With 3.64 million members, the Chamber of Labour collected €432 million last year. Some 800,000 members - unemployed, on maternity leave, low-paid - do not pay the compulsory membership fee. The Chamber of Commerce collected €541 million in membership fees from its 506,000 members, 60% of which came from self-employed persons. For members of the Chamber of Commerce, the membership fee is based on turnover (Kompetenz, 2017). In principle, the legislature could reduce the 0.5% maximum membership fee provided for in the Labour Council Act. However, the constitution requires that the necessary funding to fulfil its functions be provided, so in practice it would be difficult to push through an amendment to the law, which would require a two-thirds majority in parliament.

### **The benefits of compulsory membership**

The main benefits are the maintenance of social peace, solidarity, a wide range of services and a well-established system. Renate Anderl, head of the Chamber of Labour, argues that without compulsory membership, many of the tasks of the national economy could not be carried out. In her view, everyone would be looking after themselves and no one would care about the many small businesses. The president also says that the organisation is a great help to small businesses in foreign markets.

### **The disadvantages of compulsory membership**

The strong influence of the chambers, the so-called "co-management", is criticised by many and is seen as an outdated system, which is now pervaded by the spirit of clientelism. The government should be given more power to push through long overdue reforms. Critics argue that competition would be good for the Chamber of Labour. The liberal Neos party is outspoken that the individual chambers are in fact satellite organisations of the Austrian Social Democratic Party and the Austrian People's Party (SPÖ, ÖVP). Liberals believe that compulsory membership of the Chamber of Commerce is completely at odds with free enterprise (Der Standard, 2017).

### **The chances of abolishing compulsory membership**

The abolition of compulsory membership of chambers is quite difficult, as the institutional system of social partnership and compulsory membership of chambers is regulated by law, which was even enshrined in the constitution in January 2008 as an additional safeguard. A change would only be possible with a two-thirds majority in parliament or by referendum.

### **Comparison of the membership in chambers in different countries**

The Austrian social partnership is unique of its kind, except in Luxembourg. In other countries, the work of chambers of labour is mostly carried out by voluntary trade unions. Membership of chambers representing employers is compulsory in eight EU countries (Germany, Austria, Italy, France, Luxembourg, Spain, Croatia, the Netherlands) (Der Standard, 2017). In Germany alone, there are 700 different employers' organisations.

### **The chances of abolishing compulsory membership of the Chamber**

Abolishing compulsory chamber membership is quite difficult, as the institutional system of social partnership and compulsory chamber membership is regulated by law, which was even enshrined in the constitution in January 2008 as an additional safeguard. A change would only be possible with a two-thirds majority in parliament or by referendum.

### **Chamber membership in comparison with other countries**





## Book of Proceedings

The Austrian social partnership is unique of its kind, with the exception of Luxembourg. In other countries, the work of the chambers of labour is mostly carried out by voluntary trade unions. In eight EU countries (Germany, Austria, Italy, France, Spain, Luxembourg, Croatia, the Netherlands), membership of chambers representing employers is compulsory (Der Standard, 2017). In Germany alone, there are 700 different employers' organisations.

### **Voting on compulsory membership of the Chamber**

In 1996, the Austrian Chamber of Labour asked its members about compulsory membership of the Chamber. 67% of the members eligible to vote cast their ballot, and 91% were in favour of compulsory membership.

In the case of the Chamber of Commerce, the turnout was only 36% and 82% of the votes cast were in favour of compulsory membership (Der Standard, 2017).

## ***HISTORY OF THE DEVELOPMENT OF THE AUSTRIAN SOCIAL PARTNERSHIP INSTITUTIONS***

### **The role of the social partners after the Second World War**

In Austria, certain social partner directives were already in place during the First Republic, but at that time we can hardly speak of the institutionalised forms of interest representation of the post-war period. Worthy of mention is the Parity Industrial Committee, set up in 1918 to find solutions to the economic and socio-political problems of the post-monarchy transition period (Net 9). In 1919, on the initiative of the Social Democratic chancellor Dr Karl Renner, industrial conferences were organised on a parity basis. At the first conference, the employers' and workers' organisations in the metal industry saw their most important task as securing industrial peace for the resumption of production after the First World War. The second conference dealt with general economic policy issues and acted as an advisory body to the government. The third conference, convened on the initiative of the Vienna Chamber of Labour, dealt with the issue of combating unemployment.

The current form of social partnership includes freedom of association, a system of collective agreements, company statutes and parity-based institutions for employers and employees. Cooperation with the government between 1918 and 1920 did not, or only partially, meet the criteria for today's social partnership. During the authoritarian and national socialist period from 1933 to 1945, until the end of the First Austrian Republic, there was a specific form of lobbying which completely ignored the fundamental concept of social partnership, namely the consideration of economic and financial policies that served general public objectives (Net 10).

The institutional framework of the Austrian social partnership began to take shape after the Second World War, when the Vienna Chamber of Commerce and the Chamber of Labour set up a joint committee to discuss pressing social problems. The terrible and inhuman memories and experiences of the Second World War had shown the need for joint thinking and cooperation, and to put an end to the class-warfare and sectarian attitudes and the convulsive adherence to ideological views that had prevailed during the First Republic.

This change in approach has created the opportunity for cooperation on nationalisations and the creation of a corporate economic model of social partnership. Corporatism is an ideological orientation according to which the various political interest groups (corporations) are not hostile to each other, are not in a relationship with each other that is fraught with strikes and class struggle, but settle wages and working conditions by peaceful agreement.

In Austria in 1945, there was no aggressive anti-capitalism, but there was a democratic anti-fascism which clearly rejected the free market economy, since the world economic crisis, the war and fascism were



## Book of Proceedings

associated with the capitalist system. The decade of occupation by four foreign powers following the Second World War only served to strengthen cooperation between interest organisations, creating a cult of dialogue and mutual cooperation.

The umbrella organisations of the Chambers of Commerce and Labour, created after 1945, are the public organisations of interest representatives at the state level, regulated by law and subject to administrative law (Net 11, 2). These organisations achieve their high level of concentration through compulsory membership. In the context of a comprehensive and unified representation of the craft sector, the specialised organisations have been integrated into chambers at provincial and federal level. This broad base and professional grouping formed the basis for the hierarchy of the representative bodies and the initiation of wage and price negotiations.

The concentration of trade unions took place with the foundation of the Österreichische Gewerkschaftsbund – Austrian Trade Union Federation (ÖGB) in 1945. The organisational structure, centralised along industrial segments, facilitated the coordination of wage policy within the union federation. On the other hand, it made it possible to sign collective agreements with autonomous employers' representatives.

At the Presidential Conference of the Chamber of Agriculture, which was reconvened in 1946, a decision was taken to make membership compulsory by law. The integration of the Chamber of Agriculture into the institutional system of social partnership ensured the principle of parity. With this measure, the two workers' organisations were now opposed by two organisations representing employers.

In 1947, the social partners took a concrete step towards the institutionalisation of the social partnership by setting up the 'Permanent Joint Economic Committee'. The aim of the Economic Committee was to advise the government on economic policy and to develop a comprehensive common wage and price policy. The five wage and price agreements signed between 1947 and 1951 were the first voluntary agreements between the social partners. The Economic Committee provided for unanimous decision-making, the appointment of a Federal Chancellor as chairman, and the integration of two other members of the government and the President of the National Bank. The organisation, renamed the 'Economic Board', was finally dissolved a year later on the grounds of constitutional objections, which illustrates the legal difficulties of cooperation between the federal government and the interest representatives.

### **The role of the social partners in the period of Austro-Keynesianism**

In Austria, following the decade of reconstruction after the Second World War, the institutional development of social partnership was further strengthened. Following a demand by Johann Böhm, President of the Austrian Trade Union Confederation (ÖGB), to set up a permanent economic commission, the old economic commission was re-established and in early 1957, the former Chancellor of the People's Party Julius Raab (1953-61) and former President of the Chamber of Commerce and ÖGB President Johann Böhm set up the Parity Committee on Wages and Consumer Prices in a voluntary agreement (Net 12, 3). The Parity Committee The members of the Parity Committee Assembly are the Federal Chancellor, three federal ministers, the presidents and vice-presidents of the four social partnership organisations.

The Parity Committee has four subcommittees: the Economic and Social Affairs Council, the Subcommittee on International Affairs, the Subcommittee on Wages and Salaries and the Competition and Prices Committee. Whereas in the past price controls and the fight against inflation were of great importance, the Parity Committee is now a forum for institutionalised dialogue between the social partners and the federal government, where current conflicts and relevant action plans can be discussed.

The Council for Economic and Social Affairs is a group of the presidents of the four social partnership organisations, or on behalf of the government, which prepares studies on economic and social issues and develops recommendations based on a common consensus. Working groups are set up to prepare each study, bringing together academics and private sector experts.

The original task of the Committee was to examine the need for price increases and the validity of trade union demands for wage increases. The committee took the final decision to convene the social partners. The Economic Committee was headed by representatives of the government and the four major interest



## Book of Proceedings

groups, and its main feature was the cooperation between the government and the social partners, the ÖVP and the SPÖ. Today, the committee functions as an institutionalised forum for discussion and consultation between the government and the social partners. Different strategies and measures are developed and individual conflicts are resolved in the four subcommittees of the Economic Committee. The Price Subcommittee helps the Economic Committee to develop a stable price structure. Under the 'Raab-Olah agreement', i.e. by agreement between the President of the Economic Chamber and the President of the Trade Union Confederation, a subcommittee on wages was set up in 1962 (Net 13, 3). This agreement made it possible to employ foreign workers on a large scale in the first instance, which the ÖGB opposed until 1962. In 1963, the Council for Economic and Social Affairs was finally set up as the third subcommittee of the Parity Committee in order to formulate Austrian economic policy more broadly. The experts of this sub-committee of the interest organisation were responsible for analysing emerging economic and social policy issues and making recommendations to the federal government on the basis of these analyses, while keeping the overall economic aspects in mind. Formal and informal cooperation was further institutionalised in 1958 with the establishment of the Joint Committee on Cartels, which provided expert advice to the Cartel Court.

In 1968, the social partners introduced the "Economic Policy Debates", in which the President and Vice-President of the Austrian National Bank and the President of the Institute for Economic Research (WIFO) participate alongside members of the Parity Committee. In the same year, a Federal Committee was set up at the initiative of Finance Minister Stephan Koren, which met from time to time with the Finance Minister, the President of the National Bank and the heads of the social partners to discuss the Development and Renewal Fund, the Structural Adjustment Act and the establishment of a public asset management company.

The legitimacy of the institutional system of social partnership, which is typically a party-coalition conflict management system, was not questioned during the independent periods of government of the Austrian People's Party and the Social Democratic Party (ÖVP: 1966-1970; SPÖ: 1970-1983). Immediately after the inauguration of the Social Democratic Chancellor Bruno Kreisky, he stressed the importance of the institution of social partnership. The social partners played a major role in the implementation of a successful Austro-Keynesian economic policy, which in Austria during the oil crisis of the 1970s was regarded as the second economic miracle after the rapid and successful reconstruction after the Second World War.

### **The role of the social partners during the period of the Social Democratic and People's Party Grand Coalition (1987-2000)**

The Grand Coalition between the Social Democratic Party and the People's Party has further encouraged the social partners to work together. The social partners continued to provide the guarantee for a moderate price policy and a stable monetary policy. Governments involved them in all economic policy-making processes. In Austria, as in the other western industrialised countries, the 1980s saw the emergence of a more dominant idea of individualism, with the result that traditional social bonds began to break down. Institutions such as churches, political parties and the institution of social partnership itself increasingly lost their former social value. These phenomena are still reflected today in the number of people leaving the church, the decline in party loyalty and the growing number of voters switching from one political party to another. The chambers have also come under increasing pressure, with the Austrian Freedom Party (FPÖ) taking the initiative in the 1990s to hold a vote on compulsory membership of the chambers and the continued existence of statutory representative bodies. The social achievements, which were in no small part the result of social partnership, have over time become part of everyday life, taken for granted by citizens.

Critics of the system have criticised in particular the fact that negotiations between the social partners take place behind closed doors and that there are significant personal links with the parliamentary parties. The social partners were often blamed for the ossification of the system and its inability to develop. The social partnership system has been criticised mainly by opposition parties such as the Freedom Party (FPÖ) and the Greens (Grüne), who have been virtually excluded from the decision-making process (Net 14, 6). Industry representatives have criticised the system for its high wage costs by international standards. The situation between the Austrian government and the social partners came to a head when the Social Democratic-Party government coalition gave way to a vote on compulsory chamber membership at the



## Book of Proceedings

initiative of the Freedom Party. The overwhelming majority of members of both the Chamber of Commerce and the Chamber of Labour who took part in the vote were overwhelmingly in favour of compulsory membership of the Chamber.

The internationalisation of markets and entry into the European Union have rendered price-setting policy largely obsolete. Increased competition in trade has made it unnecessary for the subcommittee on prices to negotiate trade margins. Accordingly, the Parity Committee was restructured under a 1992 social partnership agreement. Henceforth, the former Price Subcommittee became the Competitiveness and Price Subcommittee, dealing with issues relating to the international competitiveness of the various economic sectors. In addition, the social partners set up the International Subcommittee, which dealt with international developments in policy areas of interest to the social partners.

### **The period following accession to the European Union**

The accession to the EU in 1995 was a very important turning point in the life of the Austrian social partners. Already after 1984, the social partners started to address the issues of the single market and integration. Although the Austrian social partners were aware that their political influence would be reduced with accession, they were actively involved in strengthening public support for accession. Even before accession, the Social Democratic-Party government at the time of EU accession promised the social partners, in the framework of a 'Europe Agreement', to continue to be involved in the decision-making mechanisms on the key technical issues that concern them and to represent Austria in the EU framework.

A separate federal law regulates how the social partners are informed and their views taken into account in EU legislation. In addition, the social partners were promised the right to nominate ten of the twelve Austrian members of the economic and social committees. The economic policy activity of the social partners has thus continued after EU accession, and the demand for their advice and the sharing of their experience is undiminished. For example, at the request of the government, the social partners drew up a long-term concept for pension provision in 1992. The agreement on the 'new social partnership' put the social partners' cooperation on a new footing by defining new target areas. In addition to the objectives of full employment, price stability and economic growth, the development of European integration and the strengthening of the country's international competitiveness were also included (Net 15, 7).

The Austrian Trade Union Confederation (ÖGB) and the Austrian Federal Economic Chamber (WKÖ) have become members of the European umbrella organisations. The ÖGB is a member of the European Trade Union Confederation (ETUC), while the WKÖ is a member of *BusinessEurope* and the European Association of Craft, Small and Medium-sized Enterprises (SMEunited, formerly UEAMPE), umbrella organisations that are involved in 'social dialogue' at EU level (E. Tálos - T. Hinterseer, 2019, 94). When we talk about European social partnership, we generally mean social dialogue at EU level.

The European Social Dialogue is the first European social partnership system, the creation of which was advocated by former European Commission President Jacques Delors. In 1985, Delors brought together the three major European social partner organisations, the European Industry and Employers' Confederation (UNICE), the European Trade Union Confederation (ETUC) and the Confederation of European Economic and Social Partners (CEEP), for an informal exchange of experience. The European Commission considers the European social partners as recognised participants in the social dialogue. The adoption of the Single European Act in 1987 gave the Social Dialogue a legal framework. The European Commission was given the task of developing social dialogue between the social partners (employers' and workers' associations).

### **Austrian social partners' position on the EU minimum wage**

Renate Anderl, President of the Austrian Chamber of Labour (Arbeiterkammer), and Wolfgang Katzian, President of the Austrian Trade Union Confederation (ÖGB), discussed the key objectives for Austrian employees with Nicolas Schmittel, EU Commissioner for Employment and Social Rights, at the New Year 2020 reception at the organisation's Brussels office. The Austrian trade unions are unanimous in their call for a renewed focus on social issues affecting people at work. In a statement, Renate Anderl said that for the Austrian Chamber of Labour and Trade Union Confederation, the most important objective is to





## Book of Proceedings

improve employment and social affairs. In particular, she welcomed the social policy package presented by the European Commission and its "declaration on social justice as the basis of the European social market economy" (Net 16). In Renate Anderl's view, a social development protocol is needed to ensure that the liberalisation of markets does not override social rights. It should be clearly stated that in situations of uncertainty, fundamental social rights should take precedence over market liberalisation and competition rules. The President of the Chamber of Labour also has a strong interest in gender equality and strongly supports the gender equality strategy to be presented by the European Commission in the first quarter of 2020, which will include binding measures on wage transparency.

Wolfgang Katzian, President of the Austrian Trade Union Confederation, also focused on the importance of social issues. The union leader said that the objectives set out in the social pillar should be strengthened and implemented at EU level. Katzian strongly advocated a minimum wage at EU level, as this would further strengthen collective agreements. Although Austria has an exemplary collective bargaining system, the ETUC supports a European initiative that helps workers in other member states (Net 17).

However, Katzian criticised the recent ruling of the European Court of Justice that the former railway catering company "Henry am Zug" was not obliged to respect Austrian labour law and collective agreements when employing Hungarian workers on Austrian trains. The trade union leader said that social rights must take precedence over EU common market freedoms. If this does not happen, the EU will continue to be discredited in the implementation of the social pillar.

Oliver Röpke, Head of the Brussels Office of the Austrian Trade Union Confederation, also confirmed that they had been actively involved in the work of the European Trade Union Confederation, representing the employees' side in the consultation of the European social partners on this issue, and in the development of the common position. The European Trade Union Confederation appreciates the European Commission's consultation on fair minimum wages in Europe. Fair wages are an essential component of the social market economy, and it is timely that the legally binding minimum wage is raised to 50% of the EU average wage at EU level. The Confederation believes that the most effective way to achieve the objective of fair wages is to strengthen and protect autonomous sectoral and cross-sectoral collective agreements.

The Union's initiative must under all circumstances strengthen national collective agreements and respect the autonomous social partners. According to the trade union confederation, the EU has only partially identified the causes of the inadequate minimum wages, namely that collective agreements are not sufficiently promoted and protected in the Member States. Individual EU Member States should comply with the UN Labour Organisation (ILO) Conventions, the European Social Charter and European social rights. The confederation believes that the EU should achieve a double objective, partly by strengthening sectoral collective agreements and partly by raising the statutory minimum wage to allow for an acceptable living wage. In the 28 EU Member States, 9.6% of workers, or 20.5 million people, were at risk of poverty in 2018.

According to the Austrian Federal Economic Chamber's newsletter of 29 January 2020, the new European Commission intends to put more emphasis on social aspects and a fair minimum wage. The main drivers for the Commission's action in this area are the increasing difficulties for low earners and the widening pay gap in some EU countries. According to the Austrian Federal Economic Chamber, given the very different minimum wage regulations in the 28 EU Member States, it is very difficult to establish a Community standard. In 22 of the 28 EU Member States, minimum wages are regulated by law. In the remaining six Member States – Austria, Sweden, Finland, Denmark, Italy and Cyprus - only collective agreements regulate the minimum wage.

Between 2000 and 2015, the coverage of EU workers by collective agreements fell from 68.5% to 59.5%, mainly in Germany and the new Member States. Only 11.6% of workers in the US are covered by a collective agreement, compared to 16.5% in Japan. In relation to economic development, minimum wages in the EU Member States vary at a ratio of 1:7. Bulgaria has the lowest minimum wage in the EU, at €286.00 gross. Luxembourg has the highest, at €2,071.00 gross per month. In Austria, the minimum wage is €1,750.00 gross/month (14 \* €1,500.00), which puts Austria in second place in the EU in terms of minimum wages



## Book of Proceedings

(Net 18). In Austria, there is no legally binding minimum wage, but in many sectors, employers' and employees' representatives have concluded collective agreements and wage agreements.

### *CONCLUSIONS*

The social partnership consists of four institutions (Chamber of Labor, Chamber of Agriculture and Chamber of Commerce with compulsory membership and ÖGB (Austrian Trade Union Confederation) - The Austrian social partnership is in a similar position to Austrian neutrality. Its importance and merits in the past are generally recognized, though possibly overestimated. As the name suggests, the network of collective agreements in Austria benefits all employees. As a result of compulsory membership in employers' and employees' associations, around 95 percent of all employees in Austria work under the protection of a collective agreement. The collective agreements regulate all entitlements that are not laid down in the law or that go beyond the law. The most important are probably the minimum wages/salaries in the respective industry as well as the vacation and Christmas bonuses (13th and 14th month's pay), which are exclusively regulated in the collective agreement. Without collective agreements, there would also be no special regulations such as protective provisions in the event of termination, payment of overtime, bonuses, daily allowances, time off entitlements and much more. Three characteristics of the Austrian social partnership deviate from the European mainstream. First, the statutory compulsory membership of essentially all employees, enterprises and farmers. Second, the formal and informal involvement of the social partnership in a wide range of policy areas beyond its core tasks (collective agreements, income policy, working conditions, employee protection). Third, the close association of all four social partner institutions with one of the two long-standing governing parties, the ÖVP – People's Party Austria (Chamber of Commerce and Chamber of Agriculture) and the SPÖ – Social-Democratic Party Austria (Chamber of Labor and Trade Union Confederation). For party-political reasons, this often led to suboptimal decisions for the business location. The Freedom Party of Austria has sharply criticized the functioning of the social partnership in the last decades, underlying that the four interest representing organisations of the system can be regarded as the satellite organisations of the two decisive political parties, the People's Party (ÖVP) and the Social-Democratic Party (SPÖ). The Freedom Party (FPÖ) tried to weaken the system of the social partnership during the ÖVP-FPÖ coalition government. Their continuous target is to abolish the compulsory membership in the different chambers. The liberal young NEOS Party represent also the point of view that these organisations are to be seen as de facto sub-organisations of the two big parties having often established coalition during the last decencies. It can be stated that first of all those political parties attack the institution of the social partnership who are not involved in the decision-making bodies of the four interest representing organisations. It is the topic of a further investigation how the system can cope with the new challenges of globalisation fostering the importance of competitiveness, entailing a fading social cohesion.

### *REFERENCES*

- Bara, Z., Szabó, K. (2005). *Gazdasági rendszerek, országok, intézmények, Bevezetés az összehasonlító gazdaságtanba*, 116.o; Aula Kiadó, Budapest.
- Hall, P. A., Soskice, D. (2001). *An Introduction to Varieties of Capitalism*, Oxford University Press.
- Pongrácz, A. (2019). *Nemzetállamok és új szabályozó hatalmak a globális erőterben, avagy megszélidíthető-e a globalizáció*, 179 p, Dialóg Campus, Budapest
- Net 1 (2023). [https://www.kollektivvertrag.at/cms/KV/KV\\_3.2/der-kollektivvertrag/warum-kollektivvertraege](https://www.kollektivvertrag.at/cms/KV/KV_3.2/der-kollektivvertrag/warum-kollektivvertraege)
- Net 2 (2023). <https://www.oesterreich.gv.at/lexicon/S/Seite.991692.html>



**Book of Proceedings**

- Net 3 (2023). <https://www.arbeiterkammer.at/ueberuns/mitgliedschaft/Mitgliedschaft.html>
- Die Sozialpartner (2023). [https://www.sozialpartner.at/wp-content/uploads/2015/08/Sozialpartnerschaft\\_ZweiteRepublik.pdf](https://www.sozialpartner.at/wp-content/uploads/2015/08/Sozialpartnerschaft_ZweiteRepublik.pdf)
- Sozialpartner Abkommen (1992). 2.p. <https://www.sozialpartner.at/wp-content/uploads/2015/08/Abkommen1992.pdf>
- Net 4: Die Sozialpartner (2023). [https://www.sozialpartner.at/?page\\_id=382](https://www.sozialpartner.at/?page_id=382)
- Net 5: Die Sozialpartner (2023). [https://www.sozialpartner.at/?page\\_id=127](https://www.sozialpartner.at/?page_id=127)
- Net 6: Die Sozialpartner (2023). [https://www.sozialpartner.at/?page\\_id=127](https://www.sozialpartner.at/?page_id=127)
- Net 7. Die Sozialpartner (2023). [https://www.sozialpartner.at/?page\\_id=127](https://www.sozialpartner.at/?page_id=127)
- Net 8. Mindestlöhne in der EU: Zwischen 332 Euro und 2 257 Euro brutto im Monat – Statistisches Bundesamt (destatis.de)
- Arbeiterkammer (2023). Weihnachts- & Urlaubsgeld | Arbeiterkammer
- Kompetenz (2017). Faktencheck: Pflichtmitgliedschaft – KOMPETENZ-online
- Der Standard (2017). Neos-Initiative gegen Pflichtmitgliedschaft bei Kammern - Neos - derStandard.at › Inland
- Der Standard (2017). Pflichtmitgliedschaft: Was die Kammern kosten und bringen - Wirtschaftspolitik - derStandard.at › Wirtschaft
- Der Standard (2017). Pflichtmitgliedschaft: Wer wie gegen die Kammern vorgehen will - Arbeitsmarkt - derStandard.at › Wirtschaft
- Net 9: Sozialpartner (2023). Sozialpartnerschaft in der Zweiten Republik, Die Rolle der Sozialpartner in der unmittelbaren Nachkriegszeit
- Net 10: Sozialpartner (2023). Sozialpartnerschaft in der Zweiten Republik, Die Rolle der Sozialpartner in der unmittelbaren Nachkriegszeit, 1 p
- Net 11: Sozialpartner (2023). Sozialpartnerschaft in der Zweiten Republik, Die Rolle der Sozialpartner in der unmittelbaren Nachkriegszeit, 2 p
- Net 12: Sozialpartner (2023). Sozialpartnerschaft in der Zweiten Republik, Die Rolle der Sozialpartner in der unmittelbaren Nachkriegszeit, 3 p
- Net 13: Sozialpartner (2023). Sozialpartnerschaft in der Zweiten Republik, Die Rolle der Sozialpartner in der unmittelbaren Nachkriegszeit, 3 p
- Net 14: Sozialpartner (2023). Sozialpartnerschaft in der Zweiten Republik, Die Rolle der Sozialpartner in der unmittelbaren Nachkriegszeit, 6 p
- Net 15: Sozialpartner (2023). Sozialpartnerschaft in der Zweiten Republik, Die Rolle der Sozialpartner in der unmittelbaren Nachkriegszeit, 7 p
- Tálos, E., Hinterseer, T. (2019). Sozialpartnerschaft, Ein zentraler politischer Gestaltungsfaktor der Zweiten Republik am Ende?, Studie Verlag.
- [https://www.ots.at/presseaussendung/OTS\\_20200129\\_OT052/beschaeftigungskommissar-schmit-wirtschaft-muss-fuer-menschen-arbeiten](https://www.ots.at/presseaussendung/OTS_20200129_OT052/beschaeftigungskommissar-schmit-wirtschaft-muss-fuer-menschen-arbeiten)
- Net 16: <https://www.derstandard.at/story/2000113291296/europas-arbeitsmarkt-hohe-standards-hohe-konvergenz>
- Net 17: [https://www.oegb.at/cms/S06/S06\\_5.a/1342624548638/eu-international/soziale-rechte-muessen-in-der-eu-vorrang-haben](https://www.oegb.at/cms/S06/S06_5.a/1342624548638/eu-international/soziale-rechte-muessen-in-der-eu-vorrang-haben)
- Net 18: <https://www.arbeitsrechte.de/mindestlohn-oesterreich/>





Book of Proceedings

**CONNECTING SCIENCE ACADEMIES, EDUCATIONAL  
INSTITUTIONS, RESEARCH INSTITUTIONS AND  
COMMUNITIES FOR ECONOMIC SYNERGY AND IMPACT**

Dikabo Mogopodi<sup>1</sup>  
Khola Mogotsi<sup>2</sup>  
Onalerona Pitlagano<sup>3</sup>

**ABSTRACT**

*Science, Technology and Innovation (STI) are critical for the transformation of economies, reduction of poverty, attainment of the Sustainable Development Goals and integration of the African continent into the global knowledge economy. The African Union's Agenda 2063, which was "launched" in 2013, emphasized the value of knowledge development and the contribution of science and innovation to accomplishing the continent's goals. STI was seen as the key to an advanced and prosperous Africa. STI was recognized as the locomotive for achieving prosperous and developed Africa. Transforming African economies would require the continent to be knowledge-based and innovation driven and would require rigorous investment in research and development (R&D), knowledge, science and technology in order to ensure a path marked by sustained economic growth, global competitiveness, inclusiveness, and environmental sustainability. Of priority is the enhancement of entrepreneurial culture among young people in the STI ecosystem to advance African developmental goals. The age of innovation and entrepreneurship should be led by youth, who are the engine of national development and advancement. Science academies could play a critical role in fostering entrepreneurship and developing a greater entrepreneurial consciousness. Further science academies could encourage and influence universities to incorporate innovation and entrepreneurship within their STI curricula. In light of this, Botswana Academy of Science (BAS), an autonomous non-profit organization established by scientists in Botswana in 2015, has set out on a mission to inculcate a culture of innovation and entrepreneurship amongst young scholars in the STI space. BAS has previously partnered with the Organization of Women in Science Botswana Chapter to highlight activities of Women in STEM who have succeeded in translating their research output to business. BAS in partnership with Academy of Science of South Africa (ASSAf), the Lesotho Academy of Science and Technology (LAST), has been organizing a series of seminars/webinars together, with the goal of setting in motion concrete actions that advance Africa's STI4SDGs priorities. Further BAS has within its meetings/conferences focused on highlighting research that improves production and utilization of natural resources indigenous to Botswana which have great potential for wealth creation and for contributing to economic development as well as for addressing poverty eradication. This has been done by engaging with institutions such as Natural Products Association of Botswana (NPAB) and Botswana Community Based Organizations Network (BOCOBONET).*

**Key words:** Science, Technology, Innovation, Economic growth, Competitiveness

**JEL Classification:** O14, O31, O41,

---

<sup>1</sup> University of Agriculture and Natural Resources, Gaborone, Botswana, [dikmog@yahoo.co.uk](mailto:dikmog@yahoo.co.uk)

<sup>2</sup> University of Agriculture and Natural Resources, Gaborone, Botswana, [kholamogotsi.km@gmail.com](mailto:kholamogotsi.km@gmail.com)

<sup>3</sup> Univeristy of Botswana, Gaborone, Botswana, [onapitlagano@gmail.com](mailto:onapitlagano@gmail.com)



Book of Proceedings

***MASTERING TIME MANAGEMENT AT WORK***

*Kemal Yildirim<sup>1</sup>  
Muhamad Omolaja<sup>2</sup>  
Sladjana Vujičić<sup>3</sup>*

***ABSTRACT***

*Time management refers to the process of planning, organizing, and prioritizing tasks and activities to effectively utilize one's available time. It involves setting goals, creating schedules, and making efficient choices to maximize productivity and achieve desired outcomes within a given timeframe. This paper describes five different skills needed in order to become successful at time management. After thorough research these skills were encapsulated into a list of skills. The skills include setting SMART goals, create a schedule or task list, prioritizing goals, stay focused, and have structure. Each skill was discussed and researched. Time management is then discussed in how it relates to stress and how to prevent stress through the better management of time. The goal of this research was to find the best way to manage time and create a less stressful atmosphere at work and in life. Many articles were reviewed, and it was found that there is a combination of skills that are needed to excel at time management.*

***Key words:*** Time management, SMART Goals, Stress Management

***JEL Classification:*** J50, Z22

***INTRODUCTION***

Poor time management has a detrimental effect to many aspects of life and wellbeing. People who are worse at managing time are more likely to "...experience stress, sleep issues, anxiety, depression, and other mental health issues..." and even burnout (McClellan, 2022). Throughout life and careers, time management is needed in order to have the greatest success and happiness. Between work and life balance, career goals, relationships, family and self-care, there is a lot of details to fit into 24 hours per day. Without time management, stress and hardships are more likely to take place. In this review, five-time management skills are examined in order to find the best ways to succeed at time management.

***THEORETICAL OVERVIEW***

Time management: Hafner and Stock define time management as "a combination of time assessment, goal setting, planning and monitoring activities (Aeon and Aguinis, 2017).

There are several theories and approaches to time management. Here are a few key ones:

- *Pareto Principle* (80/20 Rule): This theory suggests that roughly 80% of results come from 20% of efforts. Time management can involve identifying and prioritizing the most productive tasks.

---

<sup>1</sup> Beyt Nahrin The Mesopotamian Academy of Sciences and Art, Turkey, conflictresearch@yahoo.com

<sup>2</sup> British American University Florida, Nigeria, baversity@gmail.com

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, sladjana.vujicic@vspep.edu.rs,



## Book of Proceedings

- *Time Blocking*: This technique involves scheduling specific blocks of time for different tasks or activities. It helps create a structured daily routine.
- *Getting Things Done (GTD)*: Developed by David Allen, GTD emphasizes capturing all tasks and ideas in an external system, then processing and organizing them to reduce mental clutter and increase productivity.
- *Eisenhower Matrix*: This method categorizes tasks into four quadrants based on urgency and importance, helping individuals prioritize and focus on high-priority tasks.
- *Pomodoro Technique*: This method encourages work in focused, 25-minute intervals (Pomodoros) with short breaks in between. It can enhance concentration and prevent burnout.
- *Eat That Frog*: Inspired by the saying, "Eat a live frog first thing in the morning and nothing worse will happen to you the rest of the day," this theory suggests tackling the most challenging task first.
- *Time Management Matrix*: Similar to the Eisenhower Matrix, this tool divides tasks into four categories: urgent and important, not urgent but important, urgent but not important, and neither urgent nor important.
- *The Two-Minute Rule*: If a task can be completed in two minutes or less, do it immediately rather than adding it to your to-do list.
- *Parkinson's Law*: This principle suggests that work expands to fill the time available. Being aware of this can help set deadlines and prevent procrastination.
- *Agile Time Management*: Borrowed from agile project management, this approach involves breaking tasks into smaller, manageable chunks and adapting plans as needed.
- Each theory or method offers unique strategies for managing time effectively, and individuals often find success by combining elements from several of these approaches to suit their specific needs and preferences.

### ***NEW APPROACHES TO TIME MANAGEMENT IN WORKPLACE***

New approaches to time management in workplace have gained popularity in recent years such as:

- *Time Blocking*: This method involves scheduling specific blocks of time for different tasks or activities throughout the day. It helps in focusing on one task at a time and minimizing distractions.
- *Task Batching*: Grouping similar tasks together and tackling them in a single batch can improve efficiency. For example, responding to emails or making phone calls during designated time slots.
- *Priority Matrix*: Categorize tasks into four quadrants based on urgency and importance. This method helps in identifying and prioritizing tasks effectively.
- *Digital Tools*: There are many new apps and software designed to help manage time more efficiently. These tools often include features like task lists, reminders, and analytics to track time usage.
- *Time Tracking*: Keeping a record of how you spend your time can provide insights into areas where you may be wasting time and help you make improvements.
- *Employee Well-being Focus*: Some companies are emphasizing employee well-being by encouraging breaks, offering flexible work schedules, and providing support for stress management.
- *Goal-Oriented Planning*: Start each day or week by setting specific goals and tasks that align with your overall objectives. This approach keeps you focused on what truly matters.
- *Batching Meetings*: Instead of scattered meetings throughout the day, some organizations are scheduling meetings in batches, which can free up larger blocks of uninterrupted work time.



## Book of Proceedings

- Outsourcing and Delegation: Consider delegating tasks or outsourcing non-core activities to free up your time for more important responsibilities.

The effectiveness of these approaches can vary depending on job role, personal preferences, and the specific demands of your workplace. Experiment with different techniques to find what works best for workers.

### ***WHY IS IMPORTANT TIME MANAGEMENT?***

Time management is a very important trait to have in order to be successful. Time management has been studied and researched for a very long time. The study of time management first started with the goal of efficiency and then turned into efficiency and productivity. Today, research is turning more towards effectiveness and balance (Taylor, 2019). This balance of time management would bring many benefits including: more productivity, less stress, more energy, increased free time and better overall wellbeing and emotional health (Rupured et al., 2014). After researching, it was found that there were five key skills to acquire and emulate in order to maintain adequate time management. These skills include: setting SMART goals, create a schedule or task list, prioritizing goals, stay focused, and have structure.

The first skill in order to maintain good time management is to set goals. It is important to make simple and complex goals and assess what is meaningful and attainable. Simple goals could include daily goals to get small tasks complete, while complex goals could be long term goals that have a variety of short-term goals necessary to complete in order to reach the goal. When setting goals, a great way to get started is to create SMART goals. SMART stands for specific, measurable, attainable, realistic and timely. Specific means that the goal needs to be defined and not broad. Measurable means the goal should be able to be measured. It is best to have the goal be numerically measurable. An example of this is: I will take 3 walks for 30 minutes each week by September 1<sup>st</sup> 2022. Attainable means the goal needs to be achievable in the timeframe that is required. Realistic means the goal needs to be able to be completed and not an impossible task in the amount of time desired. Timely means that the goal can be completed in a planned amount of time ((Lawlor & Hornyak, 2012). The technique of creating SMART goals is a great way to get organized and create attainable and followable goals.

Along with setting goals, is to create a schedule and task list. This can be allotted daily, weekly, monthly or yearly. There are many applications on phones and computers that can assist with planning a schedule and task list. It can also be completed on paper or a whiteboard. Whiteboards are nice because they can be used over and over. A schedule can be simple and it can be long term. Writing out a calendar can be therapeutic and eye opening to see all due dates for tasks in one place in a more picturesque form.

When creating a task list, it is also imperative to prioritize the goals. Create a list of the goals and organize them from highest to lowest priority. It is also good to look at the cost and benefit of the goal. According to Leon Ho, start prioritizing based on the goal and complete low cost, high benefit tasks first and break down high cost, high benefit tasks into smaller, more manageable tasks. The lowest priority goals are the low cost, low benefit goals that can be completed quickly. High cost, low benefit goals are goals that may require more research into cost reduction.

Next, it is important to stay focused. There have been many studies completed on how to stay focused on the task at hand. The first step to staying focused is to eliminate all distractions as best as possible. This includes silencing a phone or even placing the phone in another room. According to an article in *Time Magazine*, "On average, people in the United States across all age groups check their phones 46 times per day... (Eadicicco, 2015)." In a world where people are constantly connected, it may be needed to disconnect in order to get a large task done. It is necessary to look at the environment and motivations to ensure that they are aligned with the end goal. Rewards are also a good motivator once tasks are completed in order to keep focus. An example of a reward would be picking up a coffee or going for a walk. It's important to find what motivates you in order to find what keeps you focused on the task.



## Book of Proceedings

The last skills to have to help with time management is structure (Radović-Marković, 2023). Creating a plan for the day and sticking to it or having someone check in with you to see how far you have come to complete the task may help. Setting timers and reminders can also help. If it is helpful block out time in the calendar to complete specific tasks and even block out time for breaks. Structure is key to a smooth and productive day.

Stress management and time management are very interrelated (Radović-Marković, 2017). According to Grissom, Loeb and Mitani, time management reduces stress in the workplace. It was found that "...subjects with better time management skills perceived that they had greater control over their time and how they spend it...(Grissom, 2015)." This induced less feelings of tension and physical symptoms of stress including insomnia and headaches. Time management has also been related to job performance. Job burnout is reduced due to the decrease in emotional exhaustion and job satisfaction is higher (Grissom, 2015). Increased job performance then can increase productivity in the workplace.

## CONCLUSION

Overall, it was found that time management is a complex aspect of life but is necessary in order to live a successful life. It is also necessary to decrease stress and to maintain a good work to life balance. Time management may take time to understand as it is different for every person and every situation. It is important for organizations to promote time management and to support people in their goals. Further research into time management is needed in order to find many more aspects of how to be an expert at it. There are pros and cons to each generation of worker in the workforce today. With many boomers remaining in their positions, there are not as many jobs available to the younger generations. This presents problems for younger generations, including increased rates of unemployment and career paths that are put on pause. This puts a burden on middle-aged people, also known as the "sandwich generation". It is important for managers to learn ways to manage time all the generations present in a workplace.

## REFERENCES

- Do you manage your time well? Do You Manage Your Time Well? | McLean Hospital. (2022, April 23). Retrieved May 22, 2022, from <https://www.mcleanhospital.org/essential/do-you-manage-your-time-well>.
- Eadicicco, L. (2015, December 15). Americans check their phones 8 billion times per day. Time. Retrieved May 22, 2022, from <https://time.com/4147614/smartphone-usage-us-2015/>
- Grissom, J. A., Loeb, S., Mitani, H. (2015). Principal Time Management Skills, *Journal of Educational Administration*, 53(6), 773–793.
- Häfner, A., Stock, A. (2010). Time Management Training and Perceived Control of Time at Work. *The Journal of Psychology*, 144, 429-447.
- Ho, L. (2022). How to prioritize and work 10x faster with the scales method. Lifestack. Retrieved May 22, 2022, from <https://www.lifhack.org/684057/how-to-prioritize-right-in-10-minutes-and-work-10x-faster>
- Juneja, P. J. (n.d.). MSG Management Study Guide. Understanding Conflict – Meaning and Phases of Conflict. Retrieved May 22, 2022, from <https://www.managementstudyguide.com/understanding-conflict.htm>
- Lawlor, K. B., Hornyak, M. (2012). Smart Goals: How the Application of Smart Goals can Contribute to Achievement of Student Learning Outcomes. *Developments in Business Simulation and Experiential Learning*, 39.
- Radović-Marković, M. (2023). Principles of Management and Leadership in a Global World. Amazon.com: Books



**Book of Proceedings**

Radović-Marković, M. (2017). Women in Business Environment: Types of Stress Women Are Exposed, *Journal of Women's Entrepreneurship and Education*, 3-4, 37-47.

Rupured, M., Chapman, S. W., Price, R., Carney, D., Clews, R. (2014). Time Management: 10 Strategies for Better Time Management. University of Georgia Extension. Retrieved May 22, 2022, from Time Management: 10 Strategies for Better Time Management://extension.uga.edu/publications/detail.html?number=C1042&title=Time+Management%3A+10+Strategies+for+Better+Time+Management

Taylor, H. (2019). History of time management. Taylor in Time. Retrieved May 22, 2022, from <https://www.taylorintime.com/history-of-time-management/>





Book of Proceedings

***DEVELOPMENT OF ENTREPRENEURIAL DIGITAL  
COMPETENCES THROUGH EDUCATION***

*Mirjana Radović-Marković<sup>1</sup>  
Mohsen Brahmi<sup>2</sup>*

***ABSTRACT***

*The article was done with the aim of determining how new technologies and new demands placed on employees, have led to a redefinition of forms of work and education. Competency-based education can provide without much difficulty transition from school to the workplace. In line with this, there is an opinion that the future of work cannot be imagined without competency-based education. Personalisation of learning content delivery requires system adaptivity supported by using a suite of collaborative intelligent agents. Agent's roles in e-learning is not only to personalize the learning programs but also to create real-life business situations used for the purposes of training. The goal of a business simulation is of particular importance for the development of competencies for existing or potential entrepreneurs. Accordingly, universities will need to expand and revise their curricula if they are to educate students for a digital future and remote work.*

***Key words:*** Competency, education, workplace success, collaborative intelligent agents, entrepreneurs.

***JEL Classification:*** I21, I25

---

<sup>1</sup> University Business Academy, Novi Sad, Serbia, mirjana.radovic.markovic@gmail.com

<sup>2</sup> University of Sfax, Tunisia, brahmi.mohsen@gmail.com





Book of Proceedings

***PROBLEMATIZATION AS A WAY OF CREATION INTERESTING  
KNOWLEDGE IN ENTREPRENEURSHIP***

Salah Koubaa<sup>1</sup>  
Mateusz Tomanek<sup>2</sup>  
Zakia Benhida<sup>3</sup>

***ABSTRACT***

*As in all social sciences, it is fundamental for researchers in entrepreneurship to carefully formulate their research questions. Campbell et al (1982:21) have pointed out that innovative research questions 'will open-up new research problems, might resolve long-standing controversies, could provide an integration of different approaches, and might even turn conventional wisdom and assumptions upside down by challenging old beliefs. If we do not give rise to new research problems, as researchers in entrepreneurship, it is presumably that our research will produce interesting and significant knowledge. Despite the importance of the 'research question' as a core in all academic papers, little attention has been paid to how this can be constructed (Flick, 2009; Sandberg & Alvesson, 2011). This paper aims to focus on how qualitative research questions in entrepreneurship as expressed in research texts have been constructed from existing literature. The research objective of this paper consists of identifying what are the most common ways of producing research questions with a view to generate interesting theories in entrepreneurship. This research has undertaken the distinction between approaches: gap-spotting and problematization.*

**Key words:** Knowledge, entrepreneurship, research

**JEL Classification:** D83, L26

***INTRODUCTION***

This research tries to address the question by investigating two influential articles, namely, Sarasvathy, (2001) and Shane & Venkataraman (2000) through the lens of problematization as it was stated in two different publications by Locke & Golden-Biddle (1997); and Sandberg Alvesson (2011). Both have studied problematization in organizational studies. The former has showed the ways through which opportunities for contribution are constructed. The authors have used rhetorical practices that research texts invoke to structure intertextual coherence or problematize existing literature. The latter has developed a typology of how researchers establish their research questions from the state of the art.

The research objective of this paper consists of identifying what are the most common ways of producing research questions with a view to generate interesting theories in entrepreneurship. This research has undertaken the distinction between approaches: gap-spotting and problematization. The former means spotting various gaps in existing literature, such as an overlooked area to formulate specific research problem. The latter means that the researchers problematize the established context of contribution as being deficient in some way to open-up '*opportunities for advancing knowledge about topics of investigative concern*' (Locke & Golden-Biddle, 1997:1029). The research that probably come closest to the research

---

<sup>1</sup> University Hassan II of Casablanca, Morocco, salah.koubaa@univh2c.ma

<sup>2</sup> University Nicolaus Copernicus of Torun, Poland, mtomanek@umk.pl

<sup>3</sup> University Hassan II of Casablanca, Morocco, zbenhida8@gmail.com



## Book of Proceedings

reported here are Alvesson & Sandberg (2011, 2013), Golden-Biddle & Locke (2007), Locke & Golden-Biddle (1997), and Sandberg & Alvesson (2011). Most of them have focused on organization studies and management. In our point of view, no attention has been paid on how research questions have been constructed in entrepreneurship. Moreover, problematization is rarely used in entrepreneurship. One of the most known approaches developed and used in practice by Schmitt. His theory aims to understand the entrepreneurial act (Schmitt, 2017; Schmitt et al., 2015) by situating, simultaneously, the entrepreneur and his/her activities into the mindset of his project and his ecosystem. Despite the significant influence of the concept in producing interesting theories in entrepreneurship, this research sees problematization as a methodology of constructing innovative research questions in entrepreneurship.

This manuscript examines in the first section the literature review related to problematization and gap spotting as its alternative approach. The second question sheds light on the method designed to analyze the two influential papers in entrepreneurship that was published at the beginning of the century. The final section discusses all the findings relevant to the research objective of this paper.

### ***LITERATURE REVIEW: PROBLEMATIZATION AND GAP SPOTTING APPROACH***

Research in entrepreneurship takes many different forms and it may be guided by different research objectives and epistemological perspectives. Some founding researchers search for prediction and explanation by using positivism perspective (Shane & Venkataraman, 2000) while others look for understanding the entrepreneurial phenomena by using phenomenology and constructivist perspective (Saravathy, 2001). Despite the huge diversity in research philosophies and methods within entrepreneurship, there is broad consensus about the importance of producing original and significant scientific knowledge. As scholars in entrepreneurship, we aim to publish not only credible findings and revisions of earlier theories but also interesting and influential contributions. But what does make a scientific knowledge in entrepreneurship influential and interesting? To address the issue, we draw upon previous research conducted by many scholars on how research questions are created and formulated to make theories interesting (Alvesson & Sandberg, 2011; Alvesson & Skoldberg, 2000; Davis, 1971; Golden-Biddle & Locke, 2007; Locke & Golden-Biddle, 1997; Sandberg & Alvesson, 2011).

According to Davis (1971:309), "*interesting theories are those which deny certain assumptions of their audience, while non-interesting theories are those which affirm certain assumptions of their audience*". He has pointed out that theorist is considered great because his theories are interesting and fascinating, not because they are true. This means that the knowledge becomes interesting when it makes its readers literally '*sit up and take notice*'. It is also discussed among colleagues, cited in journals, confirmed, or denied in dissertations, used for teaching and training. In other words, it is worth noting that interesting and fascinating theories are resulted from original and innovative research questions which are generated through problematizing the existing literature "*in the sense of questioning the assumptions underlying existing theory in some significant ways*".

An increasing attention has recently been paid to problematization in Management and Organization Studies. To provide an overview about what it has been done in this area, we refer to Alvesson & Sandberg (2011, 2013), Davis, (1971), Golden-Biddle & Locke (2007), Locke & Golden-Biddle (1997), and Sandberg & Alvesson (2011). Before doing so, we refer to the Davis's sociological point of view (Davis, 1971) from which he has distinguished trivial theories and interesting theories. He has argued that theorists who have come up with trivial theories are forgotten, those who have come up with interesting, or fascinating theories are long remembered. Interesting means impact and influence. It is interesting because it is the negation of an accepted one (Davis, 1971:313). Interesting knowledge are those which deny certain assumptions of their audience. They are not interesting when they affirm certain assumptions for their assumptions. Davis's comprehensive study suggests a new field which is called the sociology of the



## Book of Proceedings

interesting. This is phenomenologically oriented because it focuses on the movement of the audience's mind from one accepted theory to another (Davis, 1971).

Locke and Golden-Biddle (1997) have developed a grounded theory of contribution by asking what constitutes a scientific contribution in the field of organizational studies, and how do authors construct contribution in their written texts. Their attention has been mostly paid to what contribution means in practice, in the published articles, how it is constructed, and how existing literature creates the opportunity for contribution. They have conducted a rhetorical analysis of 82 articles, which have used case study method, published in two highly regarded journals, namely, the Academy of Management Journal (AMJ) and Administrative Science Quarterly (ASQ). After having analyzed the process of structuring the literature (intertextual field), Locke and Golden-Biddle (1997:1040) have disclosed three ways to problematize, namely, incompleteness, inadequacy, and incommensurability. The three ways of problematizing are seen as continuum moving from incompleteness to incommensurability through inadequacy. For the authors, problematization is the process by which the opportunity for contribution is situated within a particular construction of an intertextual field. Incompleteness problematization refers to uncompleted literature. Then, a contribution can be made by developing existing literature further. Inadequacy problematization means that the existing knowledge does not incorporate all perspectives and aspects of the phenomenon under investigation to an adequate degree. It claims that the existing knowledge has overlooked relevant and important sights to better understand and explain the phenomenon. From this point of view, a contribution can be made by introducing alternative perspectives. Incommensurability problematization claims that existing knowledge is wrong. As a contribution, incommensurability can point out the error and correct it.

In their study of 52 articles in organization studies, Sandberg and Alvesson (2011) have developed a typology of the ways in which researchers construct their research questions from existing literature. The findings have showed that gap-spotting approach is the prevalent method of constructing research questions with an increasing recognition that knowledge is made interesting when it challenges the foundations and circumstances that underlie literature. The authors have found three basic modes of gap spotting which are confusion, neglect, and application spotting. Researchers who adopt confusion spotting intend to spot some confusion and contradiction in existing literature. They formulate their research questions to arrange things systematically in categories or according to type. The main mode of constructing questions is to look for competing explanations in literature (Sandberg & Alvesson, 2011:29). The second is neglect spotting which consists of identifying a gap neglected in existing literature. Seen as the most common mode, Sandberg and Alvesson qualify it as a "*virgin territory, a white spot on the knowledge map*" that alerts the researcher about the knowledge to develop from the neglected area. Moreover, they distinguish three specific sub-neglect modes, namely, overlooked area, under-researched area, a lack of empirical support. The third is spotting a new application in existing knowledge. It claims that a specific body of literature needs to be extended or complemented (Sandberg & Alvesson, 2011:31). From the above analysis, we can conclude that interesting theories means scientific knowledge that challenges some audience's assumptions of the existing literature. Moreover, Sandberg & Alvesson's study finds that gap-spotting is the most common way for constructing research question in organization studies. Then, a central question is to what extent gap spotting is likely to facilitate a creation of interesting theories.

### ***METHOD AND RESEARCH DESIGN: ANALYZING ARTICLES PUBLISHED IN JOURNAL OF BUSINESS VENTURING***

For the purpose of identifying how researchers in entrepreneurship construct their research questions from existing literature and then produce interesting and influential knowledge, we have reviewed some famous papers in the field of entrepreneurship, namely, Shane and Venkataraman's paper (2000) about '*the promise of entrepreneurship as a field of research*' and Sarasvathy's paper (2001) on '*causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency*'. Both had been



## Book of Proceedings

published in *Academy of Management Review*<sup>1</sup> at the beginning of this century. According to Google Scholar Citations, the former is cited by 21700 papers. The latter is cited by 7677, the most cited among all Sarasvathy's papers. Based on Web of Science Journal Citations Reports dataset, 28 June 2023, the AMR's Impact Factor is 16.4. During the last five years, it is about 17.0. The article influence score is 8.94.

Despite the limited number of articles reviewed in this paper, we were inspired by Locke & Golden-Biddle (1997) and Sandberg & Alvesson (2011) methodology. We have focused on the introduction and theoretical background of both articles. The main reason for the choice is that the researchers most clearly express their ways of constructing their research questions from exiting literature in these parts of the article. Moreover, we take a quick look at the conclusion with a view to the main findings. In doing so, we aim to see if the way of constructing research questions is linked to the so-called '*interesting knowledge*'. In other words, we want to show that both founding text research published by Shane & Venkataraman (2000) and Sarasvathy (2001) were made interesting and influential through the implicit problematization as process of generating new research questions rather than gap-spotting approach.

Empirically speaking, this paper aims to understand to what extent the two papers presented above are so interesting and influential in the field of entrepreneurship through the lens of problematization methodology as given by Davis (1971), Locke & Golden-Biddle (1997), and Sandberg & Alvesson (2011).

## ***FINDINGS & IMPLICATIONS FOR QUALITATIVE RESEARCH IN ENTREPRENEURSHIP***

### ***Effectuation Theory***

Sarasvathy (2001)'s publication in the *Academy of Management Review* is seen as one of the most influential in entrepreneurship during the last two decades. At the time of writing this paper, Google Scholar metrics shows that Sarasvathy's article is cited by 7690. She starts pointing out that scholars in economics and management have traditionally defined firms, organizations, and markets as artifacts. Effectuation seen as logic of control rather than causation as logic of prediction is the relevant concept introduced in the entrepreneurship field. It focuses on what people have as means to create artifacts. '*Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means*. By inverting the logic, '*causation processes take a particular effect as given and focus on selecting between means to create that effect*' (Sarasvathy, 2001: 245). Causation and effectuation are two sides of the same coin, the paradigm of decision (Schmitt, 2021: 99). Artifact in Sarasvathy's thought is of paramount importance. The conception proposed breaks with the traditional approach (Schmitt, 2021). To problematize the state of art in the entrepreneurship field, she has used some strong rhetorical practices such as 'I now am eagerly striving,..., to get this truth which I seem half to perceive, into words,...' (p.244). To show that causation and effectuation's article has more likely problematized existing knowledge in entrepreneurship than spotted gaps from literature, Sarasvathy writes 'a theory,..., should not only identify gaps in our existing understanding of phenomena but should also be able to intergrate existing theories and evidence that do not quite fit the current paradigm and, ultimately, should provide new hypotheses and predictions to be tested through future work' (p.254). Throughout her paper, she has tried to differentiate the effectuation idea from the previous theories by shedding light on the juxtaposition of effectuation with causation approaches and their underlying logics of control and

---

<sup>1</sup> "The mission of AMR is to publish theoretical insights that advance our understanding of management and organizations. Submissions to AMR must extend theory in ways that develop testable knowledge-based claims. To do this, researchers can develop new management and organization theory, significantly challenge or clarify existing theory, synthesize recent advances and ideas into fresh, if not entirely new theory, or initiate a search for new theory by identifying and delineating a novel theoretical problem. The contributions of AMR articles often are grounded in "normal science disciplines" of economics, psychology, sociology, or social psychology as well as nontraditional perspectives, such as the humanities", Taken from: <https://journals.aom.org/journal/amr>





## Book of Proceedings

prediction. In doing so, she wants to challenge the traditional theories' audiences and even their foundations such as certainty, unbonded rationality, and so on. *'These two factors powerfully combine to help us build the theoretical foundations for explaining the origins of economic artifacts as a function of the decision processes used by actual entrepreneurs in creating and growing firms in the real world'* (p.258). As a matter of course, we can say that effectuation idea is a critical rethinking of a causation theoretical tradition. By inverting the predictive link between means and effects, Sarasvathy has brought a new vocabulary to the field and the construction of an empirical terrain. Based on control logic, she gets away from track-bound modes of gap spotting and becomes very close to problematization as disruptive mode of generating knowledge.

Regarding the forms of problematizing introduced by Locke & Golden-Biddle (1997), Sarasvathy's work is problematized under incommensurability form. It advocates for an alternate thesis through which she introduces effectuation as an inverted process of causation. Locke and Golden-Biddle (1997:1045) have illustrated each form of problematizing by rhetorical practices. These are going to be used in this research for the purpose to understand why Shane & Venkataraman and Sarasvathy's publications have been interesting and influential in the field of entrepreneurship. To show the problematizing form used in her article, we refer to some rhetorical practices used in the introduction: 'I now am eagerly ...striving, to get this truth...into words. I hope to make a contribution here toward that effort by identifying and developing a decision model that involves processes of effectuation, rather than causation, and showing its use in the creation of new firms. ... After a brief definition of effectuation as contrasted with causation,...I succinctly review...in order to...and to develop a rudimentary theory of effectuation' (p.244). 'I examine some recent empirical evidence that does not fit with the traditionally accepted paradigm of causation, ... develop propositions based on effectuation... ' (p:245). As we gain insight into the paper, we gain an accurate and deep understanding of the effectuation as the opposite of causation. The four principles (foundations) of effectuation illustrate how the effectuation is contrasted with causation (p.259):

- Affordable loss, rather than expected returns;
- Strategic alliances, rather than competitive analyses;
- Exploitation of contingencies, rather than preexisting knowledge; and
- Control of an unpredictable future, rather than prediction of uncertain one.

So, as we can see, the four foundations of causation (expected returns, competitive analyses, preexisting knowledge, and prediction) have been challenged by introducing alternatives. From epistemological point of view, entrepreneurship is not only about discovering and exploiting opportunities but also creating effects from available resources.

## ***ENTREPRENEURSHIP AS A FIELD OF RESEARCH***

Shane and Venkataraman's article titled 'the promise of entrepreneurship as a field of research' is also seen as the most influential during the last two decades. Google Scholar's metrics shows 21715 citations.

Based on the fact that entrepreneurship needs to have its own conceptual framework to become a field of research, Shane and Venkataraman (2000) wrote a note in the Academy of Management Review to set up a unique integrative conceptual domain. It is worth noting that existing conceptual framework developed in strategic management is usefulness to explain and predict performance of individuals and new businesses. In doing so, the authors 'seek to enhance the field's legitimacy and prevent its marginalization as only "a research setting" or "teaching application"' (p.218). From epistemological point of view, the promise of entrepreneurship as a field of research focuses on the process of discovering and exploiting opportunities. The main purpose of the note is the legitimacy of the field by creating a conceptual framework for entrepreneurship. As we can see in most of influential papers, Shane and Venkataraman (2000) have problematized the existing research in entrepreneurship by using some rhetorical practices such as *"To date, the phenomenon of entrepreneurship has lacked such a conceptual framework (...). Many*



## Book of Proceedings

*people have had trouble identifying the distinctive contribution of the field to the broader domain of contribution of the field to the broader domain of business studies...The lack of a conceptual framework has precluded the development of an understanding of many important phenomena not adequately explained by other fields.* These expressions illuminate many oversights in existing knowledge. Moreover, they do not advocate for an alternate thesis but for a conceptual framework specifically established for entrepreneurship field. More rhetorical practices have been used in their text research: ‘... , this framework provides a starting point. ...., we hope that it will prod scholars from many different fields to join us in the quest to create a systematic body of information about entrepreneurship. Many skeptics claim that the creation of such a body of theory and the subsequent assembly of empirical support for it are impossible. We hope that other scholars will join our effort to prove those skeptics wrong’(p.224).

## REFERENCES

- Alvesson, M., Sandberg, J. (2011). Generating research questions through problematization. *Academy of Management Review*, 36(2), 247–271.
- Alvesson, M., Sandberg, J. (2013). Constructing research questions. SAGE Publications, Thousand Oaks.
- Alvesson, M., Skoldberg, K. (2000). Reflexive Methodology: New Vistas for Qualitative Research. SAGE Publications, Thousand Oaks.
- Davis, M. S. (1971). That’s interesting: towards a phenomenology of sociology and a sociology of phenomenology. *Philosophy of the Social Sciences*, 1(4), 309–344.
- Flick, U. (2009). An introduction to qualitative research (Fourth). Sage Publications, Thousand Oaks.
- Golden-Biddle, K., Locke, K. D. (2007). Composing qualitative research (Second). SAGE Publications, Thousand Oaks.
- Locke, K., Golden-Biddle, K. (1997), Constructing opportunities for contribution: Structuring intertextual coherence and “Problematizing” in organizational studies. *Academy of Management Journal*, 40(5), 1023–1062.
- Sandberg, J., Alvesson, M. (2011). Ways of constructing research questions: Gap-spotting or problematization? *Organization*, 18(1), 23–44.
- Sarasvathy, S. D. (2001). Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–263.
- Schmitt, C. (2017). Les situations de gestion: entre intentionnalité et problématisation. *Projectics/ Projectica/ Projectique*, 2(17), 9–24.
- Schmitt, C. (2021). The implicit in Sarasvathy’s work: Highlighting a communication theory in entrepreneurship. *Projectics / Proyética / Projectique*, 28(1), 95–111.
- Schmitt, C., Husson, J., Nobile, D., Morua, J. (2015). Les situations entrepreneuriales : Définition et intérêts pour la recherche en entrepreneuriat. *9e Congrès de l’Académie de l’Entrepreneuriat et de l’Innovation, Nantes, France, 20-22 Mai 2015*, 22.
- Shane, S., Venkataraman, S. (2000a). The Promise of Entrepreneurship as a Field of Research. *Source: The Academy of Management Review*, 25(1), 217–226.
- Shane, S., Venkataraman, S. (2000b). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217–226.



Book of Proceedings

**CRM IN HIGH EDUCATION**

Carmine D'Arconte<sup>1</sup>  
Zorana Nikitovic<sup>2</sup>

**ABSTRACT**

*Nowadays it's generally accepted the idea that CRM, Customer Relationship Management, far from being only an advanced technology, is above all a managerial strategy that typical for-profit companies should adopt to be successful in the present highly competitive market. Nevertheless, CRM principles, in an absolutely natural way, can be extended to many other situations in which the main organization's needs are handling in the best possible way the relationships with customers or users who are paying to have a certain service. This applies perfectly well to high education, especially in case of private universities, considering that global higher education (HE) market is well established and extended all over the world and particularly in Anglo-Saxon countries. Consequently the related business appears very stimulating but, obviously, with also a very high level of competition. In such a scenario, in line with CRM principles, the key driver for success is students' satisfaction which, nevertheless does not seem to be the primary concern of many universities. In fact, a research we carried out show a general students' dissatisfaction regarding interactions with their universities and the situation is bound to become worse and worse in the next future because of the growing digitalization of young students. We then try to show the different ways that may be used by universities to attract and maintain cooperative and fruitful relationships with their students, with easy and useful interactions which also help guaranteeing a high quality of education. Finally we make some recommendations about what to do in the next future, highlighting the possible contributions of the different players involved.*

**Key words:** Business relationships, Students digitalization, CRM in Education

**JEL Classification:** I23

**INTRODUCTION**

For a long time CRM has been considered nothing more than an advanced technology and for sure, in a CRM system, technology is an important resource but, to consider it only a technology, may be a serious mistake because, as Cambra Fierro points out (2016, p. 316), "technology is not all".

To clarify the role of technology, an important contribution has come from Josiassen (2014, p. 130) who highlights that "there has been an evolution in the way CRM has been viewed, moving from a technological enabler of simple automated processes to a comprehensive approach to managing customer relationships".

For Baran (2013), CRM is actually "the foundation of contemporary marketing strategy with a shift from a product-oriented business strategy to a customer-focused relationship strategy"; Farhan (2018, p. 398), states that "CRM is a customer-oriented business strategy that concentrates on improving customer satisfaction and customer loyalty rates, by providing more personalized and customized services to the customers".

Substantially, nowadays the literature acknowledges and maintains that CRM is first of all a managerial strategy that capitalizes on profitable relationships with customers allowing companies to be

---

<sup>1</sup> Universita del Foro Italico, Rome, Italy, carmine.darconte@tiscali.it

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, zorana.nikitovic@vspep.edu.rs





## Book of Proceedings

successful in a highly competitive market. Having stated this, it is more than obvious that CRM principles can be easily extended from typical for-profit companies to many other kind of relationships; it may be the case of suppliers, partners, investors, owners or the personnel and, in a more general way, to all situations in which the main organization's needs are handling in the best possible way the relationships with customers or users who are paying to have a certain service.

This applies perfectly well to high education, especially in case of private universities where we also have a highly dynamic context with a growing level of competition. In fact, students are supposed to attend courses for three/four years for Bachelor's and five in case of Master's Degree; in some countries, like the USA, the tuition fees are incredibly expensive and rather often families are forced to go into debt for many years, in order to give their children the opportunity to go to university. Also in case of lower tuition fees - as it generally happens in many countries in Europe - we have an engagement that lasts for many years and therefore corresponds to a non-negligible economic value.

The educational environment is therefore an interesting and challenging marketing segment but it's also extremely dynamic and competition is intensifying; in this scenario, evidently it is extremely important to be able to attract students and to take care of their satisfaction level in order that they continue their studies in their University. As we can see we have all the elements to apply CRM principles in this particular field.

## *LITERATURE REVIEW*

Seeman (2006, p.24), very clearly states that "in higher education, students are the customers; some areas that touch the students are the registration processes, transcript services, career counseling and academic support services". Badwan (2018, p. 20) points out that "the global higher education (HE) market is well established especially in the United States, United Kingdom, and other English speaking countries such as Canada and Australia where marketing departments occupy distinctive positions in the organizational structure of HEIs... consequently "in order to achieve better results, higher Education Institutions (HEI) are adopting CRM (Customer Relationship Management) strategy. Like executives in industries of other business sectors, HEI's managers, by adopting CRM initiatives, intend to increase performance, promote better management practices, and improve the HEI's relationship with current and potential students". To better clarify the critical role of CRM in high education, an important contribution comes from Maleševic (2021) who points out that there are numerous studies which explore ICT from various perspectives, such as usage of mobile devices in education, e-learning, m-learning (mobile-learning), or learning management systems.

The author also states something very important, namely that a vast number of these studies were focused strictly on the teaching and learning process because it is clear that the educational process itself is the essence of education. Nevertheless, there are also other aspects to be considered; for instance, enrolment procedures, registration, general and specific information, administrative support and assistance which may be rather complicated in some universities. In this regard Seeman (2006, p. 25) highlights that "Satisfaction with the college's programs and services is also a critical performance measure. CRM can play a significant role in this area. While being able to obtain information about a course prerequisite or a schedule listing is not germane to the student's learning, it is nonetheless an integral part of the College experience. Most students view administrative activities as a necessary evil. Thus, an information system with an enhanced CRM initiative that provides an individualized fast-track to completing these activities, help students to go quickly and efficiently through procedures and become a strong incentive for selecting a particular institution". Apart from this, Maleševic (2021, p. 2) states how "Higher education institutions (HEI) have to deal with tectonic shifts when it comes to how they interact with their users: students and their parents, teaching and non-teaching staff, donors, and alumni. This became especially important in the era of the COVID-19 pandemic, which forced a new model of university-student relationship upon educational institutions."



## Book of Proceedings

CRM can play a significant role in this area because its adoption brings with it the use of appropriate instruments to acquire greater knowledge of the needs of students in terms of training, to help organize services tailored to their characteristics and requirements, to improve the process of education and get better results that reduce the number of dropouts. Unfortunately, we have to say that the possibility to interact with a CRM system or more in general to easily use a site, appears in many cases a major problem that negatively affects many institutions; in fact the point is ICT systems should facilitate customers' access to the information, data or assistance that they may need and, in this regard, many important studies (UTAUT, Venkatesh, 2003) have been done in order to identify and evaluate the most important drivers that have an impact on users' acceptance of sites. Nevertheless, companies generally provide these tools in a way that it only limits a direct contact between their personnel and customers so to avoid hiring extra personnel with a consequent substantial cost increase. Thus, rather often the result is that customers or citizens have to spend a lot of time on-line because of complicated sometimes unclear procedures to find the information they need or, in some cases, only as a preliminary annoying step to speak, or even worse, only to make an appointment with an official of the organization. In these cases the ICT systems, far from being a powerful aid for a fruitful interaction, become a painful filter and often a sort of containment dam to the total detriment of customers. Evidently the Covid epidemic, with the necessity to limit live contacts as much as possible, has definitely encouraged and worsened this natural trend but it seems rather paradoxical how organizations in general and for-profit companies in particular, do not understand how the final result may only be a negative fall-out in terms of image that, soon or late, will inevitably push customers to look for better alternatives in the market if they are available. Finally, companies should also take advantage of all occasions of interaction with their customers, in order to have information about their level of satisfaction and also capitalize on complaints, taking note of critical aspects and suggestions to improve the service level, rather than considering them only a nuisance.

Another very important aspect is highlighted by Daradoumis (2010) who states that there is a great deal of discussion in the academic literature around the possibility to consider higher education students as customers. He adds (2010, p.107) that "the main resistance to the use of business concepts and principles came from academics and educators opposed to applying market forces to the university system. They considered that these principles contradicted educational values". This concern about the 'marketisation' of university education led to the debate, for example, on considering the student a "customer" of the institution.

What to say about this? While it is absolutely true that private universities should categorically avoid being too indulgent with their students lest they may lose their "customers", nevertheless it is also true that if students are not positively attracted they will not choose a certain university; secondly, having chosen it, they must be satisfied during their studying, otherwise they will soon or late abandon the institution. Substantially in case of Education, as Daradoumis (2010) posits, the marketing focus should not be on getting 'buyers' but on customer satisfaction, providing a high quality teaching, making available the necessary technological tools and cultivating a relationship with them that is not just strictly commercial, unilateral and impersonal, in order to get better results that reduce the number of dropouts. Considering the importance of students' satisfaction, we decided to carry out a little research among students at Università del Foro Italico.

## **RESEARCH**

The research has investigated three different aspects:

1) Understand in depth the reasons of the choice of the Faculty.

In this regard, except in two cases, all declared that they had a primary reason to choose their faculty and the predominant answer was that they loved sport.

80% of the interviewed also declared that they had carefully evaluated the possibilities of finding a work once obtained their degree which seems to be rather in contrast with the first rather emotional answer

### Book of Proceedings

about their love for sport. Apart from this, nearly a 40% of the students declared that they were influenced by their parents or friends when they made their choice.

The impression is that the three answers are in contrast one with another and that the decision to choose the Faculty was taken in most cases on the base of an emotional rather than a rational drive.

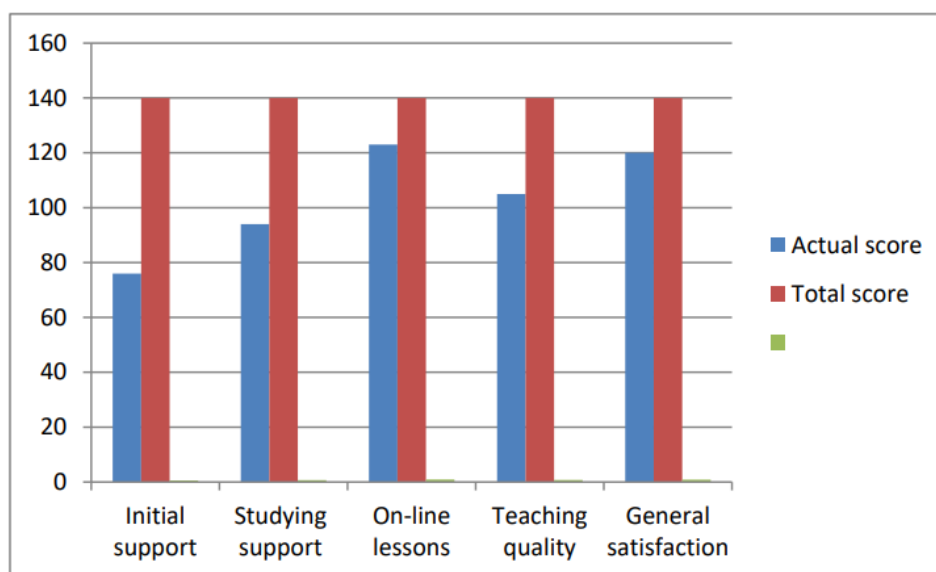
#### 2) Highlight students' level of satisfaction in their interaction with universities

We report hereunder, in Table 1, the results from 5 questions strictly related to the topic.

*Table 1. Research results*

	<b>Initial support</b>	<b>Studying support</b>	<b>On-line lessons</b>	<b>Teaching quality</b>	<b>General satisfaction</b>	<b>Total</b>
Actual score	76	94	123	105	120	518
Total score	140	140	140	140	140	700
	54,29%	67,14%	87,86%	75,00%	85,71%	74,00%

As we can see students are rather satisfied of the quality of the teaching (75%, fourth item in the Table) and even more of the kind of studies (85,71%, fifth question) but the situation is very different regarding different kind of interactions with university. As for the first item, regarding the initial support at the moment of students' choice, 45,71% are dissatisfied, which seems rather paradoxical because universities should invest a lot at this stage in order to have new enrolments. Once made the choice the situation becomes a little better but still we have 32,86 % of students dissatisfied of the support they receive from their universities. Finally only a reduced minority of students (12,14%) does not seem interested to have also recorded lessons on-line which means that 87,86% would appreciate to have them available.



*Figure 1 . The results of the research on students*

#### 3) Collect students' suggestions to improve the relationships with universities.

As for the last open question, the most common suggestions are:

- improve communication with students
- availability of lessons on line
- better organization of lessons schedule
- better availability of administrative offices

Therefore, also in this case we see a high level of dissatisfaction regarding interactions rather than the quality of teaching.



## Book of Proceedings

***CRM IN HIGH EDUCATION***

As we specifically highlighted in one of our contributions on CRM (D'Arconte, 2017), to be successful companies must primarily focus on the retention of profitable customers avoiding to get involved in a continuous search of new customers as unfortunately it often happens.

*Table 2. Two alternatives for development. Increasing new sales or retention rate.*

	A <sub>0</sub>	A <sub>1</sub>	A <sub>2</sub>
Initial quantity of customers	100	100	100
New sales rate %	20	25	20
Retention rate %	85	85	90
Loss rate %	15	15	10
Final customers	105	110	110

To understand better this point, we can see in Table 2 that company A<sub>0</sub>, with a 20% of new sales and a 15% of loss rate during a year, ends up with a total of 105 customers; in order to have a higher quantity, for instance 110, there are two ways; the first one (see A<sub>1</sub>) is to increase the sales rate to 25% and leave unchanged the loss rate and the second (see A<sub>2</sub>), to leave unchanged the sales rate but increase the retention rate to 90%. In both cases we will have at the end of the year, 110 customers

Nevertheless, the two alternatives are very different as far as the final effects on a company's profit are concerned. In fact, in the case of equal conditions, as Dutu states (2011, p. 765), "retaining a customer is usually less expensive than attracting a new one" and this applies also to students. Apart from this, if a student is lost because they are dissatisfied, we must expect a negative word-of-mouth with an inevitable "demarketing" action which will certainly have damaging consequences for the organization, even though it may be difficult to quantify them. On the contrary "satisfied" students will act as "apostles" (Hesket, 1992), starting a positive word of mouth and so become - for free - a spontaneous promotional support for new enrollments. Beyond this, losing students at the beginning of their university journey can really be a serious problem because they will be lost for all the future years during which they could remain with the University. In other words, we have to refer to the Student Lifetime Value (SLV), that is, the net present value of all the contributions, current and future, of a student during his permanence at University. Substantially it is evident how universities should first of all strictly focus on the retention of their present students rather than involving themselves in a continuous search of new students and there is no doubt that for this they should take care of their students' satisfaction and capitalize on their loyalty. In this regard, Khan (2012), states how loyalty is strictly related to satisfaction level, and - as it is obvious - customers and/or users will be satisfied only if offered services meet their expectations. The same author also warns (2012, page 107) that "customers who are unsatisfied with the received services would not be expected to have long run relationships with the company".

We should then expect that universities strictly focus on their students' satisfaction, nevertheless, we have to say that at least in our 15 years teaching's experience in Italy, Bulgaria, Malta and Serbia, we saw efforts to attract new students but, as a general rule, a rather limited availability to investigate systematically students' satisfaction so to improve the level of services. In fact, monitoring customers satisfaction requires time and money and unfortunately organizations do not seem very inclined to invest in this direction, as Hassan (2014) states; in case they take the issue into consideration, they generally analyze data such as the churn-rate or make some internal analysis (Constabile, 2000). Unfortunately, as Hassan (2014, p.1) states, most companies find themselves uncertain about the productivity of their customer relationships program and - what is definitely even worse - they consider it a burden on their marketing budget.

This is a serious problem because, in case customer satisfaction is not constantly monitored and improved, its distribution will most likely tend to be a 'normal' or Gaussian curve with about half of students dissatisfied. More in particular, as we can see in Figure 2, we will have:



Book of Proceedings

- 2/14 % extremely dissatisfied
- 13.59 % highly dissatisfied
- 34.14 % averagely dissatisfied

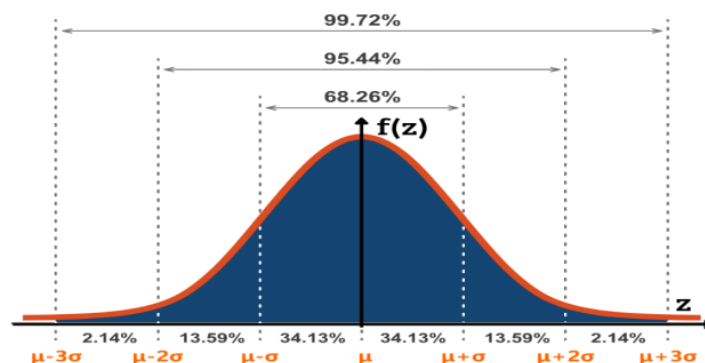


Figure 2. Probabilistic distribution of the level of Customer Satisfaction among universities' students  
Source, 2023, web tutor mathematic.it

Apart from monitoring continually and scientifically students satisfaction, universities could also subdivide their students in different classes along with the years of enrolment so to build up a particular matrix, the satisfaction/year of enrolment matrix. An example is indicated in Figure 3.

High Satisfaction					
Average Satisfaction					
Average dissatisfaction					
High dissatisfaction					
	V year	IV year	III year	II year	I year

Figure 3. Profit-satisfaction matrix with 20 classes of students

Newly enrolled students are obviously those that represent the higher potential profitability for universities considering the Student Lifetime Value (SLV) and in this way, having correct information about the satisfaction level, we can have 20 classes of students. As an enlightening example of the usefulness of the matrix, one class is immediately drawn to our attention, namely the students in the last quadrant down on the right, who are potentially highly profitable and at the same time highly dissatisfied, too. In this case an immediate intervention would be necessary to avoid that they decide to move to another university as soon as they can. Evidently all the 20 classes of the matrix correspond to students in different situations that require well-aimed, different interventions; hereby a University may invest its limited resources in a well-aimed way, first of all on highly dissatisfied students, especially of the first years, and obtain the best results focusing on students' problems in a differentiated way.

**CRM POSSIBILITIES IN HIGH EDUCATION**

CRM may be very useful in case of high education and this may be in fostering and improving both the quality of teaching and also making much easier all interactions.

As for the quality of teaching, an excellent improvement is for sure not only to offer face-to-face lessons but also to make available online recorded lessons. In fact during the pandemic we had to avoid





## Book of Proceedings

face-to face lessons and we were obliged to use only on-line lessons and this, in a paradoxical way, has created a kind of psychological hostility towards online activities which really does not make sense.

Face-to-face lessons are important to guarantee a direct interactions between professors and students and definitely much more for students' reciprocal interactions but they also have serious limitations. Sometimes there are many students in a class and it's not easy for them to maintain a high level of attention so to follow exactly what professors explain, especially if the topic is a complex one. If an explanation is missed, it will be very difficult to have it again and obviously we cannot imagine that a professor may be stopped continuously to answer questions or provide further explanations.

Beyond this, to attend face-to face lessons a huge amount of time is necessary for students to reach their universities especially if they do not live nearby and the transport net is not excellent. Some universities have thousands of students and if we imagine that every one of them spends every day a couple of hours to go and come back, maybe another hour because they have to wait before starts the next lesson, it's easy to calculate how many hours of their life students are wasting in an year without receiving or producing anything at all.

We have also to consider that in case of recorded lessons Professors are compelled to prepare them carefully avoiding to improvise; they will necessarily have to think in advance how to structure them, what to say and how to say it; they could prepare a preliminary draft, listen to themselves and possibly improve the lesson adding or cutting some parts, using clearer expressions and so on.

The other huge advantage will be for students; in fact they will have the possibility to listen to lessons every time and everywhere they wish according to their available time and also listening and listening again in case of particularly difficult items. These two aspects will be an excellent boost to quality in teaching as well as in facilitating in a huge way the students' work.

We believe that the best thing is to combine face-to- face with on line lessons; for instant students might study two or three on-line lessons and then meet the professor who will first make a quick summary of what students have already studied and then answer to students' questions. The face-to face lesson could also be a kind of pre-exam and in this way it will be avoided the risk that nobody comes to face-to-face lessons as they are available on-line.

Obviously, for this purpose, universities will have to invest in appropriate technological systems able to guarantee a good level of interactions especially when many students will log-in simultaneously but for sure this may be an excellent competitive advantage compared to most universities normally focused only on one kind of lessons.

Apart from this, we have seen that most students rather than about the quality of the teaching are complaining for some difficulties in the interactions with their universities and, in this regard, CRM may be definitely an excellent asset.

To understand better how this can be possible it's necessary to go a little in depth into CRM architecture and, for this, we can first of all refer to the clear and effective representation provided by Pennarola (2006, p. 356) where he distinguishes 3 parts:

- The operative CRM, meaning by this the whole of the communication channels to guarantee an easy interaction in different ways; in this part of the CRM are included "those systems used for automation and increased efficiency of CRM processes" (Soltani, 2016, page 670).
- The analytical CRM which deals with using the knowledge gathered not only in interaction with potential and acquired customers, but also in every possible significant circumstances in order that management may have all available data when having to make a decision.
- The Intelligence Systems that should allow not only to understand better present market scenarios but, what is definitely even more important, to help predict what is more likely to happen in the next future without being taken aback by unexpected events. Substantially at this level we have a kind of 'prescriptive analytics' searches to have an answer to questions like "what may happen?", "what should I do?" and "why should I do it?".

The general architecture according to Pennarola is summarized in Figure 4, below.

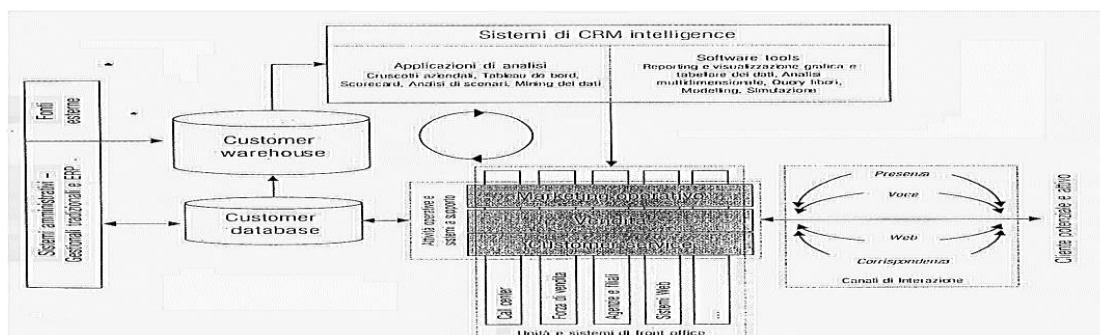


Figure 4. Architectural plan of operative and analytical CRM business intelligence. (Pennarola, 2006)

Obviously CRM structure must be adapted and personalized in line with the specific needs of every particular situation and, in case of Education, we found in the literature a very recent and impressive schema due to Malešević (2021, p. 4) of what he defines the “xRM model” – as indicated in Figure 5.

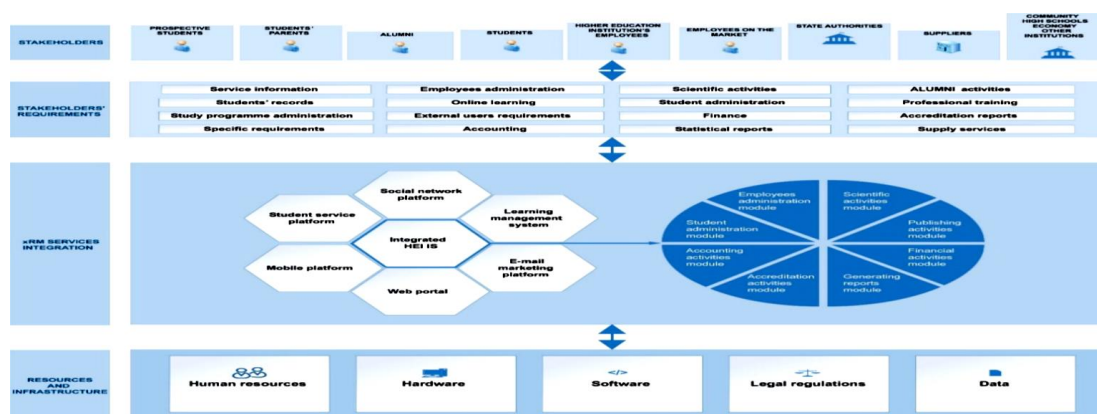


Figure 5. Malešević's x-RM model of a higher educational institution

With “xRM” (2021, p.3) the author means “anything/extended relationship management”, clearly highlighting how the main CRM principles may be successfully applied in many different environments.

The model testifies the growing effort that is nowadays being made in the specific field of Education to capitalize in the best way on successful relationships from the students perspectives and it is based on the UTAUT2 framework, namely the Unified Theory of Acceptance and Use of Technology.

As Algahtani (2021, p. 221) states “the UTAUT2 was created as a comprehensive, integrated model to better understand consumer acceptance of new technology or systems; UTAUT2 was developed by Venkatesh (2003, P. 158) who, on the findings of the previous UTAUT theory, identified key additional constructs and relationships to be integrated into UTAUT, thus tailoring it to consumer use context.

According to Malešević “The model takes care of the relationship management with all the stakeholders of the higher education institution, among which students are the most demanding group in terms of the number of IT services they need to have provided. Benefits of implementing a CRM system in higher education could include:

- fostering communication;
- better enrollment management;
- marketing and event management;
- simplified, electronic application process (no printed documents)
- monitoring financial flow;
- reporting and analytics;
- integration with other platforms such as a student web portal, social media, and information systems.”





## Book of Proceedings

Regarding the necessity and the possibilities offered by an adequate information system Seeman (2006, p.25) states how “the student information system features a streamlined application process that allows anytime, anywhere registration with a date-driven set-up to support traditional and distributed learning offerings. Student services access is provided, and students can access and update their information without requiring assistance or service from a staff member unless problems arise. In addition, comprehensive date tracking maintains all history and status changes with student records available via the web. All transactions are immediately reflected in the database and in related processes (such as a student dropping a course and immediately having financial aid recalculated). Information about students and employees is accessible to all functions (with appropriate security)”.

In this regard, we can say that we already had encouraging results; for instance already in 2006 Seeman and O’Hara (2006), demonstrate how the development and implementation of a CRM project improves the possibility to obtain and manage information, reduces the number of dropouts and increases student satisfaction with programmes and educational services on offer. These researchers consider that the CRM impact on university education is greater when the institution adopts e-learning systems. More recently, Dauradoumis (2010) reports that the Open University of Catalonia, with 43,000 students from 45 different countries, implemented SAMOS, a CRM system, with the purpose to collect and analyze, distribute and use all acquired information during the interactions with students. As the author states (2010, p. 121) “this has not only proved its effectiveness and usefulness in all cases but it also constitutes a significant contribution to the enhancement of the functionality of e-learning environments by adding a new role – e-monitoring”. Substantially, though for sure there still the need of further research to understand more in depth the CRM role, it seems confirmed that it may play an important role in the Educational field.

## *CONCLUSIONS*

So, to sum up, it should be clear how important it may be for universities to avoid investing only in a continuous and indiscriminate research of new students and start taking the utmost care of the satisfaction of the students they already have, as this is nowadays the best way to survive and have success in the growing and highly competitive market of Education. In this way, they will benefit of a reduced churn, of an increased students lifetime value and of a positive word of mouth that in most cases will bring for free new students.

In line with what Zablah (2004, pag. 478) posits “customers’ relationships (in this case students’ relationships) should be treated as a portfolio of assets or investments that need to be actively managed to maximize profitability” guaranteeing at the same time an excellent level of education based on a constant interaction with students.

As we explained, an excellent competitive advantage for universities may be to offer face-to face lessons combined with on-line recorded lessons. To be noted that our research, although based on a limited and convenience sample, shows that in general complaints about the quality of the teaching are rather limited while, on the contrary, there is a high level of dissatisfaction regarding general interactions to have access to information or to administrative services. Substantially, CRM may be fundamental for students to easily access services and fulfil their needs and also make possible a two-way relationship providing institutions with precious continuous feed-backs in order that they may be able to match and adapt the educational offer to the demand over time. To do this in the best way, universities should have the appropriate advanced technological tools and CRM, especially if specifically designed and implemented in line with educational necessities, can really provide excellent results.

Apart from technology, we wish to highlight the necessity to adopt the correct approach to the problem. If the market trend remains the same in the near future with strong instability and a high level of competition, universities will necessarily have to adapt themselves to a better approach with their students. In this regard, Malešević (2021, p.1) posits that: “The upcoming generations of higher education students are increasingly likely to have prominent previous experience with significant use of digital technologies



## Book of Proceedings

as a part of their elementary and secondary education. As a result, we believe that future events will bring higher education institutions to a crossroad—"digitize or die!"

### ***FUTURE OUTLOOKS***

The first goal of future efforts should be spreading a CRM culture and apply it in the educational field, taking care at the same time to develop the necessary technological tools. Apart from this, in a wider socio-economic perspective, students should be seriously and effectively supported from the very beginning, when they make the choice of their university Faculty. While universities should invest much more in this direction, also the state should intervene and provide an adequate support. In fact, students rather often make a mistake in this regard and sometimes they understand it when they have already invested some time and it appears too late to make a new choice; the result may be that they stop studying or that they continue to finally obtain, rather reluctantly, a degree they do not really like, risking in this way of never being able to fully express their potential.

It would be a mistake to think that this may be only single individuals' problems. On the contrary this is a social problem because our students are the future of our society and if students fail to achieve their goals in terms of self-fulfilment, our society will inevitably be poorer to the detriment of every one of us; managers, physicians, professors, engineers, politicians and so on, all will be poorer and less able to play their important social role. For this reason we can imagine that before the end of high school the state organizes orientation meetings with the supervision of experimented psychologists and with the specific purpose to analyze students' personality traits and find the best match with available university courses.

In this regard, in the field of entrepreneurship, we have an enlightening example with Egbert (2014), who after an interesting research confirms the possibility to use in practice psychometric tests and in particular F-DUPn to measure personality traits considered to be important for entrepreneurial potential. Beyond this, as we already highlighted, to avoid a possible culture "marketization" during the courses the state should constantly monitor private universities' behaviour towards students, to avoid an excessive indulgence in evaluating their preparation, defining a procedure and in case appointing inspectors.

Finally, universities should foster relationships and cooperation with companies and organizations, on one side in order to design their courses more in line with their practical necessities and on the other to facilitate at least their best students to find an appropriate work after they finish their studies. This last aspect, may really become another excellent competitive advantage for smart private universities. Substantially all that have been said does not want to be only a support to universities businesses; there is much more in it if we look at this from the correct perspective.

### ***REFERENCES***

- Algahtani, M., Altameem, A., Baig, A.R. (2021). An Extended UTAUT2 model to Explain the Adoption of Virtual Reality Technology in Health Centers: An Empirical Study Based in Riyadh. *IJCSNS International Journal of Computer Science and Network Security*, 21(3). <https://doi.org/10.22937/IJCSNS.2021.21.3.30>
- Baran, R.J., Galka, R.J. (2013). CRM: The Foundation of Contemporary Marketing Strategy. ISBN-13: 978-0415896573
- Badwan, J.J, Shobaki, M. J. A., Naser, S.A., Abu, A. Y.M. (2017). Adopting Technology for Customer Relationship Management in Higher Educational Institutions. *International Journal of Engineering and Information Systems*, 1, 20-28.



**Book of Proceedings**

- Cambra-Fierro, J. J., Centeno E., Olavarria, A., Vasquez-Carrasco, R. (2016). Success factors in a CRM strategy; technology is not all. *Journal of Strategic Management*, 316-333. <https://www.tandfonline.com/loi/rjism20>
- Constabile, M., (1991). Il capitale relazionale. McGraw Hill, New York.
- D'Arconte, C. (2017). Il CRM e il valore del cliente. In Marketing. Peter, Donnelley, Pratesi, chapter 10, Mc Graw Hill, New York. ISBN 978 -88- 386-6919-4
- Daradoumis, T (2010). CRM and higher education: developing a monitoring system to improve relationships in e-learning environments. *International Journal of Services Technology and Management* 14(1), 103-125. doi:10.1504/IJSTM.2010.032887
- Egbert, H., Neumann, T. (2014). Examining Entrepreneurial Potential. MPRA [Online] no: 604933. (30.03.2017). Available from: <http://mpra.ub.uni-muenchen.de/60493/>
- Hassan, S.R., Nawaz, A., Lashari, N.M, Zafar, F. (2014). Effect of Customer Relationship Management on Customer Satisfaction. doi: 10.1016/S2212-5671(15)00513-4
- Hesket, J., Sasser, E., Schlesinger, L. (1997). Quoted in Peter, Donnelley, Pratesi, chapter 15, Mc Graw Hill, New York. ISBN 978 -88- 386-6919-4
- Josiassen, A., Assaf, G.A. (2014). CRM and the bottom line: Do all CRM dimensions affect firm performance? *International Journal of Hospitality Management*, 36, 130–136.
- Khan, I. (2012). Impact of Customers Satisfaction And Customers Retention on Customer Loyalty. *International Journal of Scientific & Technology Research*, 1(2). [www.ijstr.org](http://www.ijstr.org)
- Malešević, A., Barac, D., Soleša, D., Aleksic, E., Despotovic-Zrakic, M. (2021). Adopting xRM in Higher Education: E-Services. *Sustainability*, 13, 7522. <https://doi.org/10.3390/su1314752>
- Pennarola, F., Perrone, V. (2006). Il Customer Relationship Management, Management Innovazione e Tecnologie Informatiche, Università Bocconi. Il Sole 24ore.
- Seeman, E. D., O'Hara, M. T. (2016). Customer relationship management in higher education: Using information systems to improve the student-school relationship. Article in Campus-Wide Information Systems. doi: 10.1108/10650740610639714
- Venkatesh, V., Thong, J. Y. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, 36(1), Management Information Systems Research Center, University of Minnesota, 157–78. <https://doi.org/10.2307/41410412>.
- Zablah, R.A., Belelnger, N.D, Johnston, J.W. (2004). An evaluation of different perspectives on customer relationship management: Towards a common understanding of an emerging phenomenon. *Science Direct. Industrial Marketing Management*, 33, 475-489. Available at: [www.sciencedirect.com](http://www.sciencedirect.com) Zablah R. A.



Book of Proceedings

***A CYBERSECURITY MODEL WITH AI/MACHINE LEARNING  
AND METAVERSE–BASED BIG DATA ANALYTICS  
ARCHITECTURE FOR SDG IMPLEMENTATION AND EEE IN  
AFRICA***

*Gabriel Kabanda<sup>1</sup>*

***ABSTRACT***

*Education, employment, and entrepreneurship (EEE) are an important trinity with a connection reflected in the fact that private entrepreneurship creates new jobs and employment, and that entrepreneurial education develops entrepreneurial competencies that should turn business ideas into reality and make entrepreneurial activities more successful. To accelerate sustainability and achieve the SDGs with respect to EEE using cutting-edge technology, smart metrics for SDG monitoring, evaluation, and assessment must be designed and built for the African context. The paper is purposed to establish how AI/Machine Learning and Big Data Analytics might be used to accelerate sustainability and SDG implementation in Africa with respect to EEE as evidenced by facial recognition applications, blockchain technology, cloud computing platforms, the ICT sector, higher education, technological investments, and the oilseeds/textile industry. The Interpretivist Paradigm is used in the research, which includes a subjectivist epistemology, a relativist ontology, a naturalist methodology, and a balanced axiology. Both qualitative and quantitative methodologies with an experimental research design were used. A systematic literature review of the metaverse, virtual reality (VR), and augmented reality (AR) was done. A Bayesian Network, which is a directed acyclic graph with an associated probability distribution function that can be utilized for multivariate analysis, was designed as the Cybersecurity model for a Roblox-based Metaverse architecture framework.*

***Key words:*** Education, Employment, Entrepreneurship, Metaverse, Artificial Intelligence, Cybersecurity, Deep Learning, Machine Learning.

***JEL Classification:*** M15, O33, Q55

---

<sup>1</sup> University of Zimbabwe, Harare, Zimbabwe, gabrielkabanda@gmail.com



Book of Proceedings

***THE NEED FOR EDUCATION FOR INTERFAITH DIALOGUE AS  
A CONDITION FOR STABILITY AND ECONOMIC  
DEVELOPMENT OF THE REPUBLIC OF NORTH MACEDONIA***

*Nikola Gjorshoski<sup>1</sup>*

**ABSTRACT**

*The Republic of North Macedonia represents a multi-ethnic and multi-confessional society where ethnic and religious identification have a significant impact on the political, social and economic behavior of citizens. The members of the two largest religious communities in Macedonia (Christianity and Islam), that is, their believers have a level of functionality that can be defined as a state of a certain degree of tolerance. But that situation, especially among the believers themselves, is more like "conflict tolerance" than "true interfaith respect". There are many examples where the disturbance of religious tranquility and religious sentiments easily become the subject of conflicts. The very state of tension also leads to uncertainty among investors, which also implies economic stagnation. Hence, the current paper, through the method of deduction and the methodological technique of statistics, aims to show that education for interfaith dialogue is a condition for stability and economic development of the Republic of North Macedonia.. In that direction, the paper theoretically and empirically argues for the concept of interfaith dialogue, religiosity, perceptions of interfaith dialogue and cooperation among Macedonian citizens, attitudes about religious radicalism and religious education in the country, detects directions in the educational approach for interfaith dialogue among the young population, which communities leads to the harmonization and articulation of mutual values contained in the two largest religions (Christianity and Islam), as well as the key impact through which it ensures stability and enhanced economic development. Finally, the paper concludes that the two social dimensions in the political and economic spectrum (stability and economic development) in multi-ethnic and multi-religious societies like the Macedonian one, have the necessity to include the interfaith dialogue in their educational programs for three reasons: articulating similar value-ethical contents, acquaintance of different sensitive categories arising from religion and an adequate attitude towards it, as well as adapting businesses to the ethical norms and standards contained in the religions present in the given area.*

**Key words:** *Interfaith dialogue, Education, Stability, Economic development, North Macedonia*

**JEL Classification:** *A20, M14*

**INTRODUCTION**

There are few characteristics of a society that are so obvious and present in everyday life, and so little represented in the educational system, as well as the public discourse, such as the Macedonian example of multi-religiousness and multi-ethnicity and education for inter-religious dialogue. Namely, although the Macedonian society represents a mosaic of different cultures, where the religious element is strongly expressed and present, the degree of knowledge of other religions and especially the methods and approach to dialogue between those communities is not at an enviable level in the educational system.

The secular character of the state is the most significant reason that the request to establish a subject of familiarity with religions in primary education encountered controversies and disagreements in the social, professional and scientific public in the state. But it should be taken into account that the European Union indicates religious education as an important part of the education of young people. This is reflected in recommendation 1720, point 6, approved on 4 October 2005 by the European Parliament, which states

---

<sup>1</sup> Integrated Business Faculty Skopje, Republic of North Macedonia, ngjorshoski@gmail.com





## Book of Proceedings

that: "Education is essential to combat ignorance, stereotypes and religious misunderstandings." Governments need to do more to guarantee freedom of religious expression, encourage religious education, encourage dialogue with and between religions, and promote the cultural and social expression of religions." According to this recommendation, for the most part from European countries, getting to know religions, learning about religions or religious education are part of the curriculum of public schools. Detailed curricula for the subject differ from country to country (Spasenovski i dr, 2023, pp. 10-11). If we take into account this constellation of the recommendation of the European Parliament, it is evident that the dialogue between religions is one of its central points. It is for this reason that this paper goes further and elaborates the problem not only of getting to know the religions, but also their mutual dialogue with the aim of stability, security and economic development, through the example of North Macedonia.

Guided by these parameters, the paper aims to answer several questions. First, what is the concept of interfaith dialogue and what forms does it imply and contain? Second, what is the need for education for interfaith dialogue expressed through the prism of perception of religious related topics in North Macedonia? Third, what recommendations and directions for interfaith dialogue in education, but also in a wider social context can be identified? And finally, what is the contribution of interfaith dialogue to the stability and economic development of a country?

### ***THE CONCEPT OF INTERFAITH DIALOGUE***

The Academy of Cultural Diplomacy notes that the term 'Interfaith Dialogue' refers to the positive and cooperative interaction between people of different religions, faiths or spiritual beliefs, with the aim of promoting understanding between different religions to increase acceptance and tolerance. It is an expression of the participants' lived faith lives, and therefore interfaith encounters form communities of awareness. Constructing dialogue between followers of different religions means understanding, through cooperation, the different religious principles and teachings that should benefit all of humanity through the promotion of mutual respect and tolerance. It means coming together and sharing aspects of their respective faiths and striving to understand that which is foreign. What is essential in this respect is that the participants engaging in dialogue lay aside attempts to missionize, which is always accompanied by an attitude of exclusive superiority and can be equated with the spoken or unspoken belief that one's own religion is the "true" way, or effectively the only way.

It is significant to emphasize, that in the concept of interfaith dialogue, the goal of dialogue is to fight against negative conditioning and fanaticism and to open the door to listening, communication and respect (Letterfield, 1999, pp. 21) As Jaco Cilliers emphasizes, practitioner of interfaith dialogue: "Participation in interfaith dialogue in no way means undermining one's own faith or religious tradition. In fact, interfaith dialogue is constructive only when people stand firm on their religious traditions and when, in the process, show a willingness to listen to and respect the beliefs of other religions." (Cilliers, 2002, pp. 49).

Such definitions show us that the concept of interfaith dialogue contains at least five elements, namely: interpersonal interaction, acceptance and learning about diversity, familiarity with common ethical and humane values, non-imposition of religious beliefs, as well as peace, stability, cooperation and development as common goals.

### ***THE NEED FOR INTERFAITH DIALOGUE: THE MACEDONIAN CASE***

The discussion so far has shown us that the very idea and concept of interfaith dialogue is necessary especially in those areas where different religions exist. In particular, religious diversity can have significant implications in social life and generate a certain degree of instability, tensions, and the rise of extremism. Those conditions themselves lead to economic stagnation, slow investment growth,



underutilization of potential human resources, as well as limited and difficult access to resources where groups belonging to different denominations live. For illustration, the military conflict of 2001 brutally interrupted the growth tendency of the Macedonian economy. From 4.5% growth in the previous year 2000, in 2001 a real drop in GDP of -3.1% was recorded. The pre-crisis growth rate was reached only in 2004. The budget balance went from a surplus to a deficit of almost 6% (Slaveski, 2020).

In addition to this, we will determine the need for strengthened interfaith dialogue and its implementation in educational programs through several categories: First, the demographic picture of the state and religious identification, second, the importance of religion for Macedonian citizens, third, communication and interaction with people of different religious beliefs and the perception of cooperation between religious communities, fourth, the perceptions of interfaith tolerance in the country, as well as the perceptions of religious radicalism in Macedonia and finally the support of citizens for educational subjects that touch religion.

First of all, it can be noted that 75.2% of Macedonian citizens belong to the Orthodox religion, 21.6% to Islam, 0.4% to Roman Catholicism, 0.5% to other religious denominations and 2.5% declared themselves atheists (Figure 1).<sup>1</sup>

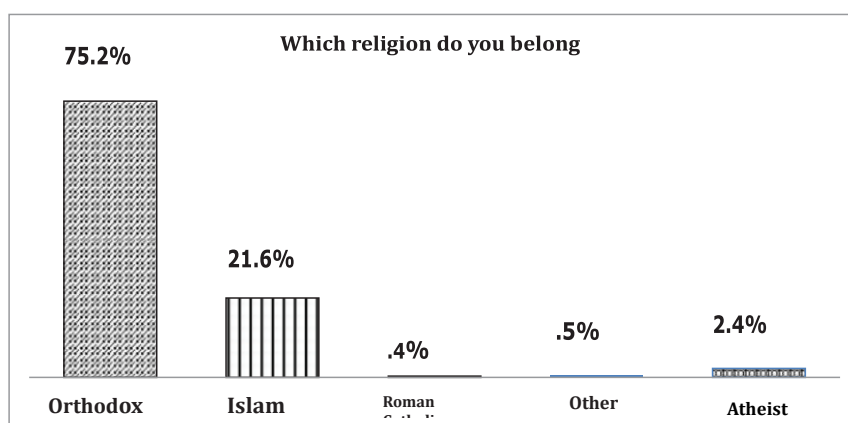


Figure 1. Religious affiliation in North Macedonia  
Source: Bozinovski, 2019, pp. 18.

In that direction, it should also be taken into account that a large part of the population in the Republic of North Macedonia, almost half (49.6%) consider themselves religious, while 29% are somewhat religious, 13.0% somewhat no, and 8% do not consider themselves religious. This leads to the conclusion that the majority of citizens are religious in one way or another (about 80% of the population) (Figure 2). More significantly, in Figure 3 it can be noted that for half 40.8% religion is more important than ethnic identification, in contrast to 21.1% who consider ethnicity to be more important to them and 38.2% who

<sup>1</sup> The data used in this scientific paper were taken from the Institute for Political Research Skopje. National surveys are conducted with a stratified sample (in two stages with random selection of the respondent). Considering the specifics of the research, the sample is stratified according to regions and settlements in Macedonia. The size of the sample is chosen according to the needs of the research, and in the five researches conducted, between 1100-1140 respondents older than 18 years were included, keeping the general ratio in terms of basic demographic characteristics such as gender, age and profession and education. The stratification is in accordance with the latest data from the State Statistics Office. The average responsiveness in the surveys depends on the topic of the research and ranges from 30-70%, and in these researches it was between 50-55% of the interlocutors obtained. The margin of error is between +/-2.9% with a 95% confidence interval (Bozinovski, 2019, pp. 16-17).

have no answer. This suggests that a large part of the population is more strongly associated with religion than ethnicity (Bozinovski, 2019, pp. 28).

Figure 2. Religious identification in Republic of North Macedonia  
Source: Bozinovski, 2019, pp. 28.

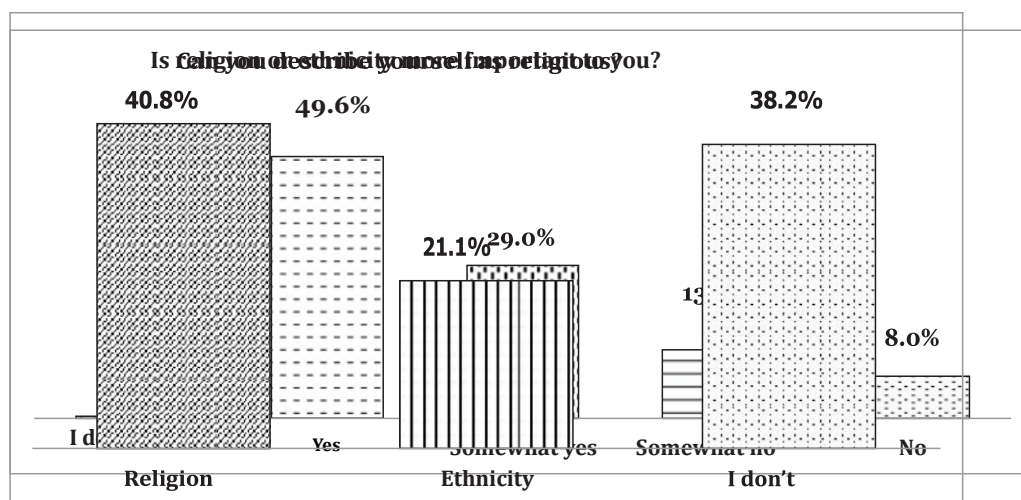


Figure 3. Religious identification in Republic of North Macedonia  
Source: Bozinovski, 2019, pp. 21.

A very important characteristic that goes in a positive direction for the Macedonian society is that 70.7% of the respondents answered that they have friends from another religious community. But the percentage of 27.8% of respondents who explicitly answered that they do not have friends from other religions speaks of a certain degree of closure between citizens belonging to different religions. (Figure 4). If to this is added the data on the citizens' perception of the cooperation between the religious communities in Macedonia (the Macedonian Orthodox Church and the Islamic religious community), then the situation becomes more alarming. So as can be seen in Picture 1, 16.8% believe that religious communities do not cooperate at all, 27.2% believe that they have little cooperation, 27.3% that they have some kind of cooperation and only 10.7% of respondents consider that they have excellent cooperation. This is a generally negative perception of the cooperation of religious communities in North Macedonia (Bozinovski, 2019, pp. 21).

Similar trends are observed in the area of interfaith tolerance. It is indicative that when asked if there is more or less religious tolerance in the country compared to before (Picture 2), the majority of the respondents, as much as 33.4%, answered that there is less interreligious tolerance, and a high 26.2% answered that it is at the same level, in contrast to 29.4% who consider that the situation has improved in this respect. If we add to this the perception of 55% of the respondents that someone is trying to disrupt interfaith tolerance in Macedonia (Figure 5), against 22% who believe that no one is trying to do so, then we come to the conclusion that urgent prevention is needed in this part. (Bozinovski, 2019, pp. 23)

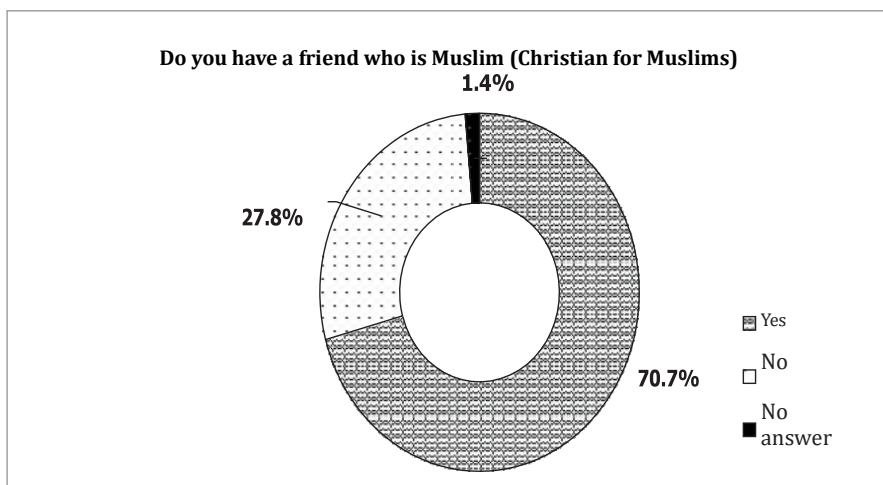
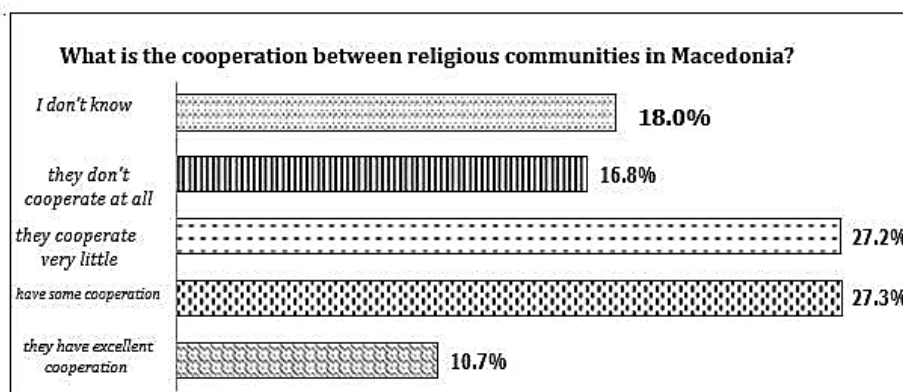


Figure 4. Religious communication in Republic of North Macedonia

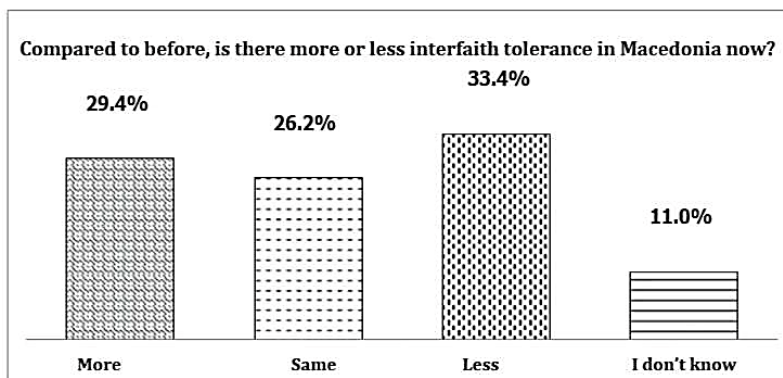
Source: Bozinovski, 2019 pp. 22.



Picture 1. Cooperation between religious communities in Republic of North Macedonia

Source: Bozinovski, 2019, pp. 23.

The necessity of implementing educational programs for interreligious tolerance, as well as in the overall social action in the country, can be seen through the perception of religious radicalism and the need for religious education in schools. Thus, from Figure 5 it can be seen that 35.5% of respondents believe that there is religious radicalism among the majority of the population, accompanied by 23.6% who believe that there is religious radicalism among a certain part of the population, against 13.4% who believe that the same is present only in a small part of the population and 15.2% who believe that religious radicalism is not present at all (Bozinovski, 2019, pp. 26). In addition to Figure 7, do you support or are you against having subjects in the education system in which religion will be studied, a total of 69% of the respondents or high 71% of the Orthodox Christians and 73% of the Muslims answered in the affirmative, from which it can be concluded that most citizens support the study of religions as part of the educational system (Bozinovski, 2019, pp. 55).



Picture 2. Perception about interfaith tolerance in Republic of North Macedonia  
Source: Bozinovski, 2019, pp. 26.

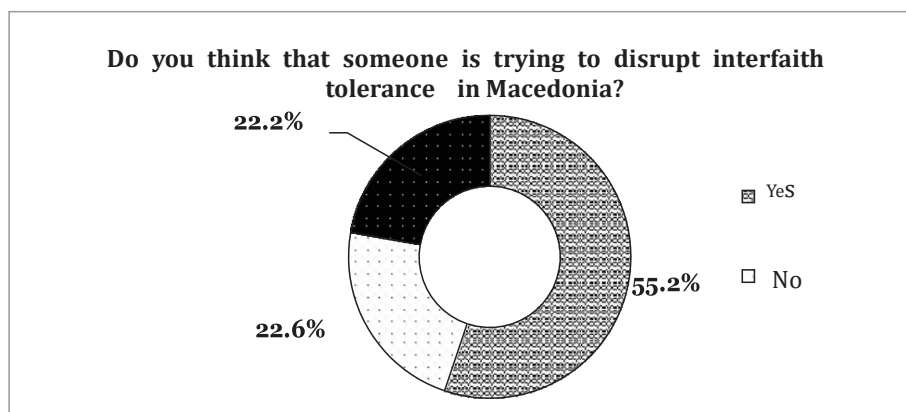


Figure 5. Perceptions of the attempt to disrupt interfaith tolerance in North Macedonia  
Source: Bozinovski, 2019, pp. 26.

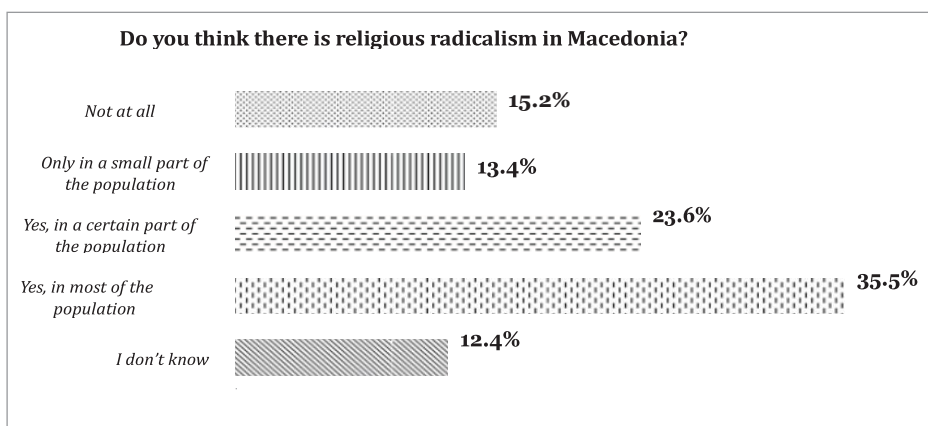


Figure 6. Perceptions of the religious radicalism in North Macedonia  
Source: Bozinovski, 2019, pp. 46.

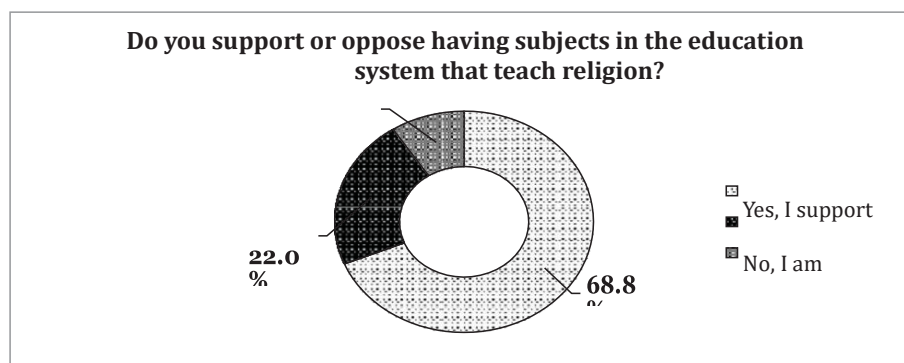


Figure 7. Support for school programs that touch on religion  
 Source: Bozinovski, 2019, pp. 55.

## GUIDELINES FOR INTERFAITH DIALOGUE IN SCHOOLS

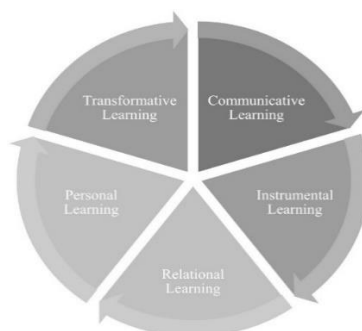
The Council of Europe, through its body the Congress of Regional and Local Authorities, issued in March 2016 a manual of 12 guidelines for interfaith dialogue to be implemented by local authorities. (Council of Europe, 2016, pp. 2-5). We will take them as a benchmark for the entire Maledonian society and the educational system in the country because the same guidelines are recommended to be implemented in schools as well.

Thus, 12 recommendations are noted, selected in 4 groups, namely: First group, named as *Knowledge and understanding of the local situation with religions*. This group contains the following recommendations: 1) Perception of the growing role of religions in building individual and collective identities; 2) Good knowledge of the size of religious groups and the way they are organized, as well as awareness of the latent dominance of the majority, which implies sensitivity; 3) Awareness of the heterogeneity of religious groups and selection of interlocutors for dialogue. The second group, entitled *Promoting mutual understanding between the participants in the dialogue*, contains the following recommendations: 1) Discovery of other cultures and implementation of their characteristics in the educational system, in a combined way - in schools and civic education centers; 2) Identifying suitable moments for personal contacts and joint visits to religious buildings and organizing interfaith forums and festivals. The third set of recommendations is titled *Establishing Partnerships*. It contains: 1) Active presence in the field and creation of curricula guided by the principles of openness, inclusiveness, experimentation and innovation; 2) Fulfillment of several principles such as respect for legality, promotion of equality between men and women, religious neutrality, transparency of all activities; 3) Emphasizing the role of encouragers and affirmers of diversity and non-interference in intra-religious matters; 4) Activities should be aimed at social cohesion; 5) Activities should be aimed at transformation from an interfaith to a multifaith approach and should minimize ghettoization. Finally, the last group is entitled *Evaluation* and contains a recommendation for criteria and indicators to be applied in evaluating the effects of their intercultural and interreligious dialogue. This can include expanding knowledge and expertise, establishing a network for exchange between different faiths or trainings and information centers. (Council of Europe, 2016, pp. 2-5)

Such recommendations coincide with what Pope (2019, pp.76) calls Cyclical Stages for an Interfaith Dialogue Approach. We would state that this implies the realization of several phases through the education modules for interfaith dialogue. First, personal learning, second, transformative learning (toward the other), communicative learning (the methods and techniques of communication with different groups), instrumental learning (about the content-value aspect of different religions) and finally relational learning



(about the relations between religions today and in the past). Then the same stages are approached again at a higher level.



Picture 3. Cyclical Stages for an Interfaith Dialogue Learning Approach  
Source: Pope, 2019, pp. 76.

## ***THE CONTRIBUTION OF INTERFAITH DIALOGUE TO STABILITY AND ECONOMIC DEVELOPMENT***

In this section, we will focus on the theoretical approaches that identify and point to the connection of religions and interfaith dialogue with social stability and economic development. It is safe to say that if there are serious discussions and scientific texts about the connection with social and political stability, the literature does not abound with rich references when it comes to economic growth and development. Les Picker (2003) highlights the fact that some researchers argue that explanations of economic growth should be broadened to include cultural determinants. Culture can influence economic outcomes by influencing such personal traits as honesty, thrift, willingness to work hard, and openness to strangers. Although religion is an important dimension of culture, economists have so far paid little attention to its role in economic growth.

But in *The Wealth of Religions: The Political Economy of Believing and Belonging* authors McCleary and Barro, (2019, 45-67) analyze the impacts of religious participation and beliefs on a country's rate of economic progress. The authors use six international surveys conducted between 1981 and 1999, as well as 2002 to 2016 to measure religiosity -- church attendance and religious beliefs -- for 59 countries. More information is available for the rich than for the poor and for countries that are primarily Christian. McCleary and Barro first consider how religiosity responds to economic development, government influences on religion, and the composition of religious adherence. They find that their measures of religiosity are positively related to education, negatively related to urbanization, and positively related to the presence of children. In general, religiosity tends to decline with economic development.

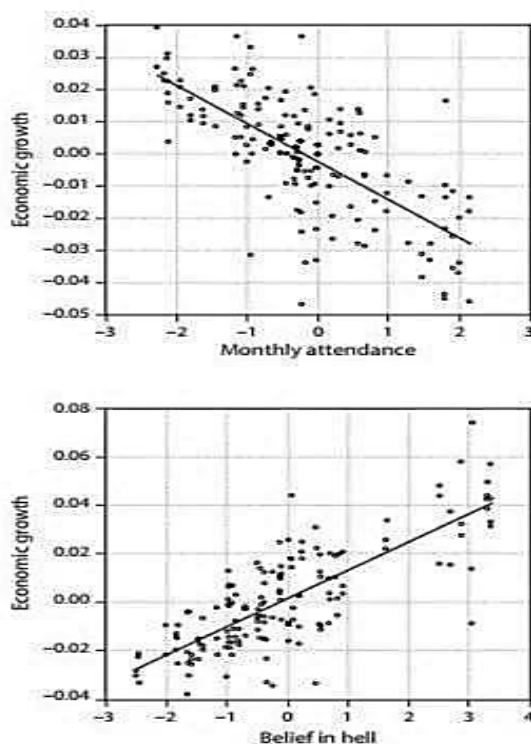
The presence of a state religion is positively related to religiosity, possibly because of the subsidies that flow to established religions in those countries. However, religiosity declined with greater government regulation of religion and with the religious oppression associated with communism. Greater diversity of religions -- that is, religious pluralism -- is associated with greater church attendance and stronger religious beliefs. Countries in the sample that had low levels of pluralism include some that are predominantly Catholic (Spain, Italy, Portugal, Belgium, Ireland, and much of Latin America), as well as Protestant Scandinavia, Orthodox Greece, and Muslim Pakistan and Turkey. Countries that have been studied and show high levels of pluralism include the United States, Germany, the Netherlands, Switzerland, Australia, Malaysia, Singapore and South Africa (McCleary & Barro, 2019 pp. 54-55).

The authors turn to an assessment of how differences in religiosity affect economic growth. For a given religious belief, an increase in church attendance tends to decrease economic growth. Conversely, for a given church attendance, increases in some religious beliefs—especially heaven, hell, and the



afterlife—tend to increase economic growth. In other words, economic growth depends mainly on the degree of belief in belonging. The authors also find some indication that the fear of hell is stronger for economic growth than the prospect of heaven. Their statistical analysis allows them to argue that these estimates reflect causal influences from religion to economic growth, not the other way around (Figure 10).

Barro and McCleary suggest that higher rates of religious belief stimulate growth because they help maintain aspects of individual behavior that increase productivity. They believe that higher church attendance reduces growth because it means greater use of resources by the religious sector. However, this suppression of growth is mitigated by the extent to which church attendance leads to greater religious beliefs, which in turn spurs economic growth. (McCleary & Barro, 2019 pp. 54)



Picture 4. Economic Growth and Religiosity Across Countries  
Source: McCleary & Barro, 2019 pp. 56.

## CONCLUSION

From the previous presentations and discussions in this paper, several general conclusions can be drawn related to the initial goals we set. *First*, the concept of interfaith dialogue finds an increased presence in Western and democratic societies, although it is not a new phenomenon. However, it implies neutrality, non-imposition, sharing of common values, learning about different religious interpretations and mechanisms for effective communication. As an opposite concept to missionary or to fierce polemics, it serves as a path for social harmony and coherence.

*Second*, there is a series of empirical evidence that confirms the necessity of education for interfaith dialogue in North Macedonia. It should be emphasized that such education is not only related to the formal process (regardless of whether it is mandatory or optional), but also to informal educational processes and initiatives. Among those constellations are the religious diversity and great religiosity of the population in North Macedonia, the great importance of religion in defining identities in Macedonia, the perception of a



## Book of Proceedings

low degree of cooperation between religious groups, the perceptions of the status quo or a decrease in the level of interfaith tolerance, perceptions of an intention to violate interreligious tolerance, as well as perceptions of an increase in religious radicalism in the state and support for educational content in schools with religious themes.

*Third*, through a system of cycle and comprehensive learning that includes personal learning, second, transformative learning (toward the other), communicative learning (the methods and techniques of communication with different groups), instrumental learning (about the content-value aspect of different religions ) and finally relational learning (about the relations between religions today and in the past) the recommendations of the Council of Europe should be applied which suggest knowledge and understanding of the local situation with religions, promoting mutual understanding between the participants in the dialogue, establishing Partnerships and evaluations.

*Finally*, the paper showed that contemporary trends in political and economic research suggest a serious relationship between religiosity, interfaith dialogue and economic growth. If political stability permeates much of the scholarly debate, the economic implications of religiosity and interfaith dialogue have so far been seriously neglected. Modern research suggests that religious fear of hell increases economic growth, because it is aimed at diligence, discipline, consumption of religious content, etc. On the other hand, interfaith dialogue as a condition for political stability also contributes to economic development, as well as the adaptation of specific economic offers in regions with different religious affiliations. For businesses, education about interfaith dialogue also means staff educated about diversity, which strengthens their innovation and sustainability.

## REFERENCES

- Academy for Cultural Diplomacy. (2022). Examples of Interfaith Dialogue that Contribute Toward the Understanding of Global Religious Traditions. Skopje. Available on [https://www.culturaldiplomacy.org/academy/index.php?en\\_historical-examples](https://www.culturaldiplomacy.org/academy/index.php?en_historical-examples)
- Adams, B. J., Carmignani, F. (2016). A Wealth of Dialogue: The impact of interfaith dialogue on economic development, In: Policy Innovation Hub. Machinery of Government
- Bozinovski, V. (2019). Makedonija kako multikonfesionalno opstestvo: Percepicii za vlijanieto megu religijata i drzavata. Fondacija Konrad Adenauer, Skopje.
- Cilliers, J. (2002). Building Bridges for Interfaith Dialogue, In: Interfaith Dialogue and Peacebuilding Edited by David R. Smock. Washington, DC, United States Institute of Peace
- Council of Europe, Congress of Regional and Local Authorities (2016). 12 Guidelines for Interfaith Dialogue at Local Level. Council of Europe Library, Brussels.
- Leterfield, M. (1999). The Necessity of Dialogue. In: *The Fountain Journal of Interdisciplinary Studies* 5(2).
- McCleary, R. M., Barro, R. J. (2019). The Wealth of Religions: The Political Economy of Believing and Belonging. Princeton University Press, Princeton
- Pope, E. (2019). This Is a Head, Hearts, and Hands Enterprise: Adult Learning in Interfaith Dialogue. *Adult Education Quarterly*, 70(3), 205-222.
- Slaveski, T. (2020). Ekonomskite krizi vo nezavisna Makedonija, In: Ekonomija i Biznis. Available on <https://www.ekonomijaibiznis.mk/News.aspx?IdNews=23760>
- Spasenovski, A., Jovkoska, A., Dzilo, H. (2023). Vtorata decenija so predmetot etika vo religiite. Fondacija Konrad Adenauer, Skopje.



Book of Proceedings

***INCREASE OF FISCAL BURDEN IN ROMANIA IN 2023 –  
IMPACT ON THE ECONOMY***

*Emanuel George Mesteru<sup>1</sup>  
Nikola Radic<sup>2</sup>*

***ABSTRACT***

*In 2023, Romania faced a significant shift in its fiscal landscape. The government implemented a series of new tax measures, targeting various sectors and income levels, in an endeavour to streamline public finances and curb budgetary excesses. These regulatory changes will elicit a variety of responses from businesses, employees, and consumers alike, thus influencing the nation's economic trajectory. The amendments encompassed a wide range of areas, from microenterprises and large companies to banking, healthcare, real estate, and self-employment taxes. Additionally, changes were introduced to the value-added tax (VAT) system, excise duties, and other specific areas such as holiday vouchers. These comprehensive changes initiated by the government aimed not only to increase state revenue but also to encourage compliance and fairer taxation. Through the aid of empirical, theoretical and comparative methods of research correlated with study case, this article delves into the implications of these changes, examining how they will affect Romania's economic performance and what they could mean for the country's future. We explore the potential economic implications and the reactions they may trigger at various levels of the economy. As we navigate through these fiscal changes, we attempt to understand the broader goal of the Romanian government and the potential impacts of these reforms on the country's economic health and growth prospects.*

**Key words:** *fiscal burden, taxation, fiscal consolidation, GDP, Fiscal-Budgetary Strategy*

**JEL Classification:** *E62, H20, H22, H30*

***INTRODUCTION***

The 2023 Fiscal-Budgetary Strategy in Romania is impacted by unprecedented Global Challenges. In a world with World War level complexities, Romania's 2023 budget and 2023-2025 Fiscal-Budgetary Strategy have been conceived. The global backdrop - marked by Ukraine's invasion, the energy crisis, inflation, market uncertainties, food shortage, climate change, and the disintegration of the global economic system - has inevitably influenced their formulation.

The European Union (EU) economies are increasingly reflecting "war-like" characteristics, with defence spending escalating across numerous states. "Surprise" inflation has aided budget executions in Europe and restrained public debt as a share of GDP in 2022. However, this effect on the budget balance is limited, and medium- to long-term fiscal-budgetary projections must consider the potential negative consequences of persistently high inflation.

To approach inflation targets in the subsequent years, an appropriate policy mix is essential, consisting of a monetary policy that controls inflationary expectations, prudent budgetary policies, and industrial policy measures to support production. Formulating such a policy mix is challenging due to the immense pressures on state budgets. Large budget deficits can provoke tighter monetary policies, making credit

---

<sup>1</sup> Lucian Blaga University, Faculty of Economic Science, Sibiu, Romania, emanuelgeorge.mesteru@ulbsibiu.ro

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, nikola.radic@vspep.edu.rs



## Book of Proceedings

costlier. Furthermore, external financial markets may respond to signs that debt is unsustainable, leading to speculative attacks.

Romania has been struggling with an excessive deficit procedure for several years, and the commitment to reach a budget deficit of around 3% of GDP in 2024 presents a tough mission given the budgetary pressures and the rapid deterioration of the international environment. Romania, with tax revenues (including social security contributions) at about 27% of GDP, finds itself at the lower end of the European hierarchy. All the Romanian national authorities involved in budgetary construction and also the European Union authorities in this field reiterates the need to increase the public budget's own revenues.

The ambitious intent to reduce the budget deficit to 4.4% of GDP in 2023 and below 3% of GDP in 2024, as per the Fiscal-Budgetary Strategy, is commendable. The strategy also aims to increase investments to over 7% of GDP in 2023, leveraging available European resources. However, achieving a budget deficit of 4.4% in 2023 presents considerable difficulties in public budget construction. The government of Romania anticipates that the 2023 budget construction will align with a cash deficit of approximately 5.7% of GDP and future budget revisions will necessitate adjustment measures to reach the budget deficit target for 2023.

Romania has a mixed fiscal system with both direct and indirect taxes.

- **Corporate Tax:** The standard corporate tax rate is 16%. However, some small businesses with an income of up to €500.000 may opt for a 1% or 3% tax on income instead of the standard corporate tax.
- **Income Tax:** The personal income tax rate is a flat rate of 10%. This applies to income from salaries, rental income, investment income, pensions, and other income sources.
- **Value Added Tax (VAT):** The standard VAT rate is 19%. However, reduced rates of 9% and 5% apply to certain goods and services. The 9% rate applies to certain foodstuffs, medicines, and hotel services, while the 5% rate applies to social housing and some cultural, educational, and sports activities.
- **Social Security Contributions:** Both employers and employees make contributions to social security, health insurance, and unemployment funds. The rates vary depending on the type of employment contract and other factors.
- **Local Taxes:** Local taxes include property taxes, vehicle taxes, and others. The rates for these taxes are set by local authorities within limits established by national law.
- **Excise Duties:** Excise duties are levied on certain types of goods, such as alcohol, tobacco, and energy products.

The fiscal system in Romania is administered by the National Agency for Fiscal Administration (ANAF). The Ministry of Public Finance oversees the country's fiscal policy, budget, and public debt.

## *LITERATURE REVIEW*

A lot of studies and articles have been published on the topic relating the impact of taxation on the financial performance of companies. We have tried to emphasize on a few relevant ones for this type of analysis and especially at the level of Romania and at the level of other states in the European community.

Dobrota (2011) tried to analyse the contribution of the income tax in forming budgetary revenues and the implications for economic operators in Romania. Pantea (2014) identify the factors that influence the financial performance of Romanian companies, on panel data, the authors finding that the main determinants of a company's performance are the firm's size, its capital intensity, and its human resources. Bizna (2018) analyse the results of the tax reform implemented in 2018 in Latvia. A central aspect of this reform was the over-taxation of uninvested profit and transferred to shareholders in the form of dividends. The authors concluded that the new tax regime applied to the profit distributed to shareholders is likely to stimulate economic growth, noting that the share of debt in total assets decreased while the liquidity of companies increased. According to the authors, reducing the tax rate for reinvested profits has reduced the



## Book of Proceedings

need for companies to hide their profits in order to reduce the tax base. Alesina (2019) makes an analysis, in the context of post-crisis measures adopted in European countries, on the importance of reducing the budget deficit generated by the need to stimulate economies through high levels of public spending. The authors argue based on their study that reducing public spending is less costly than increasing the tax burden. The state of research on the fiscal burden in Romania, has been abandoned since 2011 when it was studied by Dobrota (2011) but somehow the interest on the topic has increased again in 2019, because of the permanent interest of the Romanian government to increase taxes and fiscal burden. In 2020 Ogreru (2020) have researched and prepare an article intituled "Does the Tax Burden impact the Performance of Companies? A case study for Romania" in which they have analysed the relationship between the total tax amount paid by the Romanian companies and several indicators of size, financial performance, and capital structure to identify whether there is an impact of these indicators on the tax potential and to assess the impact of the tax burden on the performance of companies as well. Changing perspective, we have tried to anticipate the impact on the Romanian economy of the increase of fiscal burden in 2023.

### ***METHODOLOGY AND DATA DESCRIPTION***

To test the impact of the increase fiscal burden imposed by the Romanian government we proceeded to collect balance sheet data at December 2022 for three companies activating in relevant sectors that are directly impacted by the new fiscal measures (banking sector, and companies with turnover higher than 50 million Euro). The data were collected from the Bucharest Stock Exchange, the subjects being most valued companies at first category in the Bucharest Stock Exchange, the most important companies in the sectors with best economic conduct. The year 2022 was retained as the base year, on which we applied the new taxation indicators of 2023.

The data selection was centred on the operational income, profit before tax and net profit. The data were exposed to the influence of the new tax burden (independent variables) by which we have assessed and calculate the extra amount of money to be paid by the companies tested.

### ***The fiscal burden in Romania***

The fiscal burden of a country, often expressed as a percentage, typically refers to the ratio of a government's tax revenue to the country's Gross Domestic Product (GDP). This ratio is often used as a measure of the tax or fiscal burden on the economy.

The general formula to calculate the fiscal burden is:

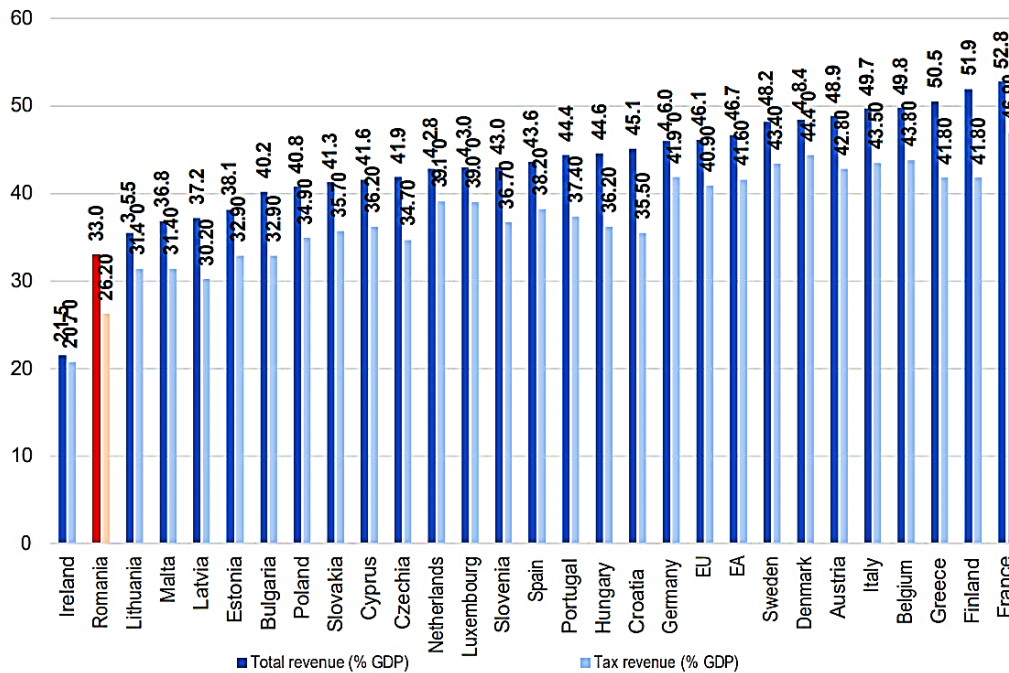
$$\text{Fiscal Burden (\%)} = (\text{Total Tax Revenue} / \text{GDP}) * 100$$

- **Total Tax Revenue:** This is the sum of all taxes collected by the government in a given period, usually a year. It includes all forms of taxes such as income taxes, corporate taxes, sales taxes, property taxes, and others.
- **GDP:** This is the total value of all goods and services produced within a country in a given period, usually a year.

This formula gives a rough measure of the fiscal burden on the economy, but it's important to note that the fiscal burden is not evenly distributed among all individuals and businesses. The actual fiscal burden on an individual or business can be influenced by many factors, including income level, the structure of the tax system, and the presence of tax incentives or loopholes.

Also, while a higher fiscal burden implies a higher level of taxation relative to the size of the economy, it doesn't necessarily mean that the impact on economic growth or individual welfare is negative. This depends on how efficiently and effectively the tax revenue is used by the government.





Picture 1. Total and Tax revenue in European Countries  
Source: AMECO database

The Romanian fiscal burden calculated at December 2022 is one of the lowest in EU (the second lowest after Ireland) at 26,2%, at a large distance from the medium EU fiscal burden of 40,6%. In this picture you can understand why the government decision to increase incomes is based in the increased fiscal burden of the country.

### *Fiscal measures adopted by the Romania Government in September 2023*

In this presented complex international and national context, from the need to increase the public budget's own revenues, the Romanian Government has decided to impose a new set of fiscal measures, with implementation starting with January 2024 applied on different sectors, categories of companies, state contributions for private persons and also taxes on luxury as presented below:

- **Microenterprises Tax:** Microenterprises will pay a tax of 1% on turnover for revenues up to €60,000 per year, and 3% if revenues exceed this amount.
- **Large Companies Tax:** Companies with business over €50 million will pay a minimum tax of 1% on turnover if the profit tax is less than the minimum turnover tax. (The minimum profit tax will remain 16%)
- **Banking Tax:** Banks will pay a 1% tax on turnover. This will be an extra tax over the normal profit tax.
- **Tax Exemptions:** The tax exemption in IT, constructions, agriculture, and the food industry is maintained only for incomes under 10,000 lei (gross).
- **Health Insurance Contributions (CASS):** Employees in the construction, agriculture, and food industry will have to pay health insurance contributions.
- **Value Added Tax (VAT) Changes:** VAT will increase for certain products. However, a 5% VAT is maintained for books, newspapers, magazines, museums and cultural events, firewood supply, and thermal energy. It will increase from 5% to 9% for social housing delivery, high-





## Book of Proceedings

quality food delivery, photovoltaic panel installation, solar thermal panels, heat pumps, and other high-efficiency heating systems. It will increase from 9% to 19% for non-alcoholic beer and added-sugar food delivery.

- **Property and Car Tax:** Individuals who own properties worth more than €500,000 and cars worth more than €75,000 will have to pay a special tax.
- **Housing Purchase:** Starting from January 1, 2024, any individual can purchase, either individually or jointly with another individual, a single dwelling whose value does not exceed 600,000 lei, exclusive of VAT, with a reduced rate of 9%.
- **Holiday Vouchers:** Holiday vouchers will be increased to 1,600 lei, but a 10% health insurance contribution will be applied. They will only be given to people with net incomes under 8,000 lei. Holiday vouchers and meal tickets can also be given in cash.
- **PFA (Self-Employed) Tax:** The current system of thresholds of 6-12-24 minimum wages is maintained, but an additional ceiling of 60 minimum wages is introduced.
- **Excise Taxes:** Excise taxes on cigarettes and alcohol will increase.
- **Budgetary Expenditure Reductions:** Numerous measures for reducing budgetary expenditures are being implemented.
- **RO e-Seal National System:** This system is established to ensure compliance with the traceability of road goods transport within Romanian territory.
- **Unexplained Income Tax:** Incomes whose source cannot be proven will be taxed at 70%.

### *Case Study - Potential Reactions of the Romanian Economy*

In order to analyse possible reactions of the Romanian economy to the increasing fiscal burden, there are some questions arising that need answers:

**Private sector response:** How might businesses and industries react? Could this lead to an increase / decrease in private investment or a shift in industry focus?

**Public response:** What might be the reaction of the general public? Could there be increased public pressure for fiscal reform?

**Government response:** What actions might the government take in response to the increasing fiscal burden applied?

In order to find the answers to these questions we have chosen to analyse and calculate the fiscal burden imposed by the government on the corporate tax on profit and the turnover taxation (1%) on three major companies in Romania, all of them listed on the Bucharest Stock Exchange at the first category:

- **BANCA TRANSILVANIA** – the major bank in Romania [www.btrl.ro](http://www.btrl.ro), Bucharest Stock Exchange Symbol: TLV
- **COMPA SA** – a major player in the automotive sector, a production company with Romanian capital, [www.compa.ro](http://www.compa.ro), Bucharest Stock Exchange Symbol: CMP
- **OMV PETROM SA** – the largest energy company in Southeastern Europe with Austrian capital, a multinational company, [www.omvpetrom.com](http://www.omvpetrom.com), Bucharest Stock Exchange Symbol: SNP

The choice of these three companies arises from the structure of the fiscal measures imposed by the government which reveal that the targeted sectors for the increased taxation are: banking industry, corporate companies with turnover over 50 million Euro (Romanian and international capital)

## Book of Proceedings

The research done on the three companies study case selected revealed some interesting potential reactions to the increase fiscal burden imposed the Romanian Government:

- There are economy sectors that will be more affected by the increase taxation and one of these sectors in the automotive production sector in Romania, sector with low margin profit affected by the international economic situation.
- The most affected sectors by the increase taxation will be the sectors with less than 10% profit margin, sectors that will pay extra taxation even if they are making a loss.
- The economic sectors with higher profit margin, more than 10% or higher will not be affected by the increase of taxation. In this category we can introduce the energy sector (gas, oil, energy producers and distributors).

Symbol:	SNP	CMP	TLV	
Company Name:	OMV PETROM S.A.	COMPA S. A.	BANCA TRANSILVANIA S.A.	
Fiscal / Unique Code:	1590082	788767	5022670	
Financial report type:	IFRS	IFRS	FRS	
Reporting period:	december 2022	december 2022	december 2022	
Indicator	Value (lei)	Value (lei)	Value (lei)	Indicator
Total Non-current Assets	29.404.727.639,00	467.928.790,00	12.645.157.437,00	Cash and cash equivalents
Total Capital Assets	22.110.396.502,00	434.633.036,00	63.449.954.417,00	Loans and advances to customers
Total Current Assets	26.873.153.394,00	293.334.493,00	-	Property and equipment
Inventories	3.226.320.107,00	134.910.252,00	133.960.229.504,00	Total assets
Total Receivables	9.874.907.526,00	152.438.134,00	1.631.542.335,00	Deposits from banks
Cash	13.771.925.761,00	5.986.107,00	116.503.841.609,00	Deposits from customers
Shortterm Financial Investments	-	-	3.562.483.030,00	Debt securities issued
Prepaid Expenses	1.049.723.349,00	1.227.727,00	126.002.052.269,00	Total liabilities
Shortterm Financial Liabilities	16.600.896,00	14.282.405,00	7.163.083.370,00	Share capital
Trade Payables	4.156.648.981,00	110.992.443,00	7.958.177.235,00	Total Shareholders' Equity
Net Current Assets / Net Current Liabilities	18.878.029.629,00	141.442.982,00	5.166.866.551,00	Interest income
Total Assets Less Current Liabilities	43.349.931.141,00	609.371.772,00	1.508.626.176,00	Interest expense
Longterm Financial Liabilities	-	89.934.825,00	3.658.240.375,00	Net interest income
Deferred Income	151.296.337,00	27.949.850,00	998.456.805,00	Net fee and commission income
Subscribed Capital	6.231.166.706,00	21.882.104,00	5.359.989.419,00	Operating income
Total Shareholders' Equity	39.143.576.653,00	497.106.073,00	2.939.309.285,00	Operating expenses
Sales	55.939.915.254,00	737.001.238,00	2.420.680.134,00	Profit before tax
Operating Income	57.766.097.189,00	745.231.175,00	2.177.998.978,00	Profit for the year
Amortization	4.206.540.839,00	47.331.376,00		
Operating Expenses	47.322.716.826,00	738.596.139,00		
Operating Result	10.443.380.363,00	6.635.036,00		
Total Financial Income	8.464.506.181,00	8.814.374,00		
Interest Expenses	93.311.336,00	2.182.355,00		
Total Financial Expenses	6.980.454.591,00	11.613.177,00		
Financial Results	1.484.051.590,00	2.798.803,00		
Total Revenues	66.230.603.370,00	754.045.549,00		
Total Expenses	54.303.171.417,00	750.209.316,00		
Income before Tax	11.927.431.953,00	3.836.233,00		
Net Income	10.287.553.182,00	2.510.594,00		
Corporate tax paid in 2022	1.639.878.771,00	1.325.639,00	242.681.156,00	Corporate tax paid in 2022
Calculated tax based on the fiscal changes of 2023	577.660.971,89	7.452.311,75	53.599.894,19	overtaxation of banks 1% applied on the turnover
Increase of taxation (%) with the new fiscal measures imposed	0%	562%	122%	Increase of taxation (%) with the new fiscal measures imposed
The new taxation law imposed on companies: minimum tax of 1% on turnover if the profit tax is less than the minimum turnover tax. (The minimum profit tax will remain 16%)	Zero impact - the taxation level will remain the same	Very high impact almost 6 times higher than the year before	Medium impact 22% higher than the year before	The new taxation law imposed on banking sector: Banks will pay a 1% tax on turnover. This will be an extra tax over the normal profit tax.

Picture 2. Fiscal burden analyses – study case

Source: private analyses based on the Bucharest Stock Exchange financial data

- The impact of new over taxation of the banking sector will create a response on the banks costs that normally will be transferred in the credit costs but the impact of this over taxation will not be unbearable and will not be a problem for the banking sector.
- We have made an analysis of the corporate taxation on companies over 50 million Euro turnover, because this category of companies was the primary target of the Romanian government for the increase taxation.



## Book of Proceedings

- The other fiscal measures imposed by the government in our analysis does not seem to affect with a powerful impact the private sector.
- There will be in our opinion a potential impact on public consumption for the luxury goods and also for other excised products like cigarettes, alcohol, etc.
- The government must keep a very strict control on the taxation measures imposed in order to be able to intervene quickly in the sectors with low profit margin not to allow shifts in industry focus and decrease in private investments.

## *CONCLUSIONS*

The fiscal burden often has significant implications for economic behaviour and performance. High taxes or government fees can discourage investment and economic activity. Similarly, high levels of public debt can lead to economic instability and may limit a government's ability to respond to future economic crises.

It's important to note, however, that government expenditures funded by these revenues can also provide valuable public goods and services, such as infrastructure, education, and healthcare. Therefore, the fiscal burden is a necessary element of any economy, and the challenge for policymakers is to balance the need for revenue with the potential negative impacts of a high fiscal burden.

The Fiscal Council of Romania (an independent institution) warns of a questionable realism of the fiscal-budgetary framework projected for 2024-2026, which expects budget consolidation primarily at the expense of budget expenditures. The Fiscal Council of Romania argues for the need for fiscal-budgetary consolidation, even if it potentially hinders future economic growth, which can be counteracted by a massive absorption of European funds.

Joining the eurozone also necessitates fiscal-budgetary consolidation. The overall challenging context amplifies the extraordinary significance of European funds for Romania, which can drive investments to over 7% annually, as outlined in the 2023-2025 Fiscal-Budgetary Strategy. European funds also bolster Romania's external balance, providing additional protection against currency pressures and speculative attacks. While EU membership brings undeniable benefits in terms of funding sources and financial creditworthiness, it is not a perfect problem solver or a guarantee.

Increasing a country's own revenues to improve the public budget can be a complex procedure, but several strategies can be considered. We have identified a few possible strategies for Romania:

- Improving Tax Administration and Compliance,
- Broadening the Tax Base,
- Implementing Green Taxes,
- Progressive Taxation,
- Improving Public Enterprise Performance,
- Utilizing European Union (EU) Funding,
- Encouraging Economic Growth.

Finally, encouraging economic growth can naturally lead to increased tax revenues. This can involve improving the business environment, investing in infrastructure, enhancing education and training, and promoting research and innovation.

It's important to note that each of these strategies has different implications and trade-offs, which need to be carefully assessed. Any changes to the fiscal policy should be designed to be sustainable, supportive of economic growth, and equitable in terms of income distribution.

The Increase of Fiscal Burden in Romania in 2023 could trigger different responses and needs at the economy level:



## Book of Proceedings

**Impact on Economic Growth** – The increased fiscal measures in Romania in 2023 could have both positive and negative impacts on the economy. On one hand, increased revenues can allow for more public investment in infrastructure, education, and healthcare, which can stimulate economic growth. On the other hand, higher taxes can potentially decrease private investment and consumption, which could slow economic growth.

**Effect on Income Distribution** – The impact of the increased fiscal measures on income distribution would depend on the specific measures taken. Progressive tax measures could potentially decrease income inequality, while regressive measures could increase it. The effect on income distribution should be carefully considered when designing and implementing fiscal measures.

**Need for Complementary Policies** – The increase in fiscal measures should be complemented with other policies to maximize their positive impact and minimize potential negative effects. For instance, efforts to improve tax administration and compliance, as well as measures to promote economic growth and job creation, can help ensure the effectiveness of the increased fiscal measures.

**Role of European Union (EU) Funds** – While increasing domestic revenues is crucial, the role of EU funds in supporting Romania's public budget should not be overlooked. Efficient and effective use of these funds can help support public investment and economic growth.

**Future Outlook** – Looking ahead, Romania will need to carefully balance the need for fiscal consolidation with the need to support economic recovery and growth. This will likely involve a combination of revenue-enhancing measures, expenditure reforms, and growth-promoting policies.

More important are the potential responses to the increased fiscal burden of the most important players of the economy: private sector, public (individuals) and government.

**Private sector response** – There are several affected sectors that will not be able to survive the new taxation. In such case it will be sectors with lower margin of profitability (less than 10%), automotive industry being the most exposed one, and also one of the biggest sectors in the Romanian GDP. On the other hand, the economic sectors with high margins will not feel the impact of taxation for example the energy sector. In this case the private sector reaction could be a decrease in private investment in Romania and a shift in industry focus to more profitable sectors.

**Public response** – Based on the analyses of the fiscal measures imposed by the Romanian Government, the general public will not be affected by the increased taxation but it will affect some individuals who have high valued real estate properties and luxury cars.

**Government response** – The government must analyse more deeply the impact of these measures on certain sectors and come with new strategies of improving taxation in order not to suffocate the corporate tax payers and to keep them alive and productive.

As a final conclusion the new imposed fiscal measures of the Romanian government aim to stop the budget waste. Romania can no longer afford facilities and privileges amounting to 75 billion lei / year, plus tax evasion of 150 billion lei per year. Combined, these make up 15% of the GDP. Based on our analyses these fiscal measures will not create austerity to the public and with careful application and additional measures can be effective in increasing government incomes on short term. In conclusion, the increase of fiscal measures in Romania in 2023 is a complex issue with multi-faceted impacts on the economy. The challenge for policy makers will be to design and implement these measures in a way that maximizes their potential benefits, while minimizing potential negative effects. This will require careful analysis, thoughtful design, and effective implementation, as well as an ongoing commitment to monitor and adjust these measures as necessary.

## REFERENCES

Alesina A., Favero C., Giavazzi F. (2019). Effects of Austerity: Expenditure- and Tax-based Approaches. *Journal of Economic Perspectives*, 33(2), 141-162.



**Book of Proceedings**

AMECO database, n.d. [online]. Available at: <https://dashboard.tech.ec.europa.eu> (26.09.2023.)

Bizna V., Jurušs M., Laizāns T., Šnikvalds R. (2018). Assessment of Impact of Corporate Income Tax Suspension on Financial Performance of Businesses. <https://www.degruyter.com/view/j/eb>, ISSN 2256-0394 (online) ISSN 2256-0386 (print) 2018, 32, 172–181

Bucharest Stock Exchange, n.d. [online]. Available at: <https://www.bvb.ro> (26.09.2023.)

Dobrota, G., Chirculescu, M.F., Ungureanu, M.D. (2011). The analysis of the contribution of the income tax in forming budgetary revenues and the implications for economic operators in Romania. In LBUSR/FEC (Eds.), *Crises After the Crisis: Inquiries from a National, European and Global Perspective* (Vol. IV, 193-200).

European Central Bank, n.d. [online]. Available at: <https://www.ecb.europa.eu> (26.09.2023.)

Euro Area MFI interest rate statistics, n.d. [online]. Available at: <https://www.europa.eu> (26.09.2023.)

Fiscal Council of Romania. (2023). Opinion on the State Budget Law for 2023, the Social Security Budget Law for 2023 and the 2023-2025 Fiscal-Budgetary Strategy

National Bank of Romania, n.d. [online]. Available at: <https://www.bnro.ro> (26.09.2023.)

Ogneru, V., & Stancu, S. (2020). Does the Tax Burden Impact the Performance of Companies? A Case Study for Romania. *Proceedings of the 14th International Conference on Applied Statistics 2020 | No 1*. <https://www.researchgate.net/publication/352160467>

Pantea M., Gligor D., Anis C. (2014). Economic determinants of Romanian firms' financial performance. *Procedia – Social and Behavioral Sciences*, 124, 272 – 281

World Bank. (2020). *Doing Business 2020: Comparing Business Regulation in 190 Economies*. Washington DC



Book of Proceedings

***DETERMINANTS OF YOUNG PEOPLE IN AGRICULTURE - THE EXPERIENCE OF THE EU AND SERBIA***

*Aleksandra Tošović-Stevanović<sup>1</sup>*

***ABSTRACT***

*This article examines the characteristics of young people in the agriculture sector in Serbia and EU countries. The paper analyzes the age structure of agricultural holdings, gender representation in terms of the ownership structure and management of the agricultural household, level of education and motivation to stay in the countryside. In the desire to encourage and motivate the engagement of an increasing number of employment in the agricultural sector, with a special focus on young people, the paper highlights the defined goals of aid by the European Commission with a detailed plan and financial resources allocated to support young farmers in the EU. The paper suggests that insufficient employment of young people in the agricultural sector in Serbia can be improved by creating a more effective work policy and financial support for young people.*

**Key words:** *youth in the agricultural, employment prospects, agriculture sector, Serbia and EU countries.*

**JEL Classification:** *L26, Q12, J43.*

***INTRODUCTION***

Agriculture is one of the most important industries in almost every economy worldwide, but still, even with the economic development and the progress of countries, the share of the population working in agriculture has been declining (Tošović-Stevanović et al., 2022). When we add the results and analysis of socioeconomic factors, starting with the age structure of the population working in agriculture, the first thing that stands out is the depopulation of villages and agricultural households all over the world. According to the analysis of Kočović et al. (2016) in Serbia, more than a third (34.6%) of owners of farms are over 65 years old, while only 4.6% of owners are under 35 years old, among the managers of farms, who in 94% of cases are also their owners. even 60% have no formal education. These data are very worrying because farmers with good education possess improved decision-making skills and hence better manage resources to exploit farms of various sizes (Asadullah & Rahman, 2009).

According to the research *Gender equality, agriculture and rural development*, conducted by the Food and Agriculture Organization of the United Nations (FAO, 2022), the number of inhabitants in Serbia is continuously decreasing due to the drop in the birth rate and constant migration of the population, especially young people, as well as qualified and educational categories of the population, and decreasing trends are particularly visible in the countryside and rural areas. Trends in the reduction and aging of the population in rural areas are more pronounced in the female rural population, which indicates a greater degree of their emigration from the countryside compared to men. And only some of the reasons cited are related to property status, lower chances for employment, but also various contents of importance for the quality of life, which young people, especially women, want for themselves and their families.

The situation described for Serbia is not a unique case, it is very similar in other European cities. For that reason, according to FAO (2023) six main challenges have been identified which negatively affect the

---

<sup>1</sup> Institute of International Politics and Economics, Belgrade and Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, [aleksandra.tosovic.stevanovic@gmail.com](mailto:aleksandra.tosovic.stevanovic@gmail.com), [a.tosovicstevanovic@vspep.edu.rs](mailto:a.tosovicstevanovic@vspep.edu.rs)



employment prospects of the rural youth in the agricultural sector: 1) insufficient access to knowledge, information and education which limits their productivity and the acquisition of skills, 2) limited access to land, 3) limited access to financial services, 4) limited access to green jobs, 5) limited access to markets, 6) limited inclusion in social and policy dialogue. Supporting the next generation of European farmers not only enhances the future competitiveness of EU agriculture; it also helps guarantee Europe's food supplies for years to come (European Commission, 2023).

In order to see more precisely the socio-economic characteristics of the population employed on agricultural farms, especially young people, we will give a brief overview of key factors in Serbia and the EU, important for the survival and economic development of agricultural farms.

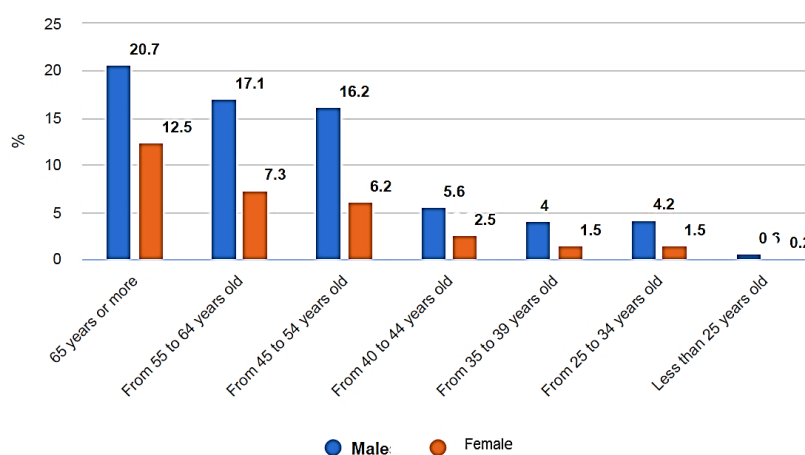
### ***YOUNG PEOPLE IN AGRICULTURE SECTOR IN EU***

While the world's youth population is expected to grow, employment and entrepreneurial opportunities for youth – particularly those living in economically stagnant rural areas of developing countries – remain limited, poorly remunerated and of poor quality (FAO, 2023). According to Matthews, the entire fall in the share of younger workers in agriculture can be explained by general social phenomena affecting all workers without some unique problems specific to agriculture (Tošović et al., 2022).

The definition of a "young farmer": 1) is an active farmer, 2) is under 41 years of age and 3) has the required level of agricultural education (EIP Agri Focus group 2016).

According to the analysis carried out by the European Commission (2023) in the EU, which refers to the age structure of the owners or those who manage agricultural holdings, in the EU, farmers under 40 years of age are at the head of only 11% of all agricultural holdings. Difficulty accessing land and finance are consistently identified as the biggest barriers to young farmers and to new entrants to farming (Sutherland, 2023; CEJA 2019; EIP Agri Focus group 2016).

Analyzing the situation of the number of young farmers engaged in agriculture in the EU, we can notice that according to the EU Agriculture in numbers survey conducted by the European Commission (2020), on graph 1, the exact number of young farmers in the EU, analyzing the difference in relation to the gender equality of farmers.



*Graph 1. Age classes of farm managers, by gender (% of all farm managers, EU, 2020).*

*Source: European Commission, 2023.*

If we know that small family farms related to the rural areas are places of residence and work for nearly 50% of the world's population (Borychowski et al., 2020) it is necessary to involve youth people. In the desire to encourage and motivate the engagement of an increasing number of workforce in the agricultural sector, with special reference to the youth, according to the European Commission (2023),



## Book of Proceedings

common agricultural policy (CAP) in the period from 2023 to 2027, is built around ten key objectives, which are basis upon which EU countries designed their CAP Strategic Plans.

The main objectives are (European Commission, 2023):

1. to ensure a fair income for farmers;
2. to increase competitiveness;
3. to improve the position of farmers in the food chain;
4. climate change action;
5. environmental care;
6. to preserve landscapes and biodiversity;
7. to support generational renewal;
8. vibrant rural areas;
9. to protect food and health quality;
10. fostering knowledge and innovation.

In accordance with the stated support goals, financial support is planned for 380,000 young farmers, who will establish agricultural farms in the period from 2023-2027. of which it is planned that the largest number of funds will be allocated to Italy (21.2%), Greece (17.9%) and Poland (13.7%), and the least to Malta (0.1%) and Slovakia (0.3%), while Luxembourg will not have any support.

Agricultural subsidy programs are expected to have a positive impact on agricultural employment because they increase agricultural incomes (Garrone et. al., 2018). But, given that the pandemic crisis has contributed to additional difficult conditions for the work and employment of young people, in addition to planning and financial support, it is very important to look at the wishes and needs of young people to stay in the countryside and engage in agriculture, so that all the efforts made have a long-term results. These reasons will be analyzed on the example of Serbia, through the presentation of the situation of employed youth in the agricultural sector in Serbia.

### ***YOUNG PEOPLE IN AGRICULTURE SECTOR IN SERBIA***

Serbia has a favourable factor and trade conditions for the development of intensive and competitive agriculture (Tošović-Stevanović et al., 2020). In the report of the Ministry of Agriculture, Forestry and Water Management, on the state of agriculture in the Republic of Serbia from 2022, entitled *Green Book - Book I*, the economic results in the agricultural sector are shown, which indicate the gradual recovery of the agricultural sector in Serbia, after the pandemic crisis, but there are still changes and disturbances in the market as a result of the Russian-Ukrainian conflict. The report noted that in 2022, 547.000 employees were recorded in the agriculture and food industry sector (+2% on an annual basis), of which 78.7% were employed in the field of primary agriculture, which indicates a slight growth in the last three years (Ministry of Agriculture, Forestry and Water Management, 2022). According to the same report, it is stated that in 2022, the number of employees in agriculture and the food industry accounted for 18.8% of the total number of employees in Serbia. Regarding the number of employees, the situation is almost identical to the one in 2021, but salaries in 2022 have increased on average by about 5.5 - 12.8%, depending on the production of different products.

The Statistical Office of the Republic of Serbia (2019) conducted a *Survey of Structure, economic strength and marketing of farm products* for 2018, where, according to the basic characteristics of agricultural holdings and available resources, the number of agricultural holdings, information technology equipment, age of the holding of the agricultural holding, education are analyzed manager and type of production. Based on this analysis, the number of 564.541 agricultural farms is singled out (the highest in the Šumadija Region and Western Serbia - 43%, and the lowest in the Belgrade Region - 5%), of which 11.149 agricultural farms use a computer, which represents the low information literacy of farmers, which is primarily a consequence of the unfavorable age structure. In 80% of the holders of agricultural holdings

## Book of Proceedings

are men, and 20% are women, and of that number, 49% acquired knowledge in agriculture through practice and experience gained by working in agriculture, and not through school and education. And a large number (as much as 42%) have completed high school that is not agriculturally oriented and they are engaged in agriculture because they could not get a job in their profession, which means that working in agriculture was not a life commitment for them, but a necessity. According to the same survey, only 3% of the holders of agricultural holdings have completed secondary agricultural school, and only 1% of them have completed higher school or faculty in agriculture. While only 0.24% attended any other type of training and practice. Table 1. shows the numerically gender structure, average age and level of training of agricultural holding managers according to the method and volume of product sales, in total and by region (Statistical Office of the Republic of Serbia, 2019).

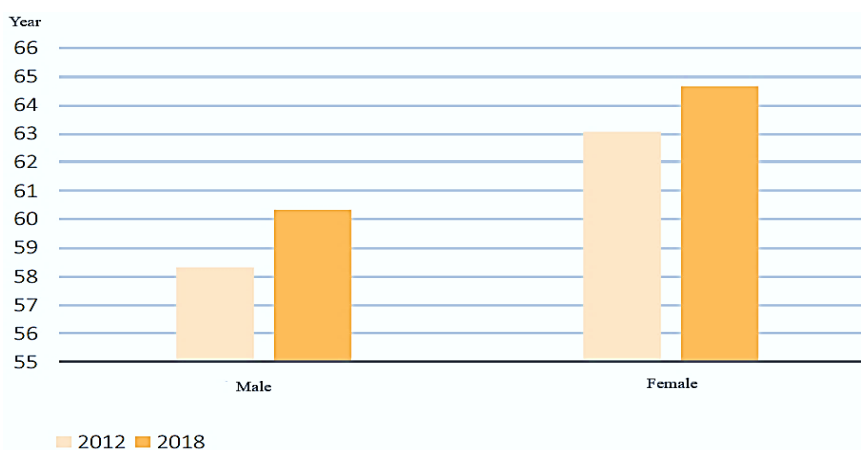
*Table 1. Gender structure, average age and level of training of agricultural holding managers.*

	Republic of Serbia	Region of Belgrade	Region of Vojvodina	Region of Šumadija and Eastern Serbia	The region of Southern and Eastern Serbia	Region of Kosovo and Metohija
Agricultural holding that sell their own products						
Male	352.018	18.140	87.822	161.107	84.948	-
Female	80.657	3.1244	21.396	34.231	21.907	-
Average age of holder of agricultural holding:						
Male	60	60	57	60	61	-
Female	64	63	60	66	64	-
Only experience gained through practice	204.450	6.782	42.746	104.133	50.789	-
Completed courses in the field of agriculture	1.231	59	581	394	197	-
Completed high school from the area of agriculture	15.991	513	8.464	4.402	2.612	-
Completed second high school	184.413	12.361	48.761	76.751	46.540	-

Completed higher school or faculty from the field of agriculture	5.675	320	2.296	1.826	1.232	-
Completed second higher education or other college	20.915	1.229	6.638	7.833	5.485	-

Source: Statistical Office of the Republic of Serbia, 2019.

The research also conducted by the Statistical Office of the Republic of Serbia in 2019, entitled *Survey on the structure of agricultural holdings, 2018: What it confirms, what it refutes and what it points to*, also analyzes data on members of the holdings and on permanently employed persons older than 15 years, with a note that due to the age structure, the most realistic data can be viewed on the managers of the estate, that is, on the persons who make all the decisions. According to the results of this research, the data on the level of training of farmers are confirmed, where the dominant percentage is represented by "practical experience" (49%), but also with completed high school (45%), and here it is not only the percentage of farmers with graduated from an agricultural secondary school, but any secondary school. What also stands out is the percentage of women who run agricultural farms, which, as expected, is much lower than men and amounts to 15% at the level of the whole of Serbia. And when we add to that a comparative view of the average age of the heads of agricultural holdings in both 2012 and 2018 (looking at the data for both sexes), we can once again confirm that the number of young people who stay in the countryside and who decide to work and continuing to manage the agricultural economy (graph 2.).



Graph 2. Comparative presentation of the average age of agricultural holdings in 2012 and 2018.

Source: Statistical Office of the Republic of Serbia, 2019.

According to Statistical Office of the Republic of Serbia (2019), as far as the age structure is concerned, 42.5% of farmers are over 65 years old, 27.9% of them are 55 to 64 years old, 17.8% of farmers are 45-54 years old, and 8 of them .7% are between 35 and 44 years old. Only 3.1% of the total number of farmers are under the age of 35. The largest number of holders of agricultural holdings under the age of 40 is in the region of Šumadija and western Serbia - 8,730.

With the mentioned results from the research carried out by the Statistical Office of the Republic of Serbia, we can for the sake of comparative analysis show the results carried out in 2019 on the example of 550 small farms in the territory of Serbia as part of the international project called *The role of small farms in the sustainable development of agrifood sector in the countries of Central and Eastern Europe*. In the framework of the questionnaire, which consisted of four groups of factors that analyzed issues from the



## Book of Proceedings

areas of: 1) environment. 2) socio-economic position, 3) relationship between agricultural activity, market and risk management and 4) food safety and nutritional quality, we will separate the results from the second group, which are mostly related to specific issues of work. According to those results, out of 550 farmers, 15.64% are women, and even 84.36% are men. In terms of education, of this number, 17.64% have elementary school, 30.36% have high school, 36% have high school, 3.45% have college or university, and 0.91% have a master's degree. Of the 550 farms analyzed, 30% of farmers who manage agricultural farms work outside the farm, the average age is about 55 years old, and as for the structure of household income, of the 550 farms in Serbia, income from agriculture (including subsidies and other forms of financial support to agriculture) are 64.64%.

All the above data, obtained from various reports, speak of a worrying situation regarding the employability of young people on agricultural farms, because the percentage of young people who are interested and motivated to stay and improve their agricultural farms is decreasing year by year. The data expected with the new census of agriculture at the end of 2023 will take into account the situation and the consequences that the pandemic crisis has left on this sector, so only after that we will be able to fully see the directions for a new approach to the strategy and improvement of employment in this extremely important economic segment and greater motivation of young people to build their safe and successful future and career within it.

## CONCLUSIONS

Analyzing the situation of youth employment in the agricultural sector in Serbia and the EU, a common fact is observed, which is the necessity of adequate motivation and provision of resources, which will provide young people with better conditions for life and work and improvement of business within agricultural households.

After the pandemic crisis, for most countries, one of the main priorities was the creation of new jobs, and since young people are a particularly sensitive group, additional efforts were directed towards them. As in the midst of the pandemic crisis, access to arable land and rural life has increased significantly, many believe that it is now necessary to work on this and try to do so with the support of the Government and subsidies, to further empower young people to stay on the farm, because their disinterest, for the most part, comes from due to financial insecurity and difficult working conditions. The lack of interest and trends of reduction, but also the aging of the population in rural and rural areas in Serbia and throughout Europe, lead the Governments of these countries to the necessary intervention defined through grants for starting a business, financial support and subsidies, additional training for young farmers, all with the aim of retaining young people in the countryside and to successfully run agricultural households.

### Acknowledgement

The paper presents findings of a study developed as a part of the research project "Serbia and challenges in international relations in 2023", financed by the Ministry of Education, Science, and Technological Development of the Republic of Serbia, and conducted by Institute of International Politics and Economics, Belgrade.

## REFERENCES

Asadullah, M.N. and Rahman, S. (2009). Farm productivity and efficiency in rural Bangladesh: the role of education revisited. *Applied Economics*, 41(1), 17-33. doi: 10.1080/00036840601019125.



**Book of Proceedings**

Borychowski, M., Stępień, S., Polcyn, J., Tošović-Stevanović, A., Čalović, D., Lalić, G., Žuža, M. (2020). Socio-Economic Determinants of Small Family Farms' Resilience in Selected Central and Eastern European Countries. *Sustainability*, 12, 10362. doi: 10.3390/su122410362 MDPI, Bazel.

CEJA European Council of Young Farmers. (2019) Young Farmers are Key in the Future CAP. <https://wordpress.ceja.eu/wp-content/uploads/2019/09/Final-Young-Farmers-are-Key-in-the-Future-CAP-BW-1.pdf>.

European Commission. (2023). [https://agriculture.ec.europa.eu/common-agricultural-policy/income-support/young-farmers\\_hr#mladi-u-poljoprivredi](https://agriculture.ec.europa.eu/common-agricultural-policy/income-support/young-farmers_hr#mladi-u-poljoprivredi).

European Commission. (2023). Agriculture and rural development. Common agricultural policy - Young farmers. [https://agriculture.ec.europa.eu/common-agricultural-policy/income-support/young-farmers\\_en](https://agriculture.ec.europa.eu/common-agricultural-policy/income-support/young-farmers_en) (15.07.2023.)

EIP Agri Focus group. (2016). New entrants into farming: lessons to foster innovation and entrepreneurship. Final report. Available at: [https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/eip-agri\\_fg\\_new\\_entrants\\_final\\_report\\_2016\\_en.pdf](https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/eip-agri_fg_new_entrants_final_report_2016_en.pdf).

Food and Agriculture Organization of the United Nations – FAO. (2022). Rodna ravnopravnost, poljoprivreda i ruralni razvoj. Budimpešta. <https://doi.org/10.4060/cb7068sr>.

Garrone, M., Emmers, D., Olper, A., Swinnen, J. F. M. (2018). Jobs and agricultural policy: Impact of the common agricultural policy on EU agricultural employment, LICOS Discussion Paper, No. 404, Katholieke Universiteit Leuven, LICOS Centre for Institutions and Economic Performance.

Kočović, J., Rakonjac-Antić, T., Jovović, M. (2016). Mogućnosti razvoja osiguranja poljoprivrede u Srbiji, Stanje i perspektive agroprivrede i sela u Srbiji, Centar za izdavačku delatnost, Ekonomski fakultet, Univerzitet u Beogradu, 205-224. str., ISBN 978-86-403-1510-4.

Tošović-Stevanović A., Ristanović V., Stępień, S. (2022). Social and economic position of smallholders farmers in Serbia. *International Review*, Faculty of Business Economics and Entrepreneurship, Belgrade, 3-4, 42-50. ISSN 2217-9739.

Tošović-Stevanović, A., Čalović, D., Lalić, G., Žuža, M., Cvijanović, G. (2020). Comparative analysis of the economic potential of the small and family farms in the republic of Serbia and Romania, *Economics of Agriculture*, 67(3), 667-681. doi:10.5937/ekoPolj2003667T. UDC 338.22:631.115.11 (497.11) (498).

Statistical Office of the Republic of Serbia, SORS. (2019). Survey on the structure of agricultural holdings, 2018: What it confirms, what it refutes and what it points to. Statistical Office of the Republic of Serbia, Belgrade.

Statistical Office of the Republic of Serbia, SORS. (2019). Survey of Structure, economic strength and marketing of farm products. Statistical Office of the Republic of Serbia, Belgrade.

Sutherland, L.A. (2023). Who do we want our 'new generation' of farmers to be? The need for demographic reform in European agriculture. *Agricultural and Food Economics*, 11(3). <https://doi.org/10.1186/s40100-023-00244-z>.





Book of Proceedings

***PERFORMANCE TRADE OF THE EUROPEAN UNION AND SERBIA – METHODOLOGICAL AND EMPIRICAL ANALYSIS***

*Dragana Vojteški Kljenak<sup>1</sup>  
Radojko Lukić<sup>2</sup>*

***ABSTRACT***

*It is challenging to investigate trading performance using different multi-criteria decision-making methods. In this way, considering the comparison of a large number of alternatives in relation to several criteria, a more realistic knowledge of trade performance is gained in the function of improvement in the future by applying relevant measures. Based on that, this paper analyzes the trade performance of the countries of the European Union and Serbia based on the LMAW-DNMA method. According to the results of the LMAW-DNMA method, the top five countries of the European Union in terms of trade performance include: France, Spain, Germany, Italy and the Netherlands. In terms of trade performance, the leading countries of the European Union (Germany, France and Italy) are well positioned. Malata is in the last place in this respect. In terms of trade performance, Croatia is better positioned than Slovenia. Serbia ranked twenty-second in terms of trade performance. It is positioned worse than Croatia, but it is better than Slovenia. Numerous factors influenced the performance positioning of the trade of the countries of the European Union and Serbia. These are: political and economic climate, foreign direct investments, asset management, new business models (multichannel sales, private label, sales of organic products), new concepts of cost, sales and profit management (calculation of costs by activity, customer management, category management products, etc.), the Covid-19 pandemic, the energy crisis, etc. A key factor is the digitization of the entire business. The target profit can be achieved by adequate control of these and other critical factors of business success.*

**Key words :** *performance, determinants, trade European Union and Serbia, LMAW-DNMA method*

**JEL classification :** *L81, M31, M41, O32*

***INTRODUCTION***

Research on the determinants of the trade performance of the countries of the European Union and Serbia is very current, significant and complex. At the same time, during the empirical analysis, different methodologies can be used. In this paper, the analysis of the trade performance of the countries of the European Union and Serbia is performed on the basis of the LMAW-DNMA method. For the reason that, generally speaking, the methods of multi-criteria analysis provide a realistic assessment of the situation related to the treated problem, i.e. in our case, by measuring and analyzing the trade performance of European Union countries and Serbia.

There is an increasingly developed literature devoted to the problem of measuring and analyzing the performance of companies from all sectors, which means trade, using various multi-criteria decision-making methods, including LMAW-DNMA methods. They are increasingly applied when solving complex decision-making problems, in addition to classical financial analysis ( Harangi-Rákos & Fenyves, 2021; Lucas & Ramires, 2022; Baicu et al., 2022; Marques et al., 2022; Maxim, 2021; Senapati & Yager, 2020;

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, dragana.vojteski@vspep.edu.rs

<sup>2</sup> University of Belgrade, Faculty of Economics, Belgrade, Serbia, radojko.lukic@ekof.bg.ac.rs ,



## Book of Proceedings

Senapati & Yager, 2019a; Senapati & Yager, 2019b ; Zardari et al., 2014; Chakraborty & Zavadskas, 2014; Urosevic, 2017) . Lately, due to a prominent feature - the accuracy of measuring results, their application is increasing in the evaluation of performance and efficiency of trade (Saaty, 2008; Ersoy, 2017; Gaur et al., 2020; Görçün et al., 2022; Lukic et al. , 2020; Lukic & Hadrovic Zekovic, 2021, 2022; Lukic, 2021a,b, 2022a,b,c,d, e,f,g; Lukic et al., 2021; Vojteški Kljenak & Lukić, 2022). All the relevant literature serves as a theoretical, methodological and empirical basis for researching the trade performance of the countries of the European Union and Serbia.

Bearing in mind the managerial importance of determining the most accurate result by applying individual or integrated methods of multi-criteria decision-making, the subject of research in this paper is a comparative analysis of the trade performance of the countries of the European Union and Serbia using the LMAW-DNMA method. The aim and purpose of this is to look at the given problem as complex as possible and propose an adequate solution in order to improve the trade performance of the countries of the European Union and Serbia by applying relevant measures.

The basic research hypothesis in this paper is reflected in the fact that determining the most accurate result is a fundamental assumption for improving the trade performance of the countries of the European Union and Serbia by applying adequate measures. The LMAW-DNMA method plays a significant role in this. The necessary empirical data for the research of the treated problem in this work were collected from Eurostat. They are "produced" according to a unique relevant methodology and, considering that, there are no restrictions regarding the international comparison of the obtained results.

## METHODOLOGY

In this paper, the LMAW and DNMA methods are used to measure and analyze the trade performance of the countries of the European Union and Serbia. In the further presentation of the treated issues, we will point out their characteristics.

### *LMAW method*

The LMAW method is the latest method used to calculate criteria weights and rank alternatives ( Liao, & Wu, 2020; Demir, 2022). It takes place through the following steps :  $m$  alternatives  $A = \{A_1, A_2, \dots, A_m\}$  are evaluated in comparison with  $n$  criteria  $C = \{C_1, C_2, \dots, C_n\}$  with the participation of  $k$  experts  $E = \{E_1, E_2, \dots, E_k\}$  and according to a predefined linguistic scale ( Pamučar et al, 2021) .

#### **Step 1:** Determination of weight coefficients of criteria

Experts  $E = \{E_1, E_2, \dots, E_k\}$  set priorities with criteria  $C = \{C_1, C_2, \dots, C_n\}$  in relation to previously defined values of the linguistic scale. At the same time, they assign a higher value to the criterion of greater importance and a lower value to the criterion of less importance on the linguistic scale. By the way, the priority vector is obtained. The label  $\gamma_{cn}^e$  represents the value of the linguistic scale that the expert  $e$  ( $1 \leq e \leq k$ ) assigns to the criterion  $C_t$  ( $1 \leq t \leq n$ ).

#### **Step 1.1:** Defining the absolute anti-ideal point $\gamma_{AIP}$

The absolute ideal point should be less than the smallest value in the priority vector. It is calculated according to the equation:

$$\gamma_{AIP} = \frac{\gamma_{min}^e}{S}$$

where is  $\gamma_{min}^e$  the minimum value of the priority vector and  $S$  should be greater than the base logarithmic function. In the case of using the function Ln, the value of  $S$  can be chosen as 3.

#### **Step 1.2 :** Determining the relationship between the priority vector and the absolute anti-ideal point

The relationship between the priority vector and the absolute anti-ideal point is calculated using the following equation:

$$n_{c_n}^e = \frac{\gamma_{c_n}^e}{\gamma_{AIP}} \quad (1)$$

So the relational vector  $R^e = (n_{c_1}^e, n_{c_2}^e, \dots, n_{c_n}^e)$  is obtained. Where it  $n_{c_n}^e$  represents the value of the real vector derived from the previous equation.

**Step 1.3:** Determination of the vector of weight coefficients

The vector of weight coefficients  $w = (w_1, w_2, \dots, w_n)^T$  is calculated by the expert  $e (1 \leq e \leq k)$  using the following equation:

$$w_j^e = \frac{\log_A(n_{c_n}^e)}{\log_A(\prod_{j=1}^n n_{c_n}^e)}, A > 1 \quad (2)$$

where  $w_j^e$  it represents the weighting coefficients obtained according to expert evaluations  $e^{th}$  and the  $n_{c_n}^e$  elements of the realization vector  $R$ . The obtained values for the weighting coefficients must meet the condition that  $\sum_{j=1}^n w_j^e = 1$ .

By applying the Bonferroni aggregator shown in the following equation, the aggregated vector of weight coefficients is determined  $w = (w_1, w_2, \dots, w_n)^T$  :

$$W_j = \left( \frac{1}{k \cdot (k-1)} \cdot \sum_{x=1}^k (w_j^{(x)})^p \cdot \sum_{\substack{y=1 \\ y \neq x}}^k (w_j^{(y)})^q \right)^{\frac{1}{p+q}} \quad (3)$$

The value of  $p$  and  $q$  are stabilization parameters and  $p, q \geq 0$ . The resulting weight coefficients should fulfill the condition that  $\sum_{j=1}^n w_j = 1$ .

### ***DNMA method***

DNMA is a newer method for identifying alternatives (Demir, 2022). Two different normalized (linear and vector) techniques are used, as well as three different coupling functions (full compensation - CCM, non-compensation - UCM and incomplete compensation - ICM). The steps of applying this method are as follows ( Liao & Wu, 2020; Ecer, 2020):

**Step 1:** Normalized decision matrix

The elements of the decision matrix are normalized with linear ( $\hat{x}_{ij}^{1N}$ ) normalization using the following equation:

$$\hat{x}_{ij}^{1N} = 1 - \frac{|x^{ij} - r_j|}{\max\{\max_i x^{ij}, r_j\} - \min\{\min_i x^{ij}, r_j\}} \quad (4)$$

The vector ( $\hat{x}_{ij}^{2N}$ ) is normalized using the following equation:

$$\hat{x}_{ij}^{2N} = 1 - \frac{|x^{ij} - r_j|}{\sqrt{\sum_{i=1}^m (x^{ij})^2 + (r_j)^2}} \quad (5)$$

The value  $r_j$  is the target value for  $c_j$  the criterion and is considered  $\max_i x^{ij}$  for both utility and  $\min_i x^{ij}$  cost criteria.

**Step 2:** Determining the weight of the criteria

This step consists of three phases:

### Book of Proceedings

**Step 2.1:** In this phase, the standard deviation ( $\sigma_j$ ) for the criterion  $c_j$  is determined with the following equation where  $m$  is the number of alternatives:

$$\sigma_j = \sqrt{\frac{\sum_{i=1}^m \left( \frac{x^{ij}}{\max_i x^{ij}} - \frac{1}{m} \sum_{i=1}^m \left( \frac{x^{ij}}{\max_i x^{ij}} \right) \right)^2}{m}} \quad (6)$$

**Step 2.2:** Values of the standard deviation calculated for the criteria are normalized with the following equation:

$$w_j^\sigma = \frac{\sigma_j}{\sum_{i=1}^n \sigma_j} \quad (7)$$

**Step 2.3:** Finally, the weights are adjusted with the following equation:

$$\hat{w}_j = \frac{\sqrt{w_j^\sigma \cdot w_j}}{\sum_{i=1}^n \sqrt{w_j^\sigma \cdot w_j}} \quad (8)$$

**Step 3:** Calculating the aggregation model

Three aggregation functions (CCM, UCM and ICM) are calculated separately for each alternative.

The CCM (Complete Compensation Model) is calculated using the following equation:

$$u_1(a_i) = \sum_{j=1}^n \frac{\hat{w}_j \cdot \hat{x}_{ij}^{1N}}{\max_i \hat{x}_{ij}^{1N}} \quad (9)$$

The UCM (non-compensatory model) is calculated using the following equation:

$$u_2(a_i) = \max_j \hat{w}_j \left( \frac{1 - \hat{x}_{ij}^{1N}}{\max_i \hat{x}_{ij}^{1N}} \right) \quad (10)$$

The ICM (Incomplete Compensation Model) is calculated using the following equation:

$$u_3(a_i) = \prod_{j=1}^n \left( \frac{\hat{x}_{ij}^{2N}}{\max_i \hat{x}_{ij}^{2N}} \right)^{\hat{w}_j} \quad (11)$$

**Step 4:** Integration of utility values

The calculated utility functions are integrated with the following equation using the Euclidean principle of distance:

$$DN_i = w_1 \sqrt{\varphi \left( \frac{u_1(a_i)}{\max_i u_1(a_i)} \right)^2 + (1 - \varphi) \left( \frac{m - r_1(a_i) + 1}{m} \right)^2} - w_2 \sqrt{\varphi \left( \frac{u_2(a_i)}{\max_i u_2(a_i)} \right)^2 + (1 - \varphi) \left( \frac{r_2(a_i)}{m} \right)^2} + w_3 \sqrt{\varphi \left( \frac{u_3(a_i)}{\max_i u_3(a_i)} \right)^2 + (1 - \varphi) \left( \frac{m - r_3(a_i) + 1}{m} \right)^2} \quad (12)$$

In this case, the means  $r_1(a_i)$  and  $r_3(a_i)$  represent the ordinal number of the alternative  $a_i$  sorted by CCM and ICM functions in descending value (higher value first). On the other hand,  $r_2(a_i)$  shows the sequence number in the obtained order according to the increasing value (smaller value first) for the UCM function used. The label  $\varphi$  is the relative importance of the child value used and is in the range [0.1]. It is considered that it can be taken as  $\varphi = 0.5$ . The coefficients  $w_1, w_2, w_3$  are obtained weights of the used

functions CCM, UCM and ICM, respectively. The sum should be equal  $w_1 + w_2 + w_3 = 1$ . When determining the weights, if the decision maker attaches importance to a wider range of performance alternatives, he can set a higher value for  $w_1$ . In case the decision maker is not willing to take risks, ie. to choose a poor alternative according to some criterion, he can assign a higher weight to  $w_2$ . However, the decision maker may assign a greater weight to  $w_3$  if he simultaneously considers overall performance and risk. Finally, the *DN* values are sorted in descending order, with the higher value alternatives being the best.

## RESULTS AND DISCUSSION

In the context of the analysis of the treated problem in this paper, by changing the LMAW-DNMA method, the following criteria were used: C1 - number of companies, C2 - number of employees, C3 - personnel costs, C4 - turnover and C5 - added value. According to Eurostat statistics, they are key performance indicators. In addition, they correspond to the very nature of trade operations. Alternatives are the countries of the European Union and Serbia. Criteria, alternatives and initial data are shown in Table 1 for 2020.

Table 1. Key performance indicators

		Company number	Number of employees	Personnel costs – million euros	Turnover - million euros	Added value – million euros
		C1	C2	C3	C4	C5
A1	Belgium	144,610	646,944	26,719.0	472,683.6	53,268.5
A2	Bulgaria	138,125	498,112	3,352.4	67,379.3	7,350.6
A3	Czechia	224,407	720,273	10,774.2	159,941.2	19,844.7
A4	Denmark	40,496	470,203	20,572.3	187,951.8	31,628.9
A5	Germany	542,120	6,513,411	205,616.5	2,119,183.7	330,287.8
A6	Estonia	18,359	95,311	1,696.4	26,936.4	2,932.3
A7	Ireland	46,792	372,853	11,046.2	183,495.2	27,084.5
A8	Greece	221,763	747,649	8,471.1	106,976.0	12,734.2
A9	Spain	725,581	3,116,479	72,120.5	726,551.3	109,798.3
A10	France	697,283	3,565,852	139,143.7	1,331,409.7	193,620.0
A11	Croatia	35,393	238,580	3,182.7	35,379.7	5,822.6
A12	Italy	1,043,209	3,357,013	70,509.9	945,227.6	132,334.7
A13	Cyprus	16,895	72,127	1,301.5	12,673.7	2,079.2
A14	Latvia	25,272	148,270	1,753.3	28,555.4	3,110.8
A15	Lithuania	56,007	239,825	2,903.4	41,122.8	5,651.6
A16	Luxembourg	7,492	54,510	2,586.5	74,336.3	5,519.6
A17	Hungary	137,046	575,367	6,462.6	104,756.1	12,739.3
A18	Malta	8,297	36,480	594.7	8,603.8	993.6
A19	Netherlands	278,018	1,581,762	51,722.5	691,536.8	97,577.5
A20	Austria	76,938	676,322	25,727.4	249,457.7	39,101.8
A21	Poland	530,930	2,386,186	26,541.6	421,418.6	58,069.2
A22	Portugal	215,033	798,826	12,601.7	140,636.0	19,040.0
A23	Romania	174,754	889,711	8,392.9	128,164.3	19,613.7
A24	Slovenia	25,787	121,518	2,811.3	34,082.1	4,537.5
A25	Slovakia	102,841	327,772	4,270.7	58,303.8	7,558.2
A26	Finland	39,580	288,256	10,983.2	118,489.1	16,816.5
A27	Sweden	113,084	663,681	29,439.6	269,750.9	43,917.2
A28	Serbia	29,975	273,189	2,340.7	36,658.5	4,371.0

Source: Eurostat

Table 2 shows the prioritization scale.

Table 2. Prioritization scale

Prioritization Scale	Abbreviation	Prioritization
Linguistic Variables		
Absolutely Low	AL	1
Very Low	VL	1.5

## Book of Proceedings

Low	L	2
Medium	M	2.5
Equal	E	3
Medium High	MH	3.5
High	H	4
Very High	VH	4.5
Absolutely High	AH	5

Table 3 shows the evaluation of criteria by decision makers and their weighting coefficients. (In this paper, all calculations and results are the author's.)

*Table 3. Evaluation, Weight Coefficients Vector, Aggregated Fuzzy Vectors and Aggregated Weight Coefficient Vectors*

KIND	1	1	-1	1	1	
	C1	C2	C3	C4	C5	
E1	H	AH	H	E	MH	
E2	VH	VH	MH	H	H	
E3	E	MH	VH	AH	AH	
E4	MH	E	E	VH	AH	
YAIP	0.5					
	C1	C2	C3	C4	C5	LN( $\Pi_j$ )
R1	8	10	8	6	7	10.199
R2	9	9	7	8	8	10.499
R3	6	7	9	10	10	10.540
R4	7	6	6	9	10	10.029
<b>Weight Coefficients Vector</b>	C1	C2	C3	C4	C5	
W1j	0.204	0.226	0.204	0.176	0.191	
W2j	0.209	0.209	0.185	0.198	0.198	
W3j	0.170	0.185	0.208	0.218	0.218	
W4j	0.194	0.179	0.179	0.219	0.230	
<b>Aggregated Fuzzy Vectors</b>	C1	C2	C3	C4	C5	
W1j	0.010	0.011	0.010	0.009	0.010	
W2j	0.010	0.010	0.009	0.010	0.011	
W3j	0.009	0.009	0.010	0.011	0.011	
W4j	0.009	0.009	0.009	0.011	0.012	
SUM	0.038	0.040	0.038	0.041	0.044	
<b>Aggregated Weight Coefficient Vectors</b>	<b>0.1941</b>	<b>0.1993</b>	<b>0.1940</b>	<b>0.2026</b>	<b>0.2090</b>	

Table 4 shows the initial matrix.

*Table 4. Initial Matrix*

Initial Matrix	KIND	1	1	-1	1	1
	Weight	0.1941	0.1993	0.1940	0.2026	0.2090
		C1	C2	C3	C4	C5
	A1	144,610	646,944	26,719.00	472,683.60	53,268.50
	A2	138,125	498,112	3,352.40	67,379.30	7,350.60
	A3	224,407	720,273	10,774.20	159,941.20	19,844.70
	A4	40,496	470,203	20,572.30	187,951.80	31,628.90
	A5	542,120	6,513,411	205,616.50	2,119,183.70	330,287.80
	A6	18,359	95,311	1,696.40	26,936.40	2,932.30
	A7	46,792	372,853	11,046.20	183,495.20	27,084.50
	A8	221,763	747,649	8,471.10	106,976.00	12,734.20
	A9	725,581	3,116,479	72,120.50	726,551.30	109,798.30





Book of Proceedings

	A10	697,283	3,565,852	139,143.70	1,331,409.70	193,620.00
	A11	35,393	238,580	3,182.70	35,379.70	5,822.60
	A12	1,043,209	3,357,013	70,509.90	945,227.60	132,334.70
	A13	16,895	72,127	1,301.50	12,673.70	2,079.20
	A14	25,272	148,270	1,753.30	28,555.40	3,110.80
	A15	56,007	239,825	2,903.40	41,122.80	5,651.60
	A16	7,492	54,510	2,586.50	74,336.30	5,519.60
	A17	137,046	575,367	6,462.60	104,756.10	12,739.30
	A18	8,297	36,480	594.7	8,603.80	993.6
	A19	278,018	1,581,762	51,722.50	691,536.80	97,577.50
	A20	76,938	676,322	25,727.40	249,457.70	39,101.80
	A21	530,930	2,386,186	26,541.60	421,418.60	58,069.20
	A22	215,033	798,826	12,601.70	140,636.00	19,040.00
	A23	174,754	889,711	8,392.90	128,164.30	19,613.70
	A24	25,787	121,518	2,811.30	34,082.10	4,537.50
	A25	102,841	327,772	4,270.70	58,303.80	7,558.20
	A26	39,580	288,256	10,983.20	118,489.10	16,816.50
	A27	113,084	663,681	29,439.60	269,750.90	43,917.20
	A28	29,975	273,189	2,340.70	36,658.50	4,371.00
	<b>MAX</b>	1043209.0000	6513411.0000	205616.5000	2119183.7000	330287.8000
	<b>MIN</b>	7492.0000	36480.0000	594.7000	8603.8000	993.6000

Table 5 shows the linear normalized matrix.

Table 5. Linear Normalized Matrix

Linear Normalization Matrix		C1	C2	C3	C4	C5	MAX
	A1	0.1324	0.0943	0.8726	0.2199	0.1587	0.8726
A2	0.1261	0.0713	0.9865	0.0278	0.0193	0.9865	
A3	0.2094	0.1056	0.9503	0.0717	0.0572	0.9503	
A4	0.0319	0.0670	0.9026	0.0850	0.0930	0.9026	
A5	0.5162	1.0000	0.0000	1.0000	1.0000	1.0000	
A6	0.0105	0.0091	0.9946	0.0087	0.0059	0.9946	
A7	0.0379	0.0519	0.9490	0.0829	0.0792	0.9490	
A8	0.2069	0.1098	0.9616	0.0466	0.0357	0.9616	
A9	0.6933	0.4755	0.6511	0.3402	0.3304	0.6933	
A10	0.6660	0.5449	0.3242	0.6267	0.5850	0.6660	
A11	0.0269	0.0312	0.9874	0.0127	0.0147	0.9874	
A12	1.0000	0.5127	0.6590	0.4438	0.3989	1.0000	
A13	0.0091	0.0055	0.9966	0.0019	0.0033	0.9966	
A14	0.0172	0.0173	0.9943	0.0095	0.0064	0.9943	
A15	0.0468	0.0314	0.9887	0.0154	0.0141	0.9887	
A16	0.0000	0.0028	0.9903	0.0311	0.0137	0.9903	
A17	0.1251	0.0832	0.9714	0.0456	0.0357	0.9714	
A18	0.0008	0.0000	1.0000	0.0000	0.0000	1.0000	
A19	0.2612	0.2386	0.7506	0.3236	0.2933	0.7506	
A20	0.0671	0.0988	0.8774	0.1141	0.1157	0.8774	
A21	0.5054	0.3628	0.8734	0.1956	0.1733	0.8734	
A22	0.2004	0.1177	0.9414	0.0626	0.0548	0.9414	
A23	0.1615	0.1317	0.9620	0.0566	0.0565	0.9620	
A24	0.0177	0.0131	0.9892	0.0121	0.0108	0.9892	
A25	0.0921	0.0450	0.9821	0.0235	0.0199	0.9821	
A26	0.0310	0.0389	0.9493	0.0521	0.0481	0.9493	
A27	0.1020	0.0968	0.8593	0.1237	0.1304	0.8593	
A28	0.0217	0.0365	0.9915	0.0133	0.0103	0.9915	

Table 6 shows the normalized matrix vector.

Table 6. Vector Normalization Matrix

Vector Normalization Matrix		C1	C2	C3	C4	C5	MAX
	A1	0.5573	0.4893	0.9068	0.5498	0.5010	0.9068
	A2	0.5541	0.4763	0.9902	0.4390	0.4183	0.9902
	A3	0.5966	0.4957	0.9637	0.4643	0.4408	0.9637
	A4	0.5060	0.4739	0.9288	0.4720	0.4620	0.9288
	A5	0.7531	1.0000	0.2689	1.0000	1.0000	1.0000
	A6	0.4951	0.4412	0.9961	0.4280	0.4103	0.9961
	A7	0.5091	0.4654	0.9627	0.4708	0.4538	0.9627
	A8	0.5953	0.4980	0.9719	0.4499	0.4280	0.9719
	A9	0.8435	0.7043	0.7449	0.6192	0.6028	0.8435
	A10	0.8296	0.7434	0.5059	0.7846	0.7538	0.8296
	A11	0.5034	0.4537	0.9908	0.4303	0.4155	0.9908
	A12	1.0000	0.7252	0.7507	0.6790	0.6434	1.0000
	A13	0.4943	0.4392	0.9975	0.4241	0.4088	0.9975
	A14	0.4985	0.4459	0.9959	0.4284	0.4106	0.9959
	A15	0.5136	0.4538	0.9918	0.4319	0.4152	0.9918
	A16	0.4897	0.4377	0.9929	0.4409	0.4150	0.9929
	A17	0.5535	0.4830	0.9791	0.4492	0.4280	0.9791
	A18	0.4901	0.4361	1.0000	0.4230	0.4068	1.0000
	A19	0.6230	0.5707	0.8177	0.6097	0.5808	0.8177
	A20	0.5239	0.4918	0.9104	0.4888	0.4755	0.9104
	A21	0.7476	0.6407	0.9075	0.5358	0.5096	0.9075
	A22	0.5920	0.5025	0.9572	0.4591	0.4393	0.9572
	A23	0.5721	0.5104	0.9722	0.4556	0.4404	0.9722
	A24	0.4987	0.4435	0.9921	0.4299	0.4132	0.9921
	A25	0.5367	0.4615	0.9869	0.4365	0.4187	0.9869
	A26	0.5055	0.4580	0.9630	0.4530	0.4353	0.9630
	A27	0.5417	0.4907	0.8971	0.4944	0.4841	0.8971
	A28	0.5008	0.4567	0.9938	0.4306	0.4129	0.9938
	Adj Wj	0.2067	0.1984	0.1953	0.1995	0.2002	

Table 7 shows the CCM (Complete Compensatory Model).

Table 7. CCM (Complete Compensatory Model)

CCM	u1(ai)	C1	C2	C3	C4	C5	SUM
	A1	0.0314	0.0214	0.1953	0.0503	0.0364	0.3348
	A2	0.0264	0.0143	0.1953	0.0056	0.0039	0.2456
	A3	0.0455	0.0220	0.1953	0.0151	0.0121	0.2900
	A4	0.0073	0.0147	0.1953	0.0188	0.0206	0.2567
	A5	0.1067	0.1984	0.0000	0.1995	0.2002	0.7047
	A6	0.0022	0.0018	0.1953	0.0017	0.0012	0.2022
	A7	0.0083	0.0109	0.1953	0.0174	0.0167	0.2485
	A8	0.0445	0.0226	0.1953	0.0097	0.0074	0.2795
	A9	0.2067	0.1360	0.1834	0.0979	0.0954	0.7194
	A10	0.2067	0.1623	0.0951	0.1878	0.1758	0.8276
	A11	0.0056	0.0063	0.1953	0.0026	0.0030	0.2127
	A12	0.2067	0.1017	0.1287	0.0885	0.0798	0.6054
	A13	0.0019	0.0011	0.1953	0.0004	0.0007	0.1993
	A14	0.0036	0.0034	0.1953	0.0019	0.0013	0.2055
	A15	0.0098	0.0063	0.1953	0.0031	0.0029	0.2174
	A16	0.0000	0.0006	0.1953	0.0063	0.0028	0.2049
	A17	0.0266	0.0170	0.1953	0.0094	0.0073	0.2556
	A18	0.0002	0.0000	0.1953	0.0000	0.0000	0.1954
	A19	0.0719	0.0630	0.1953	0.0860	0.0782	0.4945
	A20	0.0158	0.0223	0.1953	0.0259	0.0264	0.2858

	A21	0.1196	0.0824	0.1953	0.0447	0.0397	0.4817
	A22	0.0440	0.0248	0.1953	0.0133	0.0117	0.2890
	A23	0.0347	0.0272	0.1953	0.0117	0.0118	0.2807
	A24	0.0037	0.0026	0.1953	0.0024	0.0022	0.2062
	A25	0.0194	0.0091	0.1953	0.0048	0.0041	0.2326
	A26	0.0067	0.0081	0.1953	0.0109	0.0101	0.2312
	A27	0.0245	0.0224	0.1953	0.0287	0.0304	0.3013
	A28	0.0045	0.0073	0.1953	0.0027	0.0021	0.2119

Table 8 shows the UCM (Uncompensatory Model)

*Table 8. UCM (Uncompensatory Model)*

UCM	u2(ai)	C1	C2	C3	C4	C5	MAX
	A1	0.1753	0.1769	0.0000	0.1492	0.1637	0.1769
A2	0.1803	0.1840	0.0000	0.1939	0.1962	0.1962	
A3	0.1611	0.1763	0.0000	0.1845	0.1881	0.1881	
A4	0.1994	0.1836	0.0000	0.1807	0.1795	0.1994	
A5	0.1000	0.0000	0.1953	0.0000	0.0000	0.1953	
A6	0.2045	0.1965	0.0000	0.1978	0.1990	0.2045	
A7	0.1984	0.1875	0.0000	0.1821	0.1834	0.1984	
A8	0.1622	0.1757	0.0000	0.1898	0.1927	0.1927	
A9	0.0000	0.0623	0.0119	0.1016	0.1048	0.1048	
A10	0.0000	0.0361	0.1002	0.0118	0.0244	0.1002	
A11	0.2010	0.1921	0.0000	0.1969	0.1972	0.2010	
A12	0.0000	0.0967	0.0666	0.1110	0.1203	0.1203	
A13	0.2048	0.1973	0.0000	0.1991	0.1995	0.2048	
A14	0.2031	0.1949	0.0000	0.1976	0.1989	0.2031	
A15	0.1969	0.1921	0.0000	0.1964	0.1973	0.1973	
A16	0.2067	0.1978	0.0000	0.1932	0.1974	0.2067	
A17	0.1801	0.1814	0.0000	0.1902	0.1928	0.1928	
A18	0.2065	0.1984	0.0000	0.1995	0.2002	0.2065	
A19	0.1348	0.1353	0.0000	0.1135	0.1219	0.1353	
A20	0.1909	0.1760	0.0000	0.1736	0.1738	0.1909	
A21	0.0871	0.1160	0.0000	0.1548	0.1604	0.1604	
A22	0.1627	0.1736	0.0000	0.1863	0.1885	0.1885	
A23	0.1720	0.1712	0.0000	0.1878	0.1884	0.1884	
A24	0.2030	0.1957	0.0000	0.1971	0.1980	0.2030	
A25	0.1873	0.1893	0.0000	0.1947	0.1961	0.1961	
A26	0.1999	0.1902	0.0000	0.1886	0.1900	0.1999	
A27	0.1822	0.1760	0.0000	0.1708	0.1698	0.1822	
A28	0.2022	0.1910	0.0000	0.1968	0.1981	0.2022	

Table 9 shows the ICM (Incomplete Compensatory Model).

*Table 9. ICM (Incomplete Compensatory Model)*

ICM	u3(ai)	C1	C2	C3	C4	C5	MAX
	A1	0.9043	0.8848	1.0000	0.9050	0.8880	0.6430
A2	0.8869	0.8649	1.0000	0.8502	0.8416	0.5489	
A3	0.9056	0.8764	1.0000	0.8644	0.8551	0.5867	
A4	0.8820	0.8751	1.0000	0.8737	0.8696	0.5864	
A5	0.9431	1.0000	0.7737	1.0000	1.0000	0.7297	
A6	0.8655	0.8509	1.0000	0.8449	0.8373	0.5210	
A7	0.8766	0.8657	1.0000	0.8670	0.8602	0.5660	
A8	0.9036	0.8758	1.0000	0.8575	0.8486	0.5759	
A9	1.0000	0.9648	0.9760	0.9402	0.9350	0.8278	
A10	1.0000	0.9785	0.9079	0.9889	0.9810	0.8619	
A11	0.8694	0.8565	1.0000	0.8467	0.8404	0.5298	



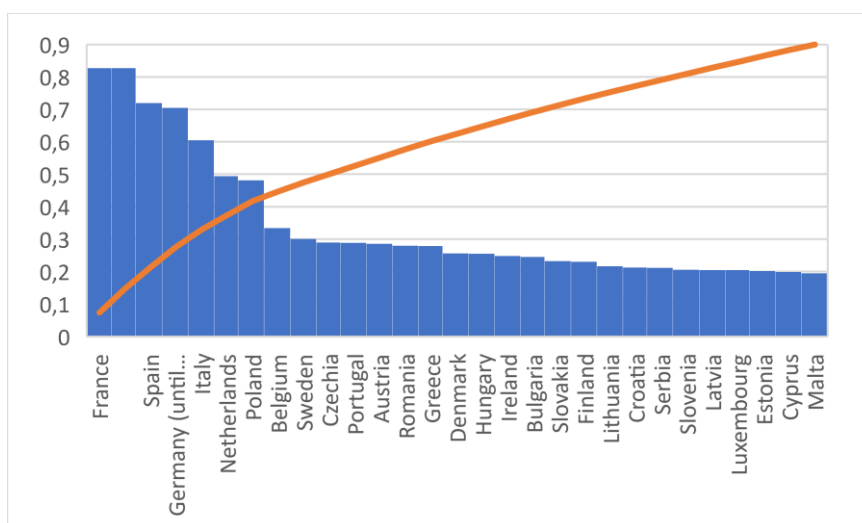
## Book of Proceedings

	A12	1.0000	0.9383	0.9455	0.9257	0.9155	0.7518
	A13	0.8649	0.8499	1.0000	0.8431	0.8365	0.5184
	A14	0.8667	0.8527	1.0000	0.8451	0.8375	0.5231
	A15	0.8728	0.8564	1.0000	0.8472	0.8401	0.5319
	A16	0.8641	0.8500	1.0000	0.8505	0.8398	0.5246
	A17	0.8888	0.8692	1.0000	0.8561	0.8474	0.5604
	A18	0.8630	0.8482	1.0000	0.8423	0.8353	0.5149
	A19	0.9453	0.9311	1.0000	0.9431	0.9338	0.7752
	A20	0.8921	0.8850	1.0000	0.8833	0.8781	0.6124
	A21	0.9607	0.9333	1.0000	0.9002	0.8909	0.7191
	A22	0.9054	0.8800	1.0000	0.8636	0.8557	0.5888
	A23	0.8962	0.8800	1.0000	0.8597	0.8534	0.5786
	A24	0.8675	0.8524	1.0000	0.8463	0.8392	0.5252
	A25	0.8817	0.8600	1.0000	0.8498	0.8423	0.5428
	A26	0.8753	0.8630	1.0000	0.8603	0.8531	0.5544
	A27	0.9010	0.8872	1.0000	0.8879	0.8839	0.6273
	A28	0.8679	0.8571	1.0000	0.8463	0.8388	0.5281

Table 10 and Figure 1 shows the results of the LMAW-DNMA method.

Table 10. Results of the LMAW-DNMA method

											w1	w2	w3	
											0.6	0.1	0.3	
		CCM		$\phi$	UCM		$\phi$	ICM		$\phi$	Utility Values		Rank Order	
		u1(ai)	Rank	0.5	u2(ai)	Rank	0.5	u3(ai)	Rank	0.5				
BEL	A1	0.334	7	0.62	0.176	6	0.62	0.643	7	0.76	0.66	0.6672	7	
BG	A2	0.245	17	0.368	0.196	16	0.78	0.548	18	0.52	0.45	0.4582	17	
CZ	A3	0.290	9	0.56	0.188	8	0.67	0.586	11	0.66	0.60	0.6036	9	
DK	A4	0.256	14	0.43	0.199	19	0.83	0.586	12	0.64	0.53	0.5395	13	
GER	A5	0.704	3	0.89	0.195	14	0.75	0.729	5	0.85	0.86	0.8657	3	
EST	A6	0.202	26	0.18	0.204	25	0.94	0.521	26	0.43	0.33	0.3376	26	
IRL	A7	0.248	16	0.39	0.198	18	0.81	0.566	15	0.58	0.49	0.4914	16	
GR	A8	0.279	13	0.46	0.192	12	0.72	0.575	14	0.60	0.53	0.5359	14	
ESP	A9	0.719	2	0.91	0.104	2	0.36	0.827	2	0.96	0.87	0.8757	2	
FRA	A10	0.827	1	1.00	0.100	1	0.34	0.861	1	1.00	0.93	0.9344	1	
CRO	A11	0.212	21	0.27	0.201	21	0.86	0.529	21	0.47	0.39	0.3937	21	
ITA	A12	0.605	4	0.81	0.120	3	0.41	0.751	4	0.88	0.79	0.7964	4	
CYP	A13	0.199	27	0.17	0.204	26	0.96	0.518	27	0.42	0.33	0.3311	27	
LVA	A14	0.205	24	0.21	0.203	24	0.92	0.523	25	0.44	0.35	0.3542	25	
LTU	A15	0.217	20	0.29	0.197	17	0.79	0.531	20	0.49	0.40	0.4037	20	
LUX	A16	0.204	25	0.20	0.206	28	1.00	0.524	24	0.44	0.35	0.3558	24	
HU	A17	0.255	15	0.41	0.192	13	0.73	0.560	16	0.56	0.49	0.4925	15	
MLT	A18	0.195	28	0.16	0.206	27	0.98	0.514	28	0.42	0.32	0.3265	28	
NLDs	A19	0.494	5	0.73	0.135	4	0.47	0.775	3	0.91	0.76	0.7649	5	
AUT	A20	0.285	11	0.51	0.190	11	0.70	0.612	9	0.71	0.59	0.5943	11	
POL	A21	0.481	6	0.71	0.160	5	0.56	0.719	6	0.82	0.73	0.7318	6	
PRT	A22	0.289	10	0.53	0.188	10	0.69	0.588	10	0.68	0.59	0.5973	10	
ROMa	A23	0.280	12	0.49	0.188	9	0.68	0.578	13	0.62	0.55	0.5504	12	
SVN	A24	0.206	23	0.23	0.203	23	0.90	0.525	23	0.45	0.36	0.3670	23	
SLO	A25	0.232	18	0.34	0.196	15	0.77	0.542	19	0.51	0.43	0.4356	19	
FIN	A26	0.231	19	0.32	0.199	20	0.85	0.554	17	0.54	0.44	0.4414	18	
SWE	A27	0.301	8	0.58	0.182	7	0.64	0.627	8	0.73	0.64	0.6402	8	
SRB	A28	0.211	22	0.25	0.202	22	0.88	0.528	22	0.46	0.38	0.3809	22	
	MAX	0.827			0.206			0.861						



*Figure 1. Rank Order*  
*Source: Author's picture*

According to the results of the LMAW-DNMA method, the top five countries of the European Union in terms of trade performance include: France, Spain, Germany, Italy and the Netherlands. In terms of trade performance, the leading countries of the European Union (Germany, France and Italy) are well positioned. Malata is positioned in the last place. In terms of trade performance, Croatia is better positioned than Slovenia. Serbia took the twenty-second place in terms of trade performance. It is positioned worse than Croatia, but it is better than Slovenia.

The performance positioning of the trade of the countries of the European Union and Serbia was influenced by numerous macro and micro factors. These are: political and economic climate, foreign direct investments, asset management, new business models (multichannel sales, private label, sales of organic products), new concepts of cost, sales and profit management (calculation of costs by activity, customer management, category management products, etc.), the Covid-19 pandemic, the energy crisis, etc. A key factor is the digitization of the entire business (Berman et al., 2018; Levy et al., 2019; Lukic, 2022e). Effective control of these and other factors can influence the achievement of the target trade profit of the countries of the European Union and Serbia.

## **CONCLUSION**

Based on the results obtained by applying the LMAW-DNMA method in relation to the trade performance of the countries of the European Union and Serbia, the following can be concluded: According to the results of the LMAW-DNMA method, the top five countries of the European Union in terms of trade performance include: France, Spain, Germany, Italy and the Netherlands. In terms of trade performance, the leading countries of the European Union (Germany, France and Italy) are well positioned. Malata is positioned in the last place. In terms of trade performance, Croatia is better positioned than Slovenia. In terms of trade performance, Serbia took twenty-second place. It is positioned worse than Croatia, but it is better than Slovenia.

The performance positioning of the trade of the countries of the European Union and Serbia was influenced by numerous macro and micro factors. These are: economic climate, foreign direct investments, asset management, new business models (multichannel sales, private label, sales of organic products), new concepts of cost, sales and profit management (costing by activity, customer management, product category management, etc.), the Covid-19 pandemic, the energy crisis, etc. A key factor is the digitization of the entire business. The target profit of the trade of the countries of the European Union and Serbia can be achieved by effective control of the critical factors of business success.



Book of Proceedings

**REFERENCES**

- Baicu, C. G., State, O., Gârdan, D. A., Gârdan, I. P., Țicău, I. R., (2022). Financial and Competitive Implications of the European Green Deal – Perceptions of Retail Managers. *Amfiteatru Economic*, 24(61), 683-700.
- Berman, B. R., Evans, J. R., Chatterjee, P. M. (2018). Retail Management: A Strategic Approach. 13<sup>th</sup> Edition, Pearson.
- Chakraborty, S., Zavadskas, E. K. (2014). Applications of WASPAS method in manufacturing decision making. *Informatica*, 25(1), 1- 20.
- Demir, G. (2022). Analysis of the financial performance of the deposit banking sector in the Covid-19 period with LMAW-DNMA methods. *International Journal of Insurance and Finance*, 2(2), 17-36. <https://doi.org/10.52898/ijif.2022.7>
- Ecer, F. (2020). Multi-criteriad Decision-making comprehensive approach from past to present. Seçkin Publications.
- Ersoy, N. (2017). Performance measurement in retail industry by using a multi-criteria decision making methods. *Ege Academic Review*, 17(4), 539–551. <https://doi.org/10.21121/eab.2017431302>
- Gaur, L., Agarwal, V., Anshu, K. (2020). Fuzzy DEMATEL Approach to Identify the Factors Influencing Efficiency of Indian Retail Websites. In: Kapur P., Singh O., Khatri S., Verma A. (eds) Strategic System Assurance and Business Analytics. Asset Analytics (Performance and Safety Management). Springer, Singapore. [https://doi.org/10.1007/978-981-15-3647-2\\_6](https://doi.org/10.1007/978-981-15-3647-2_6)
- Görçün, Ö.F., Zolfani, S.H., Çanakçıoğlu, M.(2022). Analysis of efficiency and performance of global retail supply chains using integrated fuzzy SWARA and fuzzy EATWOS methods. *Operation Management Research*. <https://doi.org/10.1007/s12063-022-00261-z>
- Harangi-Rákos, M., Fenyves, V. (2021). Financial performance and market growth of the companies in Hungary and Romania: A study of the food retail companies [Special issue]. *Corporate Ownership & Control*, 18(3), 325–336. <http://doi.org/10.22495/cocv18i3siart7>
- Keshavarz-Ghorabae, M., Amiri, M., Hashemi-Tabatabaei, M., Zavadskas, E. K., Kaklauskas, A. A. (2020). New Decision-Making Approach Based on Fermatean Fuzzy Sets and WASPAS for Green Construction Supplier Evaluation. *Mathematics*, 8(12), 2202. <https://doi.org/10.3390/math8122202>
- Liao, H., Wu, X. (2020). DNMA: A double normalization-based multiple aggregation methods for multi-expert multi-criteria decision making. *Omega*, 94, 102058. <https://doi.org/10.1016/j.omega.2019.04.001>
- Levy, M., Weitz, B., Grewal, D. (2019). *Retailing Management*. 10<sup>th</sup> Edition, Mc Graw Hill.
- Lucas, A., Ramires, A. (2022). Directions for management in small and medium hotels and restaurants companies. *GeoJournal of Tourism and Geosites*, 40(1), 210–217. <https://doi.org/10.30892/gtg.40125-821>
- Lukic, R., Hadrovic Zekic, B., Crnjac Milic, D. (2020). Financial performance evaluation of trading companies in Serbia using the integrated Fuzzy AHP - TOPSIS Approach. 9th international scientific symposium region, entrepreneurship, development, Under the auspices of: Republic Of Croatia Ministry Of Science And Education, Osijek, Croatia, Josip Juraj Strossmayer, 690-703.
- Lukic, R. (2021a). Application of ELECTRE method in performance analysis of food retailers in Serbia. *Business Excellence and Management*, 1(3), 84-102. DOI: <https://doi.org/10.24818/beman/2021.11.3-05>
- Lukic, R. (2021b). Analysis of trade efficiency in Serbia based on the MABAC method. *Economic Outlook*, 23(2), 1-18.
- Lukic, R., Hadrovic Zekic, B. (2021). Evaluation of transportation and storage efficiency in Serbia based on ratio analysis and the OCRA method. Proceedings of the 21 th International Scientific Conference Business Logistics In Modern Management October 7-8, Osijek, Croatia, Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, 189-200.





**Book of Proceedings**

- Lukic, R., Vojteski Kljenak, D., Anđelić, S., Gavilović, M. (2021). Application WASPAS method in the evaluation of efficiency of agricultural enterprises in Serbia. *Economics of Agriculture*, 68(2), 375-388. Belgrade. <https://doi.org/10.5937/ekoPolj2102375L>
- Lukić, R., Hadrović Zekić, B. (2022). Efficiency analysis of trade companies in Serbia using the ARAS method. 22nd Int. Sci. Conf. Business Logistics in Modern Management, J. J. Strossmayer University Of Osijek, Faculty Of Economics In Osijek, 105-119.
- Lukic, R. (2022a). Application of the MARCOS Method in Analysis of the Positioning of Electronic Trade of the European Union and Serbia. *Informatica Economică*, 26(3), 50-63. doi: 10.24818/issn14531305/26.3.2022.05
- Lukic, R. (2022b). Analysis of Kosovo and Metohija Trade Performance. *Management and Economics Review*, 7(3), 379-391. doi: 10.24818/mer/2022.10-08
- Lukic, R. (2022c). Employee costs of distribution trade of the European Union and Serbia. *Business Excellence and management*, 12(3), 60-76. doi: <https://doi.org/10.24818/beman/2022.12.3-05>
- Lukic, R. (2022d). Analysis of Investment Efficiency of Distribution Trade of Selective Countries of the European Union and Serbia on the Basis of TRUST Method. *Review of International Comparative Management*, 23(2), 382-399. doi: 10.24818/RMCI.2022.3.382
- Lukic, R.(2022e). Application of MARCOS method in evaluation of efficiency of trade companies in Serbia. *Ekonomski pogledi – Economic Outlook*, 24(1), 1-14. doi: 10.5937/ep24-38921
- Lukić, R. (2022f). Analysis of economic performance of trade companies in Serbia. *Poslovna Ekonomija – Business Economics*, 16(2), 32–53. doi: 10.5937/poseko22-37860
- Lukic, R. (2022g). Measurement and Analysis of the Dynamics of Financial Performance and Efficiency of Trade in Serbia Based on the DEA Super-Radial Model. *Review of International Comparative Management*, 23(5), 630-645. doi: 10.24818/RMCI.2022.5.630
- Pamučar, D., Žižović, M., Biswas, S., & Božanić, D. (2021). A new Logarithm Methodology of additive weights (LMAW) for multi-criteria decision-making: application in logistics. *Facta Universitatis Series: Mechanical Engineering*, 19(3), Special Issue: 361-380. <https://doi.org/10.22190/FUME210214031P>
- Marques, P.A., Jorge, D., & Reis, J. (2022). Using Lean to Improve Operational Performance in a Retail Store and E-Commerce Service: A Portuguese Case Study. *Sustainability*, 14, 5913. <https://doi.org/10.3390/su14105913>
- Maxim, L. G., (2021). The importance of efficiency of the supply process for retail companies: case study. *Journal of Management, Marketing and Logistics (JMML)*, 8(4), 197-202. <http://doi.org/10.17261/Pressacademia.2021.1527>
- Saaty, T. L. (2008). Decision Making With The Analytic Hierarchy Process. *Int J Serv Sci*, 1(1), 83-98.
- Senapati, T., Yager, R.R. (2020). Fermatean fuzzy sets. *J. Ambient Intell. Humaniz. Comput.*, 11, 663–674.
- Senapati, T., Yager, R.R. (2019a). Some new operations over Fermatean fuzzy numbers and application of Fermatean fuzzy WPM in multiple criteria decision making. *Informatica*, 30, 391–412.
- Senapati, T., Yager, R.R. (2019b). Fermatean fuzzy weighted averaging/geometric operators and its application in multi-criteria decision-making methods. *Eng. Appl. Artificial Intelligence*, 85, 112–121.
- Urosevic, S., Karabasevic, D., Stanujkic, D., Maksimovic, M. (2017). An Approach Personnel Selection in the Tourism Industry Based on the SWARA and the WASPAS Methods. *Economic computation and economic cybernetics studies and research*, 51(1), 75-88.
- Vojteški Kljenak, D., Lukic, R. (2022). Efficiency analysis of agriculture in Serbia based on the codas method. *International Review*, 1-2, 32-41. doi: 10.5937/intrev2202039V
- Zardari, N.H., Ahmed, K., Shirazi, S.M., Yusop, Z.B. (2014). *Weighting Methods and their Effects on Multi-Criteria Decision Making Model Outcomes in Water Resources Management*. Springer: New York.



Book of Proceedings

***MACROECONOMIC FACTORS AS DETERMINANTS OF THE  
BELGRADE STOCK EXCHANGE: EVIDENCE FROM THE  
ORDINARY LEAST SQUARES METHOD***

*Sunčica Stanković<sup>1</sup>  
Dragan Cvetković<sup>2</sup>  
Miljana Barjaktarović<sup>3</sup>*

***ABSTRACT***

*The aim of the work is to determine the impact of macroeconomic factors on the Belgrade Stock Exchange, in the period from 2012 to 2021. To determine the impact of selected macroeconomic factors (GDP, inflation, gross savings, money supply, interest rate) on the Belgrade Stock Exchange (Belex15), the method of ordinary least squares was applied. According to the findings, the money supply and GDP both had a beneficial impact on the movement of Belex15, however only the GDP effect was statistically significant. On the other hand, Belex15 is negatively impacted by inflation, gross savings, and interest rates, all of which are statistically significant except for inflation. Based on the findings, it is clear that the GDP, gross savings, and interest rate are the three main variables that influence the Belex15 index's movement. Investors should take these macroeconomic variables into consideration when choosing an investment strategy.*

***Key words:*** *Belex15, GDP, inflation, gross savings, money supply, interest rate*

***JEL Classification:*** *C02, C61, E43,*

***INTRODUCTION***

Financial and economic literature has long focused on the connections between macroeconomic factors and stock market fluctuations. Generally, stock markets increase liquidity and provide funding for industrialization and economic development, which promotes economic growth. They serve as fascinating investment hubs as well. By their very nature, stock price swings are largely random, and they respond quickly to economic news, such as reports of domestic and global shocks. Investors' daily gains and losses on the stock market show how much individual stock returns fluctuate in reaction to a range of unforeseen circumstances. (Forson and Janrattanagul, 2014).

The relationship between macroeconomic factors and stock markets, in contemporary circumstances, is acquiring more and more importance since macroeconomic factors reflect the position or rank of an economy, both at the national and international level. Islam et al. (2023) point that every nation strives for GDP growth, lower inflation, lower unemployment, high levels of savings, investment, and consumption because these macro drivers influence how well the economy or trade performs and allow the nation to achieve economic stability.

Considering the above, the subject of the paper is macroeconomic factors as determinants of the Belgrade Stock Exchange. The aim of the paper is to determine the impact of selected macroeconomic

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, suncica.stankovic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, dragan.cvetkovic@vspep.edu.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, miljana.barjaktarovic@vspep.edu.rs



## Book of Proceedings

factors (GDP, inflation, gross savings, money supply, interest rate) on the representative index of the Belgrade Stock Exchange Belex15, using the method of ordinary least squares.

### *LITERATURE REVIEW*

Numerous empirical researchs has been inspired by the capital markets' influencing function to look into what influences the stock market (Omar et al., 2022).As a result, literature gave rise to a number of empirical research looking at how institutional and macroeconomic factors affect stock market development. The development of the stock market is significantly influenced by major macroeconomic factors in both developing and developed economies, including economic growth, money supply, banking sector development, trade openness, stock market liquidity, foreign portfolio investment, inflation, domestic investment, private capital flows, and saving rate (Ho, 2019; Asravor and Fonu, 2021; Salameh and Ahmad, 2022).

Generally, the studies that looked at the connection between macroeconomic variables and the capital market can be grouped into three category. The studies in the first category show a clear relationship between macroeconomic factors and the capital market (Ibrahim & Aziz, 2003; Coleman & Tettey, 2008; Rafique et al., 2013; Lakshmi & Tuwajri, 2014). The second category of studies comprises those in which no connection between macroeconomic factors and the capital market was discovered (Bhattacharya et al., 2001; Mohammad et al., 2009). Studies in the third category include those by Kurihara (2006), Singh et al. (2011), Ullah et al. (2014), Alam, 2020, and Islam et al. (2023), which show that some variables are significant and others are not.

Studies have demonstrated that a number of macroeconomic variables, such as gross domestic product (GDP), gross saving, and money supply, can affect stock markets, and their positive correlation with stock market indices is frequently noted. In this regard, it is anticipated that the findings of the current study will support this association. In empirical research, the two most frequently employed macroeconomic indicators are inflation and interest rates. It is well known that both variables have a negative relationship with the stock market, thus it is anticipated that the results will confirm this.

### *METHODOLOGY*

The Belgrade Stock Exchange's official website as well as The World Bank website, and nbs' publication were used to gather annual data on the values of the representative index of the Belgrade Stock Exchange, Belex15, and annual data on the movement of macroeconomic factors in Serbia. Due to data availability, the following macroeconomic factors were chosen: GDP per capita (GDP), inflation, gross savings (GS), money supply (MS) and interest rate (IR). The collected data refer to the period 2012 - 2021, which is a total of 10 observations. A list of the variables used in the research and the data sources is provided in Table 1.

*Table 1. A list of the variables and data sources*

<b>Variable</b>	<b>Description</b>	<b>Source</b>
Belex15	Representative index of the Belgrade Stock Exchange	Belgrade Stock Exchange <a href="https://www.belex.rs/eng/trgovanje/izvestaj/godisnji">https://www.belex.rs/eng/trgovanje/izvestaj/godisnji</a>
GDP	GDP per capita (current US\$)	The World Bank <a href="https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=RS">https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=RS</a>
Inflation	GDP deflator (annual %)	The World Bank

		<a href="https://data.worldbank.org/indicator/NY.GDP.DEFL.KD.ZG?locations=RS">https://data.worldbank.org/indicator/NY.GDP.DEFL.KD.ZG?locations=RS</a>
Gross savings	% of GDP	The World Bank <a href="https://data.worldbank.org/indicator/NY.GNS.ICTR.ZS?locations=RS">https://data.worldbank.org/indicator/NY.GNS.ICTR.ZS?locations=RS</a>
Money supply	Foreign currency deposits + other dinar deposits (short-term and long-term) (M3), in %	NBS <a href="https://www.nbs.rs/export/sites/NBS_site/documents-eng/finansijska-stabilnost/presentation_invest.pdf">https://www.nbs.rs/export/sites/NBS_site/documents-eng/finansijska-stabilnost/presentation_invest.pdf</a>
Interest rate	National Bank of Serbia Key Policy Rate, in %	

The dependent variable in the model is the Belex15, and the independent variables are: GDP, inflation, gross savings, money supply and interest rate. Table 3 provides descriptive data for the research's variables. All data have a normal distribution, according to the p-value of the Jarque-Bera test ( $p > 0.05$ ). Table 2 provides more thorough details.

Table 2. Descriptive statistics for research variables

	Belex15	GDP	Inflation	GS	MS	IR
Mean	700.292	6867.14	3.30	16.50	9.77	4.80
Median	732.990	6687.60	2.50	16.00	8.90	3.75
Maximum	820.780	9230.20	6.20	22.00	18.10	11.25
Minimum	523.89	5589.00	1.50	11.00	3.60	1.00
Std. Dev.	100.2075	1093.855	1.748015	3.503966	4.584285	3.574213
Skewness	-0.609286	0.878537	0.771781	0.130677	0.384376	0.692649
Jarque-Bera	0.935088	1.297015	1.473060	0.420539	0.531507	1.125499
Probability	0.626539	0.522825	0.478772	0.810366	0.766628	0.569641
Obs.	10	10	10	10	10	10

Source: Authors

Figure 1 shows the movement of the observed variables in the period from 2012 to 2021. It can be noted that all variables, except the interest rate, as well as the money supply (which shows high fluctuations) in the period of interest show an upward trend.

To examine the impact of macroeconomic factors on the Belgrade Stock Exchange, the ordinary least squares model was used. The following model is specified:

$$Y_{it} = \alpha + \beta_1 X_{1,it} + \beta_2 X_{2,it} + \beta_3 X_{3,it} + \beta_4 X_{4,it} + \beta_5 X_{5,it} + u_i + e_{it} \quad (1)$$

Where:  $Y_i$  – dependent variable – representative index of Belgrade Stock Exchange Belex15, in time  $t$  ( $1 = 2012 \dots 10 = 2021$ ),  $\alpha$  – constant,  $\beta$  – coefficient for the corresponding independent variables,  $X$  – independent variables ( $X_1$  - GDP,  $X_2$  - inflation,  $X_3$  - gross savings,  $X_4$  – money supply,  $X_5$  – interest rate),  $u_i$  – individual effects and  $e_{it}$  – residuals.

The following econometric diagnostic tests were run to ensure that the model's presumptions were met: the ADF and PP unit root tests, a correlation analysis to evaluate multicollinearity, the VIF test, and the Breusch-Godfrey LM serial correlation test.

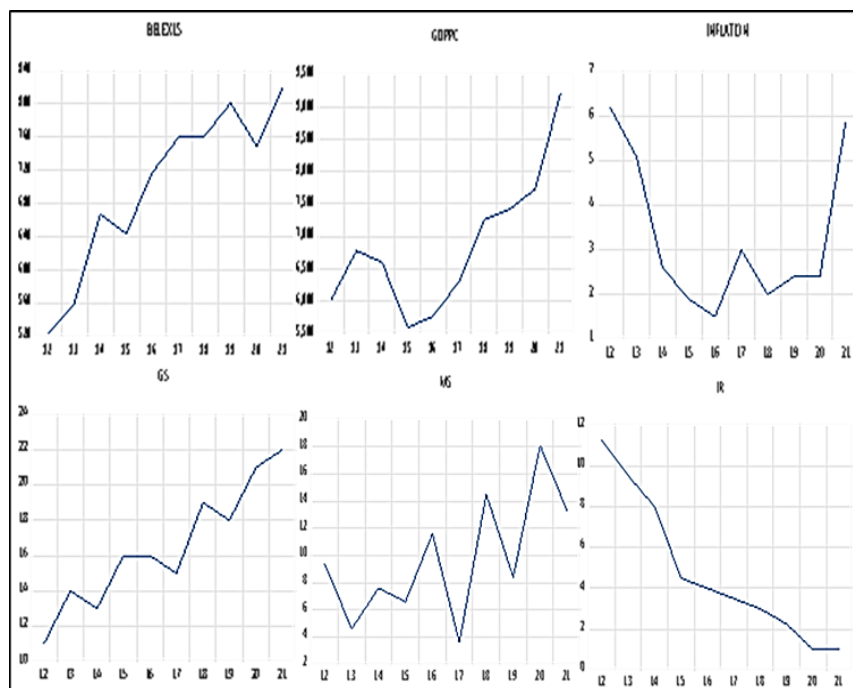


Figure 1: Movement of observed variables in the period from 2012 - 2021.

Source: Authors, based on Eviews output

Research hypotheses:

- H1: GDP has a positive effect on Belex15.
- H2: Inflation negatively affects Belex15.
- H3: Gross savings has a positive effect on Belex15.
- H4: Money supply has a positive effect on Belex15.
- H5: Interest rate has a negative effect on Belex15.

## RESULTS

According to the results of the ADF and PP stationarity tests, shown in Table 3, all variables are non-stationary at the level, and they are stationary after the first differentiation test. Having this in mind, one can reject the null hypothesis according to which the time series has a unit root and accept the alternative one, according to which all variables are stationary (including the first difference of all variables). The first difference of each variable used in the study will be used for further analysis.

Table 3. Unit root test results

Variable	ADF - Fisher chi-square		PP - Fisher chi-square	
	Level	1st difference	Level	1st difference
Belex15	-3.408674**	-4.324496**	-1.896351	-4.331076**
GDP	-1.690693	-3.517521**	1.092236	-3.514643**
Inflation	-1.919283	-4.417098**	-1.919283	-7.080747**
GS	0.600655	-3.570089**	-0.652252	-9.849043***
MS	0.750281	-11.51408***	-2.838902	-13.10579***
IR	-2.332501	-3.814967**	-6.012297***	-6.818665***

Note: \*\*\* - significance at the 1% level; \*\* - significance at the 5% level

Source: Authors

## Book of Proceedings

It can be observed that Belex15 has a very strong negative correlation with the interest rate, a very strong positive correlation with gross savings, a strong positive correlation with GDP, a moderate positive correlation with the money supply and a weak negative correlation with inflation. In addition, it is noticeable that the independent variables in the model are weakly correlated, which is one of the assumptions of linear models. Table 4 shows more detailed information on the interrelationship between the independent variables included in the research.

Table 4. Correlation results between the variables included in the research

	Belex15	GDP	Inflation	GS	MS	IR
Belex15	1.000000	0.605138	-0.390536	0.809613	0.409925	-0.930019
GDP	0.605138	1.000000	0.340875	0.270641	0.322493	-0.243798
Inflation	-0.390536	0.340875	1.000000	-0.186849	-0.126178	0.250827
GS	0.809613	0.270641	-0.186849	1.000000	0.285834	-0.307153
MS	0.409925	0.322493	-0.126178	0.285834	1.000000	-0.216794
IR	-0.930019	-0.243798	0.250827	-0.307153	-0.216794	1.000000

Source: Authors

Based on the coefficient of determination ( $R^2$ ), the model explained about 97% of the variance of the dependent variable (Belex15) based on the independent variables (GDP, inflation, GS, MS and IR). The value of the F statistic ( $F = 26.96493$ ;  $p = 0.003528$ ) indicates the statistical significance of the proposed model. The results indicate a positive and statistically significant impact of GDP on the Belex15 ( $p < 0.05$ ), which means that with a 1% increase in GDP, the Belex15 would increase by 0.068774 and that this increase is at a statistically significant level. The influence of money supply on Belex15 is also positive, but not statistically significant ( $p > 0.05$ ). On the other hand, the impact of inflation, gross savings and interest rates on the Belex15 index is negative. However, unlike the negative impact of inflation, which is not at a statistically significant level ( $p > 0.05$ ), the impact of gross savings and the interest rate is significant ( $p < 0.05$ ). This means that with an increase in gross savings and the interest rate of 1%, the Belex15 index would decrease by 32.89327, i.e. 40.99383, and that this decrease would be statistically significant. The results for the ordinary least squares model are shown in Table 5.

Table 5. Results for the ordinary least squares model

Variable	Coefficient	Std. Error	t	p
GDP	0.068774	0.019483	3.529878	0.0242
Inflation	-11.40300	8.977945	-1.270113	0.2729
GS	-32.89327	11.47767	-2.865850	0.0457
MS	0.563238	2.893853	0.194633	0.8552
IR	-40.99383	8.813909	-4.651039	0.0097
C	999.6477	164.3559	6.082214	0.0037
$R^2 = 0.971187$ ; $F = 26.96493$ ; $p = 0.003528$				

Source: Authors

The model has no issues with damaging harmful multicollinearity, as shown by the multicollinearity test findings (Variance Inflation Factors - VIF) since all coefficients are less than 10. Table 6 presents the outcomes.

Table 6. Multicollinearity test results

Variable	Centered VIF
GDP	1.161805
Inflation	6.896448
GS	5.724117
MS	3.461283
IR	2.565874

Source: Authors





## Book of Proceedings

To determine whether there is serial correlation between the regression model's residuals, utilize the LM test of serial correlation (Table 7). Since the F-statistic for this test is 0.247919 and the accompanying Prob.F is 0.8013, which is greater than 0.05, the results demonstrate that there is no significant serial correlation between the residuals. Additionally, the Prob. Chi-square is 0.3703 and the observed  $R^2$  is 1.986657 (greater than 0.05).

*Table 7. Results for the Breusch-Godfrey LM serial correlation test*

F-statistic	0.247919	Prob. F(2,2)	0.8013
Obs*R-squared	1.986657	Prob. Chi-Square(2)	0.3703

*Source: Authors*

## CONCLUSION

The aim of the work was to determine the impact of selected macroeconomic factors on the representative index of the Belgrade Stock Exchange Belex15. The results indicate a positive and significant impact of GDP on Belex15. In addition, according to the research results, the influence of money supply on Belex15 is also positive. The obtained results are in accordance with the results of studies by other authors, who indicated a positive and significant relationship between GDP (Al-Shubiri, 2010; Islam, 2017; Alam, 2020; Islam et al., 2023), as well as a positive the connection between money supply (Mohammad et al., 2017; Odiche and . Udeorah, 2020; Idowu, 2022) and capital market indicators. Barakat et al. (2016) also found no significant relationship between money supply and stock market index in Tunisia. The results indicate a negative impact of inflation, gross savings and interest rates on Belex15. Unlike the impact of gross savings and the interest rate, which is at a statistically significant level, the impact of inflation is not statistically significant. The obtained results are in accordance with the results of studies by other authors, who also indicated a negative, but insignificant, correlation of inflation (Ullah et al., 2014; Mohammad et al., 2017; Alam, 2020; MechriI et al., 2021) and a negative and significant correlation of interest rate rates (Ullah et al., 2014; Mohammad et al., 2017; Alzoubi, 2022; Phuong et al., 2023) with capital market indicators. However, the results of the conducted research indicate a negative and significant correlation between gross savings and the movement of the Belex15 index, which is not in accordance with the results of the research conducted by Tsaurai (2018), according to which there is a positive and significant correlation between gross savings and stock market indices. This different outcome may be the result of different market regulations, investors, geographic locations and other factors.

After the conducted research, certain limitations are imposed. The paper used macroeconomic factors: GDP, inflation, gross savings, money supply and interest rate) in order to determine their influence on the Belex15 index. Macroeconomic variables such as the exchange rate, consumer price index, foreign exchange reserves, foreign direct investment were not taken into account, so future research could include these variables as well. In the current work, as a statistical method, the method of ordinary least squares was applied, while future research could apply some other methods, such as, for example, the VAR model, or include stock indices of other capital markets and apply panel regression.

Numerous empirical studies look into the factors that influence various capital markets, but because the evidence on macroeconomic determinants is so contradictory and ambiguous, this paper can add to the body of literature by empirically examining a few macroeconomic factors that have been identified as being important for the movement of the Belgrade stock market index.

Investors who actively participate in the stock market should pay close attention to the movement of the GDP because it has a significant impact on the value of Belex15, as well as gross savings and interest rates, both of which cause a decline in the observed stock market index. Investors should, also, take into account other macroeconomic factors, such as inflation and money supply, especially when it is taken into account that the action of these factors depends on both the context and the period of the study, where causality can vary from economy to economy.



**Book of Proceedings**

***REFERENCES***

- Alam, N.Q. (2020). Impact of Macroeconomic Variables on the Stock Market Returns of South Asian Region. *Canadian Journal of Business and Information Studies*, 2(2), 24-34.
- Al-Shubiri, F.N. (2010). Analysis the determinants of market stock price movements: An empirical study of Jordanian commercial banks. *International Journal of Business and Management*, 5(10), 137.
- Alzoubi, M., (2022). Stock market performance: Reaction to interest rates and inflation rates. *Banks and Bank System*, 17(2), 189-198.
- Asravor, R.K., Fonu, P.D.-D. (2021). Dynamic relation between macroeconomic variable, stock market returns and stock market development in Ghana. *International Journal of Finance & Economics*, 26(2), 2637– 2646.
- Barakat, M.R., Elgazzar, S.H., Hanafy, K.M. (2016). Impact of Macroeconomic Variables on Stock Markets: Evidence from Emerging Market. *International Journal of Economics and Finance*, 8(1), 195-207.
- Bhattacharya, B., Mookherjee, J. (2001). *Causal relationship between and exchange rate, foreign exchange reserves, value of trade balance and stock market: Case study of India*. Working paper, Jadavpur University Department of Economics, Kolkata, India.
- Coleman, A., Tettey, K. (2008). Impact of macroeconomic indicators on stock market performance: The case of the Ghana Stock Exchange. *Journal of Risk Finance*, 9(4), 365-378.
- Forson, J.A., Janrattanagul, J. (2014). Selected Macroeconomic Variables and Stock Market Movements: Empirical evidence from Thailand. *Vizja Press & IT*, 8(2), 154-174.
- Ho, S.-Y. (2019). Macroeconomic determinants of stock market development in South Africa. *International Journal of Emerging Markets*, 14(2), 322–342.
- Ibrahim, H., Aziz, H. (2003). Macroeconomic variables and the Malaysian equity market: A view through rolling subsamples. *Journal of Economic Studies*, 30(1), 6-27.
- Idowu, O.G. (2022). Stock Market Performance and Macroeconomic Fundamentals in Nigeria. *International Journal of Business Management*, 5(03), 16-33.
- Islam, F.T., Mostofa, M.S., Tithi, A.A. (2017). Macroeconomic and institutional determinants of capital market performance in Bangladesh: A case of Dhaka stock exchange. *International Journal of Academic Research in Accounting, Finance, and Management Sciences*, 7(1), 306-311.
- Islam, Md.S., Parvin, R., Milon, M., Das, M.K. (2023). The Impact of Gross Domestic Product on the Bangladesh Stock Market: An Empirical Analysis. *International Journal of Finance and Accounting*, 12(1), 1-12.
- Kurihara, Y. (2006). The relationship between exchange rate and stock prices during the quantitative easing policy in Japan. *International Journal of Business*, 11(4), 375-386.
- Lakshmi, K., & Tuwajri, B. (2014). Macroeconomic forces and stock prices: Some empirical evidence from Saudi Arabia. *International Journal of Financial Research*, 5(1), 81-92.
- MechriI, N., de Peretti, C., Hamad, S.B. (2021). The Impact of the Exchange Rate Volatility on Stock Markets Dynamics in Tunisia and Turkey: An Artificial Neural Network Analysis. *Global Economics Science*, 3(1), 1-21.
- Mohammad, G., Ullah, W., Islam, A., Alam, Md.S., Khan, Md.K. (2017). Effect of macroeconomic variables on stock market performance of Saarc countries. *Asian Economic and Financial Review*, 7(8), 770-779.
- Mohammad, S., Hussain, A., Jalil, M., Ali, A. (2009). Impact of macroeconomic variables on stock prices: Empirical evidence in case of KSE (Karachi Stock Exchange). *European Journal of Scientific Research*, 38(1), 96-103.



**Book of Proceedings**

- Odiche, W., Udeorah, S.F.A. (2020). Activities of Macroeconomic Variables and Stock Market Performance: Evidence in Nigeria. *Asian Journal of Economics, Finance and Management*, 2(1), 185-203.
- Omar, A.B., Ali, A., Mouneer, S., Kouser, R., Al-Faryan, M.A.S. (2022). Is stock market development sensitive to macroeconomic indicators? A fresh evidence using ARDL bounds testing approach. *PLoS ONE*, 17(10), e0275708.
- Phuong, L.C.M., Quynh, T.T., Vi, H.L.T., Truc, D.T.K. (2023). Impact of Macro Factors on Stock Market Capitalization. *VNU Journal of Economics and Business*, 3(2), 60-68.
- Rafique, A., Amara, A., Sultana, N. (2014). Impact of macroeconomic variables on stock market index (a case of Pakistan). *Finance Management*, 57, 14099-14104.
- Salameh, S., Ahmad, A. (2022). A critical review of stock market development in India. *Journal of Public Affairs*, 22(1), e2316.
- Singh, T., Mehta, S., Varsha, M. (2011). Macroeconomic factors and stock returns: Evidence from Taiwan. *Journal of Economics and International Finance*, 2(4), 217-227.
- Tsautai, K. (2018). What are the determinants of stock market development in emerging markets? *Academy of Accounting and Financial Studies Journal*, 22(2), 1-11.
- Ullah, F., Hussain, I., Rauf, A. (2014). Impacts of macroeconomy on stock market: Evidence from Pakistan. *International Journal of Management and Sustainability*, 3(3), 140-146.



Book of Proceedings

***GREEN MARKETING – A CONCEPT PREFERRED BY THE  
MODERN CONSUMER***

*Ljiljana Dimitrijević<sup>1</sup>*

*Maja Cogoljević<sup>2</sup>*

*Vladan Cogoljević<sup>3</sup>*

***ABSTRACT***

*Green marketing refers to the advertising and marketing of products that are safe for the environment, meet high-quality and reliability conditions, and at the same time are also eco-friendly. Man's approach to these products reflects his approach to his living environment and refers to environmental awareness and care for the social community. In light of the modern consumer society, this concept forces customers to think about whether they need a product and then consider whether they can exchange an ordinary product for an eco-friendly product before making a purchase. Recent customer attitudes and habits surveys show that many customers are well-informed about green marketing actions. Still, a significant number is yet to become so in the future. Enterprises of the new millennium implement sustainable development in all forms of their business. They introduce green marketing into business by designing, producing, and selling products with reduced harmful environmental impact. They maintain multiple green communication channels, such as advertising on their YouTube channel, websites, and social networks, showing their care for the environment in various ways. They inform their target group of consumers about their environmental actions, promoting their products, inviting them to gatherings, tasting, etc. Consumers recognize them and trust their business, which motivates them to use their products, even at a higher price.*

***Key words:*** green marketing, sustainable development, consumers, consumer motives

***JEL Classification:*** M31

***INTRODUCTION***

Consumers are increasingly aware of the consequences of global warming and the constant environmental degradation. All over the world, people have been showing concern for the environment and changing their behavior. As a result, green marketing has emerged that calls for sustainable and socially responsible products and services. Many companies have begun incorporating green marketing into their strategies and image by producing and promoting products that meet environmental requirements and public policies. Damages from climate extremes in the European Union amount to more than EUR 12 billion per year on average.

Since 1950, the world's population has tripled to almost 8 billion, and economic output has increased 12 times. The demand for natural resources is expected to grow and is considered to be consumed twice as much as the planet provides. Human action has a negative effect on ecosystems and climate change. Looking back a few years, it can be seen that the world we live in today is not the same and that it has significantly changed and progressed, contributing to the rise in living standards. The advent of marketing brought about customer-influenced production and consumption. Customers create societal changes with

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, ljiljana.dimitrijevic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, maja.cogoljevic@vspep.edu.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, vladan.cogoljevic@vspep.edu.rs



## Book of Proceedings

their needs and desires, thus becoming a critical factor in a company's success. Green marketing has arisen as a response to the increasing degree of limited natural resources, taking care of the environment, and environmentally friendly packaging of emerging products.

### ***GREEN MARKETING – CONCEPT AND SCOPE***

Most people believe that green (or eco) marketing refers only to promoting and advertising products with ecological characteristics. It is enough to see inscriptions on the labels such as Phosphate-free, Recyclable, Refillable, Ozone friendly, or Eco friendly, which are green marketing associative. And while these phrases are actually green marketing claims, it is generally a broader concept that can be applied to consumer goods, industrial goods, and even services.

Green marketing can conceptually be defined as marketing products that are assumed to be environmentally safe. This marketing includes a wide range of activities, including product modification, product manufacturing changes, product packaging changes, and product advertising changes.

Green marketing is the name for marketing efforts aimed at fulfilling the wishes of consumers related to environmental protection. Green or eco marketing comprises all activities designed to generate and facilitate any exchange in order to satisfy human needs or desires in such a way that the satisfaction of those needs and desires has a minimal harmful effect on the natural environment. In contrast to traditional marketing, which involves the development of products that satisfy consumers at an affordable price, green marketing is a more complex concept.

Its goal and purpose are dual (Dujak, D., Ham, M., 2008,71)

- Development of products that will meet the needs of consumers in terms of quality, price, and other elements of the offer while at the same time having a minimal environmental impact.
- Building a high-quality image that incorporates environmental sensitivity and relates to both the product and the company as a whole.

Adopting the green marketing concept as a whole, or only in some parts, testifies to a company's quality approach to business, consideration, and effort to differentiate itself from the competition and better satisfy the needs and wishes of selected market segments. Green marketing has been identified as a strategy for achieving competitive advantage, as well as a possible total quality management strategy.

A successful green marketing strategy must meet the following criteria:

- Companies cannot count on consumers' willingness to pay more for products that are not harmful to the environment
- Environmental marketing claims must be clear and unambiguous, cannot be defined by general terms, and must be in accordance with precise environmental standards.
- Access to green marketing products must allow for their production and use cycle duration. Care needs to be taken of the raw materials and resources needed for production, as well as the cycle of use by consumers.
- A green marketing strategy must be proactive, not reactive. Companies must strive to improve environmental awareness rather than being forced to do so by law. It is always better to offer consumers products and services with environmental standards exceeding those currently prescribed by law.

There are a large number of business reasons motivating a company to adopt green marketing:

- Identified increased consumer interest in eco-friendly products



## Book of Proceedings

- Achieving a competitive advantage
- Keeping up with modern trends
- Reduction of business costs
- Green products are, as a rule, better products.

The globally present environmental pollution and disturbed ecological balance issue makes consumers think more and more often, and to an increasing extent, about which and whose products to buy, as well as whose services to use. In this regard, the marketing mix in green marketing is adjusted. There is the so-called 3 Rs (Lacković, Z., Andrić, B, 2007, 259-266) green marketing formula (reduce-reuse-recycle). According to this formula, the company can make a significant contribution to environmental preservation through three steps:

1. Reduce – reduced use of natural resources (replacement of natural resources with artificially produced and/or non-renewable with renewable sources), as well as reduction of energy consumption in the manufacture and other business processes.
2. Reuse – reuse of packaging or parts (wooden pallets for transport are replaced by plastic pallets used for a longer time, ink refills for photocopiers, etc.)
3. Recycle – the manufacturer collects used products and/or their packaging in an organized manner for the recycling process, with waste recycling in the manufacturing process.

These activities lead to dual results. On the one hand, they make it easier to reach environmentally aware consumers, and on the other hand, they ensure participation in the process of promotion and education about environmental protection. Companies around the world invest a lot of money in recycling, energy saving, and similar environmental programs, but if consumers are not informed thereof, companies are not able to enjoy the benefits of eco marketing. The European Commission presented a clear vision of achieving climate neutrality by 2050, with companies and investors playing an important role. This means that we should align our business models with sustainability principles - from the ambitious reduction of carbon footprint, through investment in advanced technologies and innovations, to the preservation of the natural environment. This transition will be neither simple nor cheap. Companies will need support in terms of information, education, preparation, implementation, and financing of projects to get the best opportunity for their business out of the green transition.

## ***GREENWASHING***

In parallel with eco marketing (or green marketing), the term "greenwashing" appeared, referring to a form of propaganda in which green marketing is used deceptively, promoting the company's policies and goals as ecological. Sometimes to gain political support and sometimes to increase profits, greenwashing can deceive consumers and ensure their support for dubious goals.

More and more brands emphasize their products and services are climate neutral. Examples include banks, airlines, cars, shoes, meat, milk, and bananas. But they really aren't climate neutral. Such claims are justified by compensation projects that should 'compensate' all the damage caused to the environment during the production and transportation of these products. Such projects are often not transparent, and the veracity of these claims is rarely checked. Therefore, they can be misleading and dissuade consumers from choosing products that are actually more eco-friendly.

Claims that something is eco-friendly are often taken lightly and used widely without enough opportunities to be actually confirmed. Unfortunately, there are not enough clear and legally binding rules to frame such marketing practices. This led to the rise of manipulative green marketing - greenwashing. It is a trend that has emerged as a result of market demands for eco-friendly and sustainable solutions. To illustrate, a recent





## Book of Proceedings

online sweep of green claims in Croatia showed that as many as 42 percent of such claims were exaggerated, false, or misleading. Faced with unreliable information and bombarded with environmental claims, consumers are often lost in the process of identifying solutions that are less harmful to the environment.

There are more than 450 eco-labels in use worldwide. In the project, one-third of Europeans consider eco-labels when making purchases. This figure is even higher in countries like Sweden (70 percent) and Denmark (57 percent). The most recognized eco-label in Europe is the EU Eco-label with its distinctive flower-shaped logo. It is managed by the European Commission and member states. In order for a product or service to bear the EU Eco-label, it needs to meet strict criteria related to the entire product life cycle from design, production, use, recycling to disposal. It is a guarantee that products (or services) with the EU Eco-label are eco-friendly and ultimately healthier for consumers.

Irrelevant environmental campaigns, most often on social networks, inform consumers how to reduce the impact of waste on the environment, most often recommending using tote bags for shopping or avoiding buying products these companies do not normally produce, such as toothbrushes, while at the same time not providing any information on how to reduce the waste generated by using their products. Interestingly, these campaigns are most often carried out by companies whose packaging is generally not recycled in Serbia.

Environmental motivational messages on the packaging that do not correlate with reality are a mass phenomenon. On many packages, you can read messages like "recycle me" or "this package is fully recyclable, dispose of it in dedicated containers" and the like. However, in practice, consumers are not given the opportunity to actually do such a thing due to the lack of infrastructure for sorting recyclables and non-recyclable waste, or there is even no possibility of recycling such packaging in Serbia. At first glance, one could conclude that the companies are not to blame for this and that they have fulfilled their obligation by designing the packaging to be technologically recyclable.

However, this is not the case because in Serbia, since 2009, there has been a system of "extended producer responsibility" in packaging waste management, which implies that those who market packaging and make a profit from it are responsible for ensuring it is collected and reused for obtaining new products or energy, instead of ending up in landfills. Companies are responsible for financing the development of collection and recycling, and the state, local self-governments, and utility companies are only partners in this effort. If a package says that you should recycle it, and you have no way to do it, it is the manufacturer's fault. And since the manufacturer did not charge you the real price of ecological disposal of their packaging, the manufacturer did not invest enough finances in developing the infrastructure and covering the cost of collection. For this reason, what the manufacturer motivates and invites you to do is impossible. One gets the impression that companies are trying to use such messages to shift the responsibility to the consumer instead of fully accepting it and enabling consumers to recycle their products and therefore consume them with no guilty conscience.

Manipulation of data in sustainable business reports of companies is a common phenomenon. It boils down to companies presenting in these reports only those data that show their positive environmental impacts. This often refers to data that they have reached zero generated waste in production or that they have drastically reduced disposal of production waste to landfills, but at the same time, they do not publish data on how much waste from their products and packaging ended up in landfills.

Campaigns with meaningless or unclear ecological slogans, in which it is unclear what the ecological benefit of buying a product or service is, are frequent. Those campaigns declare all kinds of things to be "green" or "eco" without the campaign content actually clearly communicating how the use of such a product or service affects the environment or present only a small segment as such, even though the product or service as a whole cannot possibly be in the "eco" category. So we can hear calls to make an ecological bet or that someone will recycle something on our behalf, which essentially means nothing.

There are numerous examples of inadequate and manipulative use of the term, such as product packaging being declared biodegradable even though it is not. This is the case with many plastic bags marketed in



## Book of Proceedings

Serbia and labeled "biodegradable." In fact, these are oxo-degradable bags, that is, ordinary plastic bags that do not break down under the influence of bacteria but only break down faster into microplastics thanks to the oxo additives used in their production. This category also includes campaigns inviting consumers to bring textiles for recycling, while in practice, a very small part of these textiles can actually be recycled.

Promoting electric cars for the sake of CO<sub>2</sub> emissions may make sense in countries where a significant proportion of energy is obtained from sustainable sources. In countries like Serbia, where coal energy still holds a dominant market share, buying electric cars does not contribute to CO<sub>2</sub> reduction. Promoting the reduction of CO<sub>2</sub> pollution while concealing information about increased ore extraction and/or waste generation. Many solutions that are promoted as ecological because they contribute to CO<sub>2</sub> reduction at the same time require greater environmental devastation to provide the ores needed for their production or dispose of the waste generated after their use.

Sponsoring environmental manifestations and events by companies that are major polluters is questionable from an ethical point of view. If, for example, a global company finances an important world conference on environmental protection participated by representatives of different countries, the question arises whether that company influences both outcomes and messages heard at such events and, ultimately, the environmental protection policy itself. On the other hand, such sponsorships can change the perception of citizens and consumers so that they perceive companies as eco-friendly while the real results of their operations show something completely different.

Visual manipulation is also a common case, so you can see in bottled water or other product campaigns photos of beautiful and clean nature, rivers and lakes, although in reality, it is much more common to see pictures of rivers, lakes, forests polluted by these products, i.e., their packaging.

### ***GREENWASHING PREVENTION MEASURES***

Policymakers and businesses play a key role in facilitating green choices for consumers. They must ensure that only reliable and verified claims are used in the market. Also, truly eco-friendly companies should be highlighted and recognized. More and more businesses are showing the business sector interest in certifying products and services with eco-labels such as the EU Eco-label. The biggest trend is in the tourism and cleaning products sector. The problem is still the poor consumer familiarity with verified eco-labels.

At the beginning of 2023, the European Commission proposed the Green Claims Directive, according to which consumers will receive greater reliability and clarity, as well as better quality information to choose eco-friendly products and services. Before companies make any green claims to consumers, such claims would need to be independently verified and substantiated by scientific evidence.

As part of the scientific analysis, companies will be obliged to recognize their impacts on the environment which are relevant to their offer, as well as possible concessions. This will ensure the entire picture of its sustainable business. In May, the European Parliament voted on a draft directive that should change the rules on unfair business practices and consumer rights in the European Union. The changes will also affect Serbia, that is, non-EU countries, considering that some of them are obligated to harmonize national legislation with the Union.

The goal of the changes is to shift the focus from buying new to repairing existing devices, strengthening the network of repairers, as well as providing clear information about the options for device repair by the manufacturer. The proposed changes should reduce the waste resulting from excessive consumerism and throwing away products after failure. The changes also include the cancellation of "eco," "natural," or "climate neutral" labels from products whose manufacturers do not have evidence that such labels are substantiated. In this way, misleading consumers about the actual product sustainability, i.e., greenwashing, should be prevented.



## Book of Proceedings

Manufacturers will be prohibited from including in devices features that limit their lifespan, that is, "programmed device failure." This prohibition refers to the material, elements, and other device features that ultimately limit its duration by requiring replacement with a new one before the time expected for such type of product.

However, the prohibition does not apply to restrictions that occur as a result of the use of poor-quality materials. For manufacturers, this, in practice, means that they have to market only products designed to be compatible with consumables, spare parts, or accessories provided by other manufacturers. This material includes, for example, phone chargers or ink cartridges for printers. This will also affect Apple, which is already fighting with the EU over introducing USB-C chargers, insisting that Apple-certified chargers be used for its devices, with their functionality being limited with the use of others.

In addition, customers will have to be informed before purchase if the product they want cannot be repaired, as well as about all other repair limitations, such as non-guarantee of spare parts and refused repair if the product was previously repaired by another repairer. Manufacturers should also provide information about the planned length of availability of spare parts and device software updates. Then, the manufacturer, for example of TVs, in addition to the already existing two-year warranty, will be obliged to give additional two years of commercial warranty, which means that the products will be guaranteed for two plus two years.

Manufacturers from Serbia, as well as other non-EU countries, will have to comply with the changes and prohibitions introduced by the EU with new rules if they want to enter its market at all. This probably implies an amendment of the current Consumer Protection Law in Serbia if the draft EU Directive voted by the parliament finally enters into force, which requires the approval of another EU legislator, i.e., the Council of Ministers.

On the other hand, consumers in Serbia will undoubtedly benefit from the new changes, considering that they buy products not only from domestic producers but also from EU producers. In order for companies to avoid greenwashing, it is necessary to build a clear, unambiguous, green (sustainable) strategy that reflects the company's goals and how the goals can be reliably measured. Also, it is important to ensure that the sustainability strategy is in line with the overall corporate strategy, as well as that it is understood by all relevant business units.

### ***RECOMMENDATIONS TO COMPANIES FOR GREEN MARKETING ACTIVITIES AIMED AT COMPETITIVE MEETING OF CONSUMER NEEDS***

Everything that happens in the world today will have long-term consequences for everything that will happen to the world in the future. Consumers are also aware of this, and they pay more and more attention to encouraging and requiring companies to adopt, if they have not already, the practice of socially responsible business and green marketing. Companies play a major role in the development of society and changes that lead to improving the environment in which they operate. If they decide to use green marketing in their business, they will gain a competitive advantage in the market, generate higher revenues and reduce business costs. Proper and successful adoption of green marketing in business requires the company to understand the needs and wishes of green customers and develop green products and services based on them.

The company must establish a good rapport with consumers, as they are the ones who are the most environmentally aware and see where and how companies, through the development of green products and services, may help raise environmental awareness and contribute to the preservation of the environment and society as a whole through their business. Companies that adopt green marketing in their business are aware of the importance of doing business in harmony with nature, as well as of preserving the nature that



## Book of Proceedings

surrounds us daily. Thus, they create a positive public image, strengthen their brand, and contribute to the health of the entire community. Only the joint cooperation of companies, consumers, and society creates the foundation of a healthy society of the future.

In its infancy, green marketing meant labeling products or companies as friends of the environment that surrounds us, but today things have changed, and a label is no longer enough. For a long time, green marketing was considered a trick to attract environmentally aware consumers, but over time, its general benefit for the environment, and therefore for consumers and producers, has been recognized. Green marketing gives numerous business opportunities for the industry, both creatively and innovatively. Today's modern products are imperative for raising the quality of life. In this regard, a good green marketing practice requires the following (Kotler, 1999,239).

- a comprehensive assessment of the current state of the company in terms of environmental performance in environmental management,
- commitment to monitoring, auditing, reporting and measuring performance improvements,
- development of environmental policy with clear goals and action plan,
- monitoring the evolution of the green agenda (monitoring of the main trends, laws, etc.)
- investing in employee training, science and technology,
- consumer assistance and training programs to increase the level of consumer responsibility,
- supplier training,
- contribution to environmental protection programs
- greater commitment to marketing values: selling benefits, not products, and preserving corporate, not just product values.

## ***CONSUMER IN GREEN MARKETING***

Understanding the characteristics and behavior of consumers requires great expertise and continuity in the work of marketing experts. The number of suppliers on the market of green products is increasing. It is no longer enough just to be aware of that fact; it also requires segmentation, targeting and positioning strategies. For successful green marketing, having a product made from natural materials and a suitable packaging made from recycled materials is not enough. It is necessary that each product meets sanitary, technological, and health regulations in order to reach the shelves of stores.

It is necessary to create a strong brand in order for the products to have a lasting identity, a brand that will stand out from the competition and create confidence, usefulness, well-being, and safety in the eyes of consumers. Also, the products must contain eco-labels by means of which the producers show that they comply with the high environmental protection standards throughout the product life cycle process.

The reasons why consumers accept, buy, and use green products are numerous. Awareness of the imperative of environmental protection drives all motives. Many consumers direct their attention to green products because they have knowledge of the habitat in which they live.

Whether caring for the environment will become a purchase depends on product availability, price, and the perception of what makes a product green. Here, a new term, perceived consumer effectiveness, is defined, which shows how much the consumer believes that he contributes to solving the environmental problem by buying and using the product.

Social norms often influence people's behavior, i.e., people tend to look up to each other or care about what others think about their behavior. People are often skeptical of alternative energy sources, so they will adopt that energy source more easily if they see that it is already being used somewhere in the community.



## Book of Proceedings

An important factor of trust in green products, i.e., loyalty towards green products, is a previous positive experience with the same or other green products.

The very process of making a decision to buy green products follows the usual steps of a consumer decision-making process. It takes longer than usual, often due to scarce information about products and companies, and, as a rule, lack of availability, especially when new green products appear, so customers lack knowledge, making purchasing green products often a situation of their high degree of involvement.

1. Problem recognition - the process begins with the awareness of the need that the consumer is trying to meet. Consumers should understand the seriousness of environmental pollution and, motivated by concern for their own health or altruistic motives, want to contribute to solving the problem.

2. Information search - the buyer will approach a more extensive and intensive search for information if he or she is more personally involved or pays more attention to environmental issues. At the same time, an important role in understanding the impact of products on the environment, along with the manufacturer itself, is also played by educational institutions and environmental protection associations, which are more strongly involved in green shopping and can spread positive or negative information about certain products. The awareness of product existence also contributes to the increasing exposure of green products on store shelves.

3. Alternatives evaluation - refers to the mental evaluation of potential costs and benefits of products considered in the purchase process. Consumers consider contribution to environmental protection and sustainable development as a future-wise benefit, which has a long-term impact on generations to come. Other significant factors of product evaluation are the price, time, and effort in searching for the product, as well as the very characteristics of the green product. Those thinking about buying green products may not be willing to buy the product at a higher price even if it brings them savings during their lifetime because they are not informed about possible savings. Choosing products by desired characteristics and price also depends on the available alternatives, that is, how many manufacturers offer similar green products aimed at meeting a certain need.

4. Purchase decision - customers decide on the place, quantity, and time of purchase of a certain product. Many customers prefer specialized stores, while others want green products available in mainstream stores. The fact that more and more of them can be bought in regular stores certainly contributes to better acceptance of green products. Some prefer large-scale purchases and larger packages while others prefer to buy smaller quantities. The time of purchase depends on product availability at a certain time.

5. Post-purchase evaluation - for future purchase intentions, the experience of benefit and the feeling of satisfaction with a green product are crucial. Then, green products are more quickly adopted in society through, among other things, positive word-of-mouth communication. Green marketing also considers what happens to the product after its useful life. Therefore, it is necessary to provide consumers with the possibility of proper product or packaging disposal and to encourage them to such behavior.

## **CONCLUSION**

Green products still belong to the class of luxury products for the reason that their price is usually significantly higher than that of ordinary alternative products. The ideal situation for customers would be for a company to offer a product with a green certificate, without compromising its quality or other features, at a low price. However, this is mostly not possible since these products are burdened with higher research and development costs or due to the fact that they are not mass-produced.

The results of the efforts to ensure a product's eco-friendliness on its way from the raw material, through production and trade, to the final consumer is a green, environmentally responsible supply chain management. With the help of new technologies, methods and approaches to business, this concept is becoming an economically profitable, almost necessary business concept of successful modern companies.





## Book of Proceedings

Nowadays, communication between companies and consumers is vital. It is necessary to inform your customers about product features continuously. It is no longer enough to use claims such as "eco friendly," "eco product," and the like, but such claims must be confirmed, that is, specified. Good communication takes finding messages that will be associated with a specific activity, such as reforestation activities in which all citizens can participate. Green marketing communication should also be carried out through various actions, promotions, etc. Social networks also play a significant role in today's world. With their constant announcements about protecting the environment and creating good rapport with their consumers, companies create a positive image of themselves and the respect of both consumers and competitors.

Enterprises of the new millennium implement sustainable development in all forms of their business. They introduce green marketing into business by designing, producing, and selling products with reduced harmful environmental impact. They maintain multiple green communication channels, such as advertising on their YouTube channel, websites, and social networks, showing their care for the environment in various ways. They inform their target group of consumers about their environmental actions, promoting their products, inviting them to gatherings, tasting, etc. Consumers recognize them and trust their business, which motivates them to use their products, even at a higher price. By actually caring for the environment and their consumers, they set the standard of quality, as evidenced by awards and certificates. New times emphasize green marketing as one of the most important activities, and companies that implement it well create a good image of themselves and their business and thus make profits. This multiplies consumer awareness of company development as a prerequisite for the development of society as a whole.

Companies that are able to perceive, understand and work for the benefit of the community in which they operate will ensure their survival in the market in the long term. Not only will their clients and consumers be more loyal, but it will be cheaper and easier to provide themselves with labor. We live in a dynamic time in which the struggle for resources is heating up, and the consequences of climate change are felt more and more. People are increasingly concerned not only about themselves but also about their offspring and the planet as a whole, which will gradually shape their consumer habits. Therefore, the question of ethical behavior and advertising is no longer a question of morality but of business sustainability.

## REFERENCES

- Dujak, D., Ham, M. (2008). Integration of Green Marketing Principles in Supply Chain Management. 8<sup>th</sup> International Scientific Meeting "Business Logistics in Modern Management", Proceedings, Faculty of Economics in Osijek.
- Kotler, P., Armstrong, G., Saunders, J., Wong, V. (1999). Principles of Marketing. Second European Edition. London: Prentice Hall.
- Lacković, Z., Jeleč, M., Andrić, B. (2007). Fundamentals of Strategic Marketing. Polytechnic of Požega, Geno, Požega.
- Ham, M. (2019). Green Cynicism – Dimensions and Effects on the Purchase of Eco Food Products, *Oeconomica Jadertina*, 9(1), 45-57.
- Hartmann, P., Ibanez, V.A., Sainz, J.F.F. (2005). Green Branding Effects on Attitude: Functional versus Emotional Positioning Strategies. *Marketing Intelligence and Planning*, 23(1), 9-29.
- Jamaluddin, M. R., Hanafiah, M.H., Zulkifly, M. I. (2013). Customer-based Psychology Branding. *Procedia Social and Behavioral Sciences*, 105, 772-780.





Book of Proceedings

***TESTING PSYHOMETRIC PROPERTIES OF SEHC SCALE IN  
SERBIAN CONTEXT***

*Vesna Jovanović<sup>1</sup>*

*Katarina Njegić<sup>2</sup>*

*Vesna Milanović<sup>3</sup>*

***ABSTRACT***

*This paper investigates whether the scale developed by Alpern et al. (2013) for assessing healthcare employee satisfaction (SEHC scale) is applicable in Serbia. Complexity of work in healthcare institutions requires a special instrument for measuring the satisfaction of employees in healthcare organizations. However, such an instrument has not yet been developed in Serbia. Therefore, this paper examines the reliability and validity of the measurement instrument developed by Alpern et al. (2013) which was especially developed for accessing employee satisfaction in a low-income setting. In order to examine the psychometric properties of this scale, data were gathered through an on-line survey from 278 people employed in Serbian healthcare organizations. Exploratory factor analysis was conducted in order to evaluate reliability, convergent, and discriminant validity. The obtained results indicate that the tested scale is applicable in the Serbian context.*

***Key words:*** *employee satisfaction, job satisfaction, SEHC scale, healthcare organizations*

***JEL classification:*** *M31, M12, C10*

***INTRODUCTION***

The lack of employees in the healthcare sector, as well as the increasing departure of healthcare workers from Serbia, represents a serious threat to the healthcare system. Thus, solving the issue of the survival and future functioning of health institutions in Serbia is crucial. Improving employee satisfaction in healthcare organizations is necessary to reduce the turnover of healthcare professionals and improve retention rates (Janačković, 2021).

„Job satisfaction consists of individuals’ cognitive, affective, and evaluative reactions to their jobs“ (Locke 1969, 1976; Janićijević, Kovačević & Petrović, 2015, p. 75). Lussier defined job satisfaction as „the employees’ overall attitude to the work“ (Lussier, 2005 in Zhu, 2013). Job satisfaction and employee satisfaction affect the satisfaction of users of health services (patients), the quality of health services and the results achieved by the health institution (Radović-Marković, Vukotić, & Krumova, 2014). Some researchers note that job satisfaction as a concept "becomes very important at all levels of management and human resource management of organizations" (Givaki, Davoudi, Manzari, & Alipour Katigarie, 2018, p. 113). More satisfied employees stay longer in the organization/health care institution (Aiken et al., 2013; De Sousa Sabbagha, Ledimo, & Martins, 2018; Kurniawaty, Ramly & Ramlawati, 2019), are more committed to their institution (Azeem & Akhtar, 2014; Choi & Lee, 2012; Čulibrk et al. , 2018; Fu & Deshpande, 2014; Valaei & Rezaei, 2016), are more efficient (Jovanović & Božilović, 2017), achieve better job performance (Fu & Deshpande, 2014; Milanović & Dragičević-Radičević, 2019), positively contribute to the service quality (Singh & Jain, 2013; Tsai & Wu 2011), and contribute to the achievement of

<sup>1</sup> Institute for Orthopedic Surgery “Banjica”, Belgrade, Serbia, ortvj@yahoo.com

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, katarina.njegic@vspep.edu.rs

<sup>3</sup> Faculty of Business and Law, University “MB”, Belgrade, Serbia, vmilanovic555@gmail.com



## Book of Proceedings

organizational goals (Latif et al., 2013). Therefore, organizations strive for satisfied employees, and that is why, they periodically examine the level of employees' job satisfaction and determine the aspects of the job that need to be improved. The assessment of employee satisfaction in healthcare organizations in Serbia is difficult due to the lack of a proven and reliable measuring instrument. So far, in Serbia, there is no measurement scale that has been developed to measure the level of satisfaction of employees in healthcare organizations. In foreign literature, there can be found numerous attempts of researchers to develop such instruments. Some of the measurement scales used to assess the employee satisfaction in healthcare institutions are: General Satisfaction Questionnaire (in: Papathanasiou, Kleisariis, Tsaras, Fradelos, & Kourkouta, 2015), Index of Work Satisfaction (Stamps & Piedmont, 1970, 1986 in Goula et al., 2022; Iliopoulos & Priporas, 2011; Minnesota Satisfaction Questionnaire - Weiss et al., 1967 in Nasab et al., 2017). According to Ahmad, Oranye, & Danilov (2017), based on their literature review, in addition to the above, the Facet-free Job Satisfaction Scale (Quinn & Staines, 1979), and Satisfaction Scale (Mueller & McCloskey, 1990) proved to be reliable. Especially formulated for measuring nurses' job satisfaction are the Job Characteristics Inventory, Job Satisfaction Index, Job Satisfaction Tool, Satisfaction with the Clinical Ladder Scale, Perceptions of the Nurses' Workplace Questionnaire, Price and Mueller's Satisfaction Instrument, McCloskey/Mueller Satisfaction Scale, Nursing Job Satisfaction Scale (Lino, 1999 in Marković, 2014).

One of the attempts to develop an instrument for measuring employee satisfaction in healthcare organizations was made by a group of authors from Ethiopia (Alpern et al., 2013). They designed and tested the SEHC scale (Satisfaction of Employees in Health Care). This scale consists of 20 items. Authors examined the dimensionality of the scale and found that the data factored into three factors, which they called: 1) relationship with management and supervisors, 2) job content, and 3) relationships with coworkers. They also found that the three factors are highly correlated. The SEHC scale (Alpern et al., 2013) is of particular importance, as it is intended to measure job satisfaction in an environment characterized by low incomes. The questionnaire does not contain questions about salaries, which gives a more realistic insight into satisfaction with other aspects of the job.

The aim of this study is to fill the existing gap in the literature and to offer a practical solution that will enable the examination of employee satisfaction in healthcare organizations in Serbia. Therefore, in this paper, the possibility of applying SEHC scale for examination of job satisfaction of healthcare workers in Serbia was tested. The SEHC scale was chosen because it was developed in a research context that is similar to the atmosphere in Serbia. The results of this research enable external validation of the scale and provide a reliable instrument for measuring employee satisfaction in healthcare organizations in Serbia.

The paper is organized in four sections. After the introduction part, we present the research methodology. Results of the conducted research are presented in the third section. Discussion and conclusions with limitations and directions for future research are given in the fourth section of the paper.

## ***RESEARCH METHODOLOGY***

### ***Sample and data collection procedure***

In order to collect data, an online survey was conducted. The sample consisted of employees in health care institutions operating in the territory of the city of Belgrade (The Republic of Serbia). A convenient sampling technique was used to form the sample. First of all, contacts of the managing directors of health care institutions in Belgrade were acquired through personal acquaintances. The managers who agreed to participate in the survey sent their employees an e-mail with a link to the online questionnaire and a request to fill out the questionnaire. In this way, 278 fully completed questionnaires were obtained. The survey lasted about two weeks, from the end of April to the beginning of May 2023. It is stated in the literature that the sample is relevant if the number of respondents is at least five times greater than the number of



## Book of Proceedings

questions in the questionnaire (Kline, 2005). Accordingly, we considered that the number of respondents was sufficient to conduct the analysis. The characteristics of the respondents in the sample are shown in Table 1.

*Table 1. Characteristics of the respondents*

Criteria	Sample (N=278)	
	Frequency	Per cent (%)
<b>Gender</b>		
Male	63	22.66
Female	215	77.34
Other	/	
<b>Age</b>		
<30	43	15.48
31-40	71	25.54
41-50	72	25.90
>51	92	33.09
<b>Workplace</b>		
Medical doctor	103	37.05
Nurse/medical technician	135	48.56
Other medical stuff	40	14.39
<b>Working experience</b>		
<10	75	26.98
11-20	76	27.34
21-30	84	30.22
>30	43	15.47
<b>Education</b>		
High school	89	32.01
College degree	72	25.90
Faculty degree or more (master's or PhD)	106	38.13
Other	11	3.96

*Source: Authors*

## **MEASUREMENTS**

All items (questions in the questionnaire) were taken from the original scale developed by Alpern et al. (2013). The items were coded from ES1 to ES20. Respondents rated the extent to which they agreed with the proposed statements on a scale from 1 - strongly disagree to 5 - strongly agree. All items used in the research are listed below.

ES1- The management of this organization is supportive of me.



**Book of Proceedings**

- ES2- I receive the right amount of support and guidance from my direct supervisor.
- ES3- I am provided with all the training necessary for me to perform my job.
- ES4- I have learned many new job skills in this position.
- ES5- I feel encouraged by my supervisor to offer suggestions and improvements.
- ES6- The management makes changes based on my suggestions and feedback.
- ES7- I am appropriately recognized when I perform well at my regular work duties.
- ES8- The organization rules make it easy for me to do a good job.
- ES9- I am satisfied with my chances for promotion.
- ES10- I have adequate opportunities to develop my professional skills.
- ES11- I have an accurate written job description.
- ES12- The amount of work I am expected to finish each week is reasonable.
- ES13- My work assignments are always clearly explained to me.
- ES14- My work is evaluated based on a fair system of performance standards.
- ES15- My department provides all the equipment, supplies, and resources necessary for me to perform my duties.
- ES16- The buildings, grounds and layout of this health facility are adequate for me to perform my work duties.
- ES17- My coworkers and I work well together.
- ES18- I feel I can easily communicate with members from all levels of this organization.
- ES19- I would recommend this health facility to other workers as a good place to work.
- ES20- How would you rate this health facility as a place to work?

***RESULTS***

In order to properly examine the scale’s properties, we used exploratory factor analysis (EFA). All calculations were done in IBM SPSS 24. The obtained results are presented below.

***Dimensionality of the scale***

The first step in our analysis was to examine the dimensionality of the scale. In the original work of Alpern et al. (2013) authors extracted three distinct factors. Thus, we also wanted to see if the factors would differentiate naturally. That is why we first extracted factors based on eigenvalues greater than one. Based on the original scale, we expected that the factors will correlate highly, thus we applied Principal Axis Factoring as the extraction method with Promax rotation, as it is suggested in literature (Hair et al., 2010). We analyzed Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the results of the Bartlett’s test of sphericity to see if the data are appropriate for conducting EFA. The value of KMO index was satisfactory (0.9702) (Kaiser, 1974), as well as the result of Bartlett's test (Sig.=0.000) (Nunnally, 1978), thus we proceeded with the analysis. Communalities were all at the required level (>0.4), showing that all indicators relate well with the extracted factors. Based on eigenvalues greater than 1, two factors were extracted, and they explained 72.898 % of total variance in the model. Pattern matrix for this first solution is given in Table 2, and it can be seen that the factors overlap.

*Table 2. Pattern matrix generated for the original scale based on eigenvalues greater than one*

	Factor	
	1	2
ES1	0.825	



### Book of Proceedings

ES2	0.605	
ES3	0.841	
ES4	0.796	
ES5	0.814	
ES6	0.883	
ES7	0.745	
ES8	0.746	
ES9	0.938	
ES10	0.985	
ES11		0.824
ES12		0.795
ES13		0.933
ES14	0.704	
ES15	0.383	0.477
ES16	0.323	0.439
ES17		0.568
ES18	0.398	0.435
ES19	0.728	
ES20	0.642	

*Source: Authors*

Some items loaded well on both factors (ES15, ES16, ES18), thus we decided to remove these items in order to refine the scale. The problematic items were removed one by one in three iterations. However, after we removed ES15, ES16, and ES18, the EFA resulted in a one-factor solution based on eigenvalues greater than 1 (Principal Axis Factoring with Promax rotation). This factor explained 70.931% of the variance in the model. The pattern matrix for this solution is given in Table 3.

*Table 3. Pattern matrix generated for the refined scale based on eigenvalues greater than one*

	Factor
	1
ES1	0.871
ES2	0.853
ES3	0.887
ES4	0.802
ES5	0.893
ES6	0.863
ES7	0.892
ES8	0.898
ES9	0.872



### Book of Proceedings

ES10	0.904
ES11	0.736
ES12	0.687
ES13	0.801
ES14	0.890
ES17	0.631
ES19	0.895
ES20	0.880

*Source: Authors*

Even though the result in Table 3. is acceptable, our goal was to investigate whether distinct factors can be extracted, like it was the case in the original paper by Alpern et al. (2013). In the original paper authors extracted three factors, thus the next step in our analysis was to perform EFA with a fixed number of factors (three). All other settings stayed the same (Principal Axis Factoring with Promax rotation). The values of KMO index were satisfactory (0.907) and the Bartlett's test showed satisfactory results (Sig.=0.000). All communalities were also in the required range (>0.4). Three extracted factors explained 74.821% of the total variance in the model. The obtained pattern matrix uncovered that the factors overlap substantially. Items ES15, ES16, ES19, and ES20 loaded well on two of three factors which indicated discriminant validity problems. Factor loading for those items were not extremely high (less than 0.6), thus we decided to eliminate them one by one. The elimination was conducted in several iterations. Our goal was to leave as many items as we could, in order to retain as much as we could from the original scale. After the refinement of the scale, we accomplished a satisfactory solution. A three-factor model with a clean pattern matrix. Three factors explained 76.471% of total variance in the model. All of the previous solutions explained slightly less variance. This result indicates that the refined three-factor model is the best solution. The pattern matrix of the refined scale is given in Table 4.

*Table 4. Pattern matrix of the refined scale generated based on the fixed number of factors*

	Factor		
	1	2	3
ES1	0.840		
ES2	0.614		
ES3	0.866		
ES4	0.784		
ES5	0.812		
ES6	0.897		
ES7	0.764		
ES8	0.738		
ES9	0.950		
ES10	0.988		
ES11		0.780	
ES12		0.687	
ES13		0.924	





## Book of Proceedings

ES14	0.734		
ES17			0.813
ES18			0.570

*Source: Authors*

After we succeeded in differentiating three factors, we tested the reliability of the refined scale, as well as its three dimensions (separate scales).

### ***Reliability***

The reliability was assessed based on the Cronbach's alpha coefficient. The obtained results are given in Table 5. The values of Cronbach's alpha were above the required threshold of 0.7 (Churchill, 1979; Cortina, 1993) for the refined SEHC scale, as well as for the separate factors that were extracted.

*Table 5. Reliability statistics*

Scale	Cronbach's Alpha	N of Items
refined SEHC	0.973	16
Factor1	0.974	11
Factor2	0.889	3
Factor3	0.795	2

*Source: Authors*

After we ascertained that the scales were reliable, we assessed the validity of the refined SEHC scale.

### ***Validity of the scale***

Convergent validity of the refined SEHC scale was assessed based on the factor loadings (given in Table 4). Pattern matrix (Table 4) revealed that all factor loadings are high and above the required threshold of 0.5 (Hair et al., 2010). This indicates that variables within a single factor are highly correlated, and we can conclude that the convergent validity is accomplished.

Discriminant validity was examined by looking at the pattern matrix (Table 4) as well as at the factor correlation matrix which is given in Table 6. The pattern matrix (Table 4) is clean and there are no items that relate to more than one factor. However, the results presented in Table 6 indicate that the correlations between the different dimensions (factors) of the SEHC scale are high. Correlations exceed the recommended threshold of 0.7 (Hair et al., 2010). Based on this result, we can conclude that discriminant validity is not completely proven and accomplished.

*Table 6. Factor correlation matrix for the refined SEHC scale*

Factor	1	2	3
1	1.000	0.762	0.724
2	0.762	1.000	0.724
3	0.724	0.724	1.000

*Source: Authors*



**Book of Proceedings**

***DISCUSSION AND CONCLUSIONS***

A large number of attempts to formulate and test various measurement scales for examining job satisfaction in healthcare organizations can be found in literature. However, in Serbia, this topic has not yet received sufficient interest from the scientific community. So far, no scale has been developed in Serbia that can be reliably used to assess job satisfaction in healthcare organizations in Serbia. In order to fill the existing gap in the literature, this paper examined the psychometric properties of a scale that was already developed and tested in a similar economic environment.

The results obtained in this study are similar to those obtained by the authors of the SEHC scale. First, some of the indicators had to be dropped in order to refine the scale. Our analysis showed that these indicators are ES15, ES16, ES19, ES20, while the authors of the SEHC scale removed indicators number 19 and 20.

Alpern et al. (2013) showed that the indicators are grouped into three factors. They named the factors: Factor1-relationship with management and supervisors (this dimension included indicators 1-8, 10, 13, 14); Factor2- job content (included indicators 9, 11, 12, 15, 16); Factor3- relationships with coworkers (included 17,18). Our results are remarkably similar. The first factor incorporated indicators: ES1-ES10, ES14; second factor included ES11, ES12, ES13, and third factor included ES17 and ES18. In our research, all three factors showed good reliability, as well as the SEHC scale as a whole. The scale demonstrated good convergent validity. However, the analysis uncovered potential discriminant validity issues. The three extracted factors were highly correlated, even though there were no items that loaded on two factors at the same time. Based on this result, we can conclude that discriminant validity is not completely proven and accomplished, but it does not mean that this will represent a problem when using the SEHC scale.

Our primary solution, extracted based on eigenvalues greater than 1, showed that all items load well on one factor. When we fixed the number of factors to three, we accomplished a clean pattern matrix. This result indicates that the employee satisfaction construct can be modeled both as a one-dimensional variable and as a variable consisting of three separate dimensions.

The general conclusion of this study is that the SEHC scale is reliable and applicable for assessing employee satisfaction in healthcare organizations in Serbia.

Limitations of this study are general limitations associated with convenient sampling technique. Thus, it is advised to use random sampling in future research in order to obtain more reliable results. This paper mainly concentrated on examining the dimensionality of the scale. Further research could go in the direction of conducting confirmatory factor analysis (CFA), in order to confirm the results of EFA. In addition, the nomological validity of the scale can be examined by relating employee satisfaction measured with SEHC scale to some relevant concepts.

***REFERENCES***

- Ahmad, N., Oranye, N. O., Danilov, A. (2017). Rasch analysis of Stamps's Index of Work Satisfaction in nursing population. *Nursing Open*, 4(1), 32-40. doi: 10.1002/nop2.61
- Aiken, L. H., Sloane, D. M., Bruyneel, L., Van den Heede, K., Sermeus, W., Rn4cast Consortium. (2013). Nurses' reports of working conditions and hospital quality of care in 12 countries in Europe. *International Journal of Nursing Studies*, 50(2), 143-153. doi: 10.1016/j.ijnurstu.2012.11
- Alpern, R., Canavan, M. E., Thompson, J. T., McNatt, Z., Tatek, D., Lindfield, T., Bradley, E. H. (2013). Development of a brief instrument for assessing healthcare employee satisfaction in a low-income setting. *PloS one*, 8(11), e79053. doi: 10.1371/journal.pone.0079053



**Book of Proceedings**

- Azeem, S. M., Akhtar, N. (2014). Job satisfaction and organizational commitment among public sector employees in Saudi Arabia. *International Journal of Business and Social Science*, 5(7), 127-133.
- Choi, H. J., Lee, E. (2012). Mediation effect of job satisfaction between internal marketing and organizational commitment of nurses in small and medium-sized hospitals. *Journal of Korean Academy of Nursing Administration*, 18(3), 329-337.
- Churchill Jr G. A. (1979). A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research*, 16(1), 64-73. doi:10.2307/3150876
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78(1), 98-104.
- Ćulibrk, J., DeliĆ, M., Mitrović, S., Ćulibrk, D. (2018). Job satisfaction, organizational commitment and job involvement: The mediating role of job involvement. *Frontiers in Psychology*, 9, 132. <https://doi.org/10.3389/fpsyg.2018.00132>
- De Sousa Sabbagha, M., Ledimo, O., Martins, N. (2018). Predicting staff retention from employee motivation and job satisfaction. *Journal of Psychology in Africa*, 28(2), 136-140. <https://doi.org/10.1080/14330237.2018.1454578>
- Fu, W., Deshpande, S. P. (2014). The impact of caring climate, job satisfaction, and organizational commitment on job performance of employees in a China's insurance company. *Journal of Business Ethics*, 124, 339-349. doi: 10.1007/s10551-013-1876-y
- Givaki, E., Davoudi, H., Manzari, A. R., Alipour Katigarie, S. (2018). Job Satisfaction Prediction based on Job Motivation and Emotional Intelligence of Managers and Employees. *Iranian journal of educational sociology*, 1(7), 112-118.
- Goula, A., Rizopoulos, T., Stamouli, M. A., Kelesi, M., Kaba, E., Soulis, S. (2022). Internal quality and job satisfaction in health care services. *International Journal of Environmental Research and Public Health*, 19(3), 1496. <https://doi.org/10.3390/ijerph19031496>
- Hair, J., Black, W., Babin, B., Anderson, R. (2010). *Multivariate data analysis* (7th ed.). Prentice-Hall, Inc. Upper Saddle River, New Jersey.
- Iliopoulos, E., Priporas, C. V. (2011). The effect of internal marketing on job satisfaction in health services: a pilot study in public hospitals in Northern Greece. *BMC health services research*, 11(1), 1-8.
- Janačković, D. P. (2021). Metode i tehnike istraživanja motivacije i zadovoljstva zaposlenih. *Trendovi u poslovanju*, 9(18), 53-63.
- Janićijević, N., Kovačević, P., Petrović, I. (2015). Identifying organizational factors of job satisfaction: The case of one Serbian company. *Economic annals*, 60(205), 73-104. doi: 10.2298/EKA1505073J
- Jovanović, G., Božilović, S. (2017). Uticaj upravljanja ljudskim resursima na motivaciju i zadovoljstvo poslom. *Ekonomija*, 63(1), 97-110.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36. doi:10.1007/BF02291575
- Kline, R.B. (2005), *Principles and Practice of Structural Equation Modeling* (2nd Edition). New York: The Guilford Press.
- Kurniawaty, K., Ramly, M., Ramlawati, R. (2019). The effect of work environment, stress, and job satisfaction on employee turnover intention. *Management Science Letters*, 9(6), 877-886.
- Latif, M. S., Ahmad, M., Qasim, M., Mushtaq, M., Ferdoos, A., Naeem, H. (2013). Impact of employee's job satisfaction on organizational performance. *European Journal of Business and Management*, 5(5), 166-171.
- Marković, T. (2014). Procena zadovoljstva poslom i motivacije kao upravljački alati za unapređenje kvaliteta rada zdravstvenih ustanova (doktorska disertacija). Niš: Medicinski fakultet.



**Book of Proceedings**

- Milanović, V., Dragičević Radičević, T. (2019). Odnosi između zadovoljstva komunikacijom, zadovoljstva poslom i postignuća na poslu – pregled najvažnijih empirijskih istraživanja od 1970. godine. *Komunikacija i mediji*, 14(46), 89-120. doi: 10,5937/cm14-19774.
- Mueller, C. W., McCloskey, J. C. (1990). Nurses' job satisfaction: A proposed measure. *Nursing research*, 39(2), 113-116.
- Nasab, S. M. T., Rahmani, B., Enjezab, B., Rezaee, A. K. (2017). Comparative Study on the Effect of Internal Marketing Components on Satisfaction of Nurses: Evidence from Public and Private Hospitals in Yazd. *International Journal of Economic Perspectives*, 11(3), 862-870. ISSN 1307-1637.
- Nunnally, J. L. (1978). *Psychometric Theory* (2nd ed.). New York: McGraw-Hill.
- Papathanasiou, I. V., Kleisiaris, C. F., Tsaras, K., Fradelos, E. C., Kourkouta, L. (2015). General satisfaction among healthcare workers: differences between employees in medical and mental health sector. *Materia Socio-Medica*, 27(4), 225.
- Quinn, R. P., Staines, G. L. (1979). The 1977 quality of employment survey: Descriptive statistics, with comparison data from the 1969-70 and the 1972-73 surveys (p. 169). Ann Arbor: Survey Research Center, Institute for Social Research, University of Michigan.
- Radović-Marković, M., Vukotić, V., Krumova, A. Work motivation: Comparative analysis between Serbia and Bulgaria. *International Review*, 1-2, 127-135.
- Singh, J. K., Jain, M. (2013). A Study of employee's job satisfaction and its impact on their performance. *Journal of Indian Research*, 1(4), 105-111. ISSN: 2321-4155
- Tsai, Y., Wu, S. W. (2011). Using internal marketing to improve organizational commitment and service quality. *Journal of Advanced Nursing*, 67(12), 2593-2604. doi: 10.1111/j.1365-2648.2011.05696.x.
- Valaei, N., Rezaei, S. (2016). Job satisfaction and organizational commitment: An empirical investigation among ICT-SMEs. *Management Research Review*, 39(12), 1663-1694. <https://doi.org/10.1108/MRR-09-2015-0216>
- Zhu, Y. (2013). A Review of Job Satisfaction. *Asian Social Science*, 9(1), 293-298.



Book of Proceedings

***RESEARCH ON THE SALES IMPACT OF MODERN  
COMMUNICATION TECHNOLOGIES IN THE REPUBLIC OF  
SERBIA***

*Maja Cogoljević<sup>1</sup>  
Ljiljana Dimitrijević<sup>2</sup>  
Vladan Cogoljević<sup>3</sup>*

***ABSTRACT***

*Modern communication technologies today represent a crucial resource for increasing the competitive advantage of market-oriented enterprises. The technological revolution has brought about many changes in a company's marketing approach, emphasizing a robust interactive component between technology and marketing communications. Conventional marketing and sales models are increasingly giving way to sophisticated electronic means that enable access to specific groups of customers and consumers. Various modalities of information technology have enabled the massive development of electronic commerce. This has contributed to a more efficient way of conducting business transactions and a high level of information exchange among business participants at great geographic distances and time differences. Taking these global trends into account, this paper aims to demonstrate how and for what purposes residents and businesses in Serbia use the Internet, as well as the developmental path of electronic commerce in the Serbian market. The analysis is based on the latest data from relevant domestic institutions. Based on the conducted research, it is concluded that there has been a drastic growth in electronic commerce in Serbia in recent years, with predictions that the trend of increasing customer preference for this form of shopping will continue.*

***Key words:*** *electronic commerce, Internet, digital economy, consumer*

***JEL Classification:*** *M31*

***INTRODUCTION***

The beginning of the new millennium brought about a new era of communication. The technological revolution has ushered in a slew of changes in a company's marketing approach, emphasizing a strong interactive component between technology and marketing communication. Computer networks, video conferences, online services and the Internet, interactive kiosks, CD-ROM catalogs, and personal digital assistants as interactive multimedia technologies have been created thanks to scientific discoveries and innovations. Today, electronic mail, videotext terminals, point-of-sale terminals, satellites, optical fibers, advanced computer units, and more are in use. Various modalities of information technology have enabled the massive development of electronic commerce.

Conventional marketing and sales models are increasingly giving way to sophisticated electronic means. This approach targets specific groups of customers and consumers. Many respected authorities in economics believe that mass marketing is a thing of the past, and direct marketing is increasingly being applied.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, maja.cogoljevic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, ljiljana.dimitrijevic@vspep.edu.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, vladan.cogoljevic@vspep.edu.rs



## Book of Proceedings

As an interactive and multimedia electronic force, the Internet has closely integrated with conventional marketing communication instruments, surpassing their certain limitations. According to Vračar, "The internet, specifically its www service, despite its numerous advantages over classic forms of communication, is not universal and, in that sense, does not eliminate the possibility and the need for parallel use of other forms of communication. The situation with the Internet and its relationship with other media is roughly similar to the relationship between television and other forms of communication. It has been shown that television has expanded the overall communicative market and has posed a challenge to which print and audio communication have successfully responded" (Vračar, 2006, p. 278).

Traditional media for information transmission – TV, radio, newspapers, magazines, etc.– have a substantial reach and influence on the target audience. Still, the Internet offers new segments of creative communication and certain differential advantages.

Employees in a company's marketing communications must be educated in the principles of cyber marketing. Vast databases of customer information and aspects of their behavior are researched and classified. Personal selling is no longer what it used to be, and with online support, it has gained solid and effective momentum. Integration with other classical communication forms has proven to yield excellent results. Computer networks enable various communication activities, from product or service presentations and purchases to classic propaganda. Companies that organize and manage these networks record high revenue growth rates (Vračar, 2006, p. 279).

To create a new information society based on communication, the leaders of European governments (EU and others) set a very ambitious goal in March 2000 at the Council of Europe meeting in Lisbon. The "eEurope Program" was adopted to become the most competitive and dynamic knowledge-based economy, especially on the Internet. A plan was defined, and starting guidelines were provided: accelerate the establishment of essential constructive elements of the information society; cheaper, faster, and more secure Internet; invest in people and knowledge; and encourage Internet use (Marković, 2003, p. 55).

### ***SPECIFICS OF THE INTERNET AND ITS USE IN SERBIA***

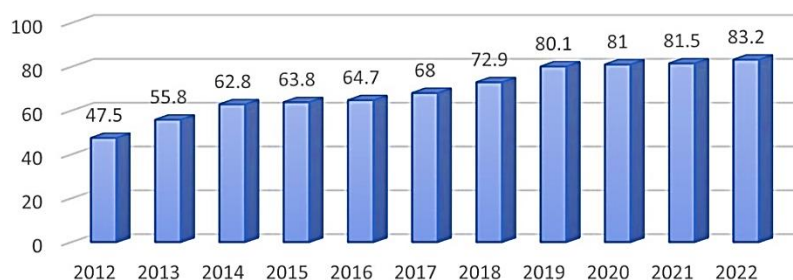
The Internet is a medium of a new era, a phenomenon increasingly penetrating the fabric of all human social and economic activities on Earth. It represents financial entities' fastest and most efficient information tool today.

Business over the Internet has entered a new dimension. Its use is highly diverse. For example, for many individuals, the primary purpose is the ability to send electronic mail (e-mail). In contrast, others conduct in-depth, sophisticated research, and some use it for downloading and copying software and various files, as well as data file transfers, monitoring product and service information, etc.

Many companies in the developed West have reaped and continue to reap the benefits of the Internet. Internet communications officially opened in Serbia on February 28, 1996, when the academic network of the Republic connected to the Internet through the company "Beo Tel." After some time, many Serbian institutions and companies began to use digital communication. Today, if a company is not on the Internet, it unequivocally conveys an inferior and retrograde organization that is not connected to modern technological trends and certainly has significant business difficulties.

In Serbia, there is a certain electronic communication and internet infrastructure, the prevalence of which is also influenced by the demographic specifics of internet users. According to data from the Statistical Office of the Republic of Serbia (hereinafter referred to as: RZS) in 2022, the percentage of households with internet access was 83.2% of the total number of homes in Serbia, which represents an increase of 1.7% compared to 2021 and 2.2% compared to 2020 (RZS, 2022, p. 12).



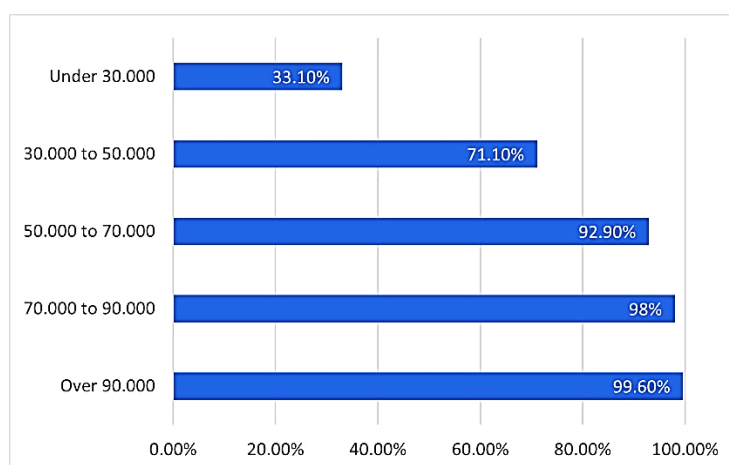


Graph 1. Households that have an Internet connection

Source: RZS, 2022, p. 12

The presence of internet connections is highest in Belgrade - 93%, in Vojvodina 81.9%, in Central and Western Serbia 80.7%, and in the Southern and Eastern Serbia Region 76.6%. There are also significant differences when comparing the number of internet connections in urban and rural parts of Serbia - 87.6% compared to 75.8%. Compared to 2021, the growth rate in urban Serbia is 2%, and in rural Serbia, it is 1.1% (RZS, 2022, p. 13).

The monthly household income significantly influences the possession of an Internet connection. Generally, families with a monthly payment of over 90,000 dinars (99.6%) own it, while the participation of families with incomes less than 30,000 dinars is only 33.1% (RZS, 2022, p. 13).



Graph 2. Households with Internet access by income level (%)

Source: RZS, 2022, p. 13

When it comes to the frequency of using this medium, it is important to note that 83.5% of the population used the Internet in the last three months, 0.9% of respondents used the Internet more than three months ago, 4.9% more than a year ago, while 10.6% of respondents have never used the Internet. Comparing these data with previous years, we notice that the number of Internet users in the last three months has increased by 2.3% compared to 2021 and by 5.1% compared to 2020.

When observed according to the level of education, the percentage of Internet users is as follows:

- 97.8% of individuals with university education.
- 92.9% of individuals with secondary education.
- 58.9% of individuals with education lower than secondary.

The percentage of Internet users (in the last three months) by employment status:

- 100.0% of students.



## Book of Proceedings

- 98.9% of employed individuals.
- 8.7% of unemployed individuals.
- 58.1% of others (such as pensioners, individuals in military service, etc.).

Regarding Internet usage by gender in the last three months, 85.9% of men and 81.2% of women used the Internet, primarily for sending online messages through WhatsApp, Viber, Skype, and Messenger (89.0%), as well as for making phone calls over the Internet/video calls (90.9%) (RZS, 2022, pp. 19-22).

### ***DEVELOPMENT OF ELECTRONIC COMMERCE***

In the second half of the 1980s, companies began gradually implementing electronic communications in their business operations in the quest for a distinctive competitive advantage over other players in developed markets. By the early 1990s, the fusion of electronics and communications increasingly found application in almost all economic activities. In a functional sense, marketing and sales were among the most receptive to adopting electronic technology. In 1997, IBM identified e-commerce as transforming key business processes using internet technology (Rakić & Rakić, 2019, p. 83).

The application of electronics and computers soon found a place in commerce and developed in two directions. First, the new technology found its application in traditional trading institutions. Second, the development of computers enabled the emergence of a new trading institution - electronic commerce (Lovreta et al., 2019, p. 333). E-commerce represents an area of commercial activity that provides online trading services (Damnjanović et al., 2020, pp. 31-40). Laudon and Traver define electronic commerce as "the activities of buying and selling products and services conducted over the internet or other electronic communication channels" (Laudon & Traver, 2017, p. 51). The complete integration of trade into information technology trends has manifested itself through various spheres of application, primarily and predominantly through the Internet, as well as interactive television, virtual reality, artificial intelligence, and more. Significant advancements are still expected in some areas. The intangible, technological, and programmatic nature of the sales process, distant communication between the seller and the buyer, and the inability to physically inspect products are some of the characteristics inherent in online trading (Kostić et al., 2021, p. 295).

Traditional, well-established companies of the "old economy" are accepting the challenges of the "digital economy," replacing their previously costly paper-based operations with electronic data interchange (EDI) (Čuzović et al., 2012, p. 189). The introduction of EDI technology (Electronic Data Interchange) significantly improves the quality of communication and economic transactions in modern business. It is an integrated and standardized system for exchanging business documentation via computer networks. As a result, the functionality and synchronization of information systems across different companies have been revolutionized. Communication electronic standards were established, allowing transparency and seamless exchange of information and business transactions among economic partners. EDI standards found practical application in the wholesale sector. By merging and being compatible with the information systems of existing and potential clients, wholesale has significantly modernized and automated business techniques, such as ordering and administrative procedures, among others. The adoption of EDI standards has led to the emergence of wholesale techniques like the open entry order system. This wholesale method offers interested clients significant operational and strategic advantages: insight into supplier inventory, 24/7 order planning, and placement, lower transaction costs due to reduced administrative expenses, transaction speed, and more (Lovreta et al., 2019, p. 334). The most significant advantage of electronic commerce is the introduction of automation into all business processes, leading to more efficient business collaboration and cost reduction. It has brought significant changes compared to traditional trade in speed and flexibility, as all transactions now occur more rapidly and are more adaptable to changes in modern business (Vulić, 2015, p. 15). Electronic commerce enhances all aspects of online marketing, facilitating a close relationship between activities and profits and uncovering issues within the organization that require improvement (Aaker et al., 2008, p. 722).

As a significant segment of modern commerce, virtual shopping is tightly integrated into the digital landscape. Through computers or mobile phones, consumers can comfortably order products from around the world while sitting in their homes - on the Internet, the network of all networks. Under the influence of the digital dimension, consumer habits are subject to successive changes. Consequently, sales through electronic means have been growing year by year.

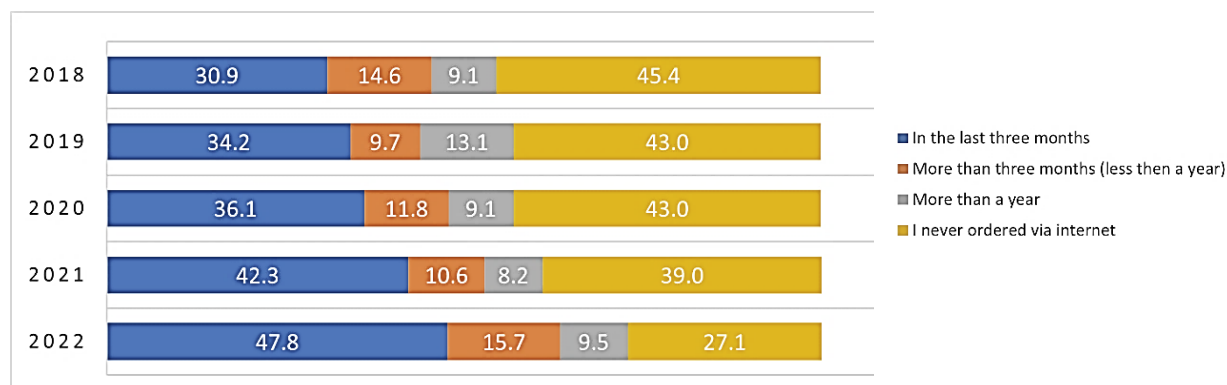
There are countless virtual stores on the Internet. New buying/selling techniques have led to computer graphics and three-dimensional modeling advancements. On computer screens, customers can select desired products and make purchases. In essence, these stores have introduced an element of simplicity, erasing the complexities of the physical marketplace. The most well-known companies on the Internet have become economic giants and are experiencing the fastest growth - Amazon, Aliexpress, and eBay. Their websites are always accessible, and their catalogs allow customers to purchase their products without limitations, even though these companies are thousands of kilometers away.

The advantages of e-commerce are numerous: a practically unlimited consumer base, irrelevant geographical boundaries and time zones, increased revenue, cost reduction through processes like automated product ordering and order tracking in the delivery cycle, faster response to market changes, better customer relations (CRM), elimination of intermediaries in the distribution of goods, and more (Rašić, 2003, pp. 22-25).

### ***THE IMPORTANCE OF E-COMMERCE IN SERBIA***

The importance of e-commerce in Serbia is continuously growing, with the use of electronic business and online shopping experiencing a constant rise. This is primarily due to the increasing availability of information in the electronic market. Residents of Serbia are increasingly engaging in online trading, making it possible to purchase furniture, appliances, computer equipment, airline tickets, mobile phones, tourist packages, theater tickets, and more through the Internet. Electronic commerce enables faster product discovery, easier price comparisons, and transaction payments without the need to visit a bank, all with just a few clicks on a computer.

According to research conducted by The Statistical Office of the Republic of Serbia in 2022, 47.8% of Internet users had purchased or ordered goods/services via the Internet in the past three months, 15.7% had done so more than three months ago, and 9.5% had done so more than a year ago. The total number of online shoppers in the past year accounted for as much as 73% of Internet users.



*Graph 3: When Internet users last purchased/ordered goods via the Internet*

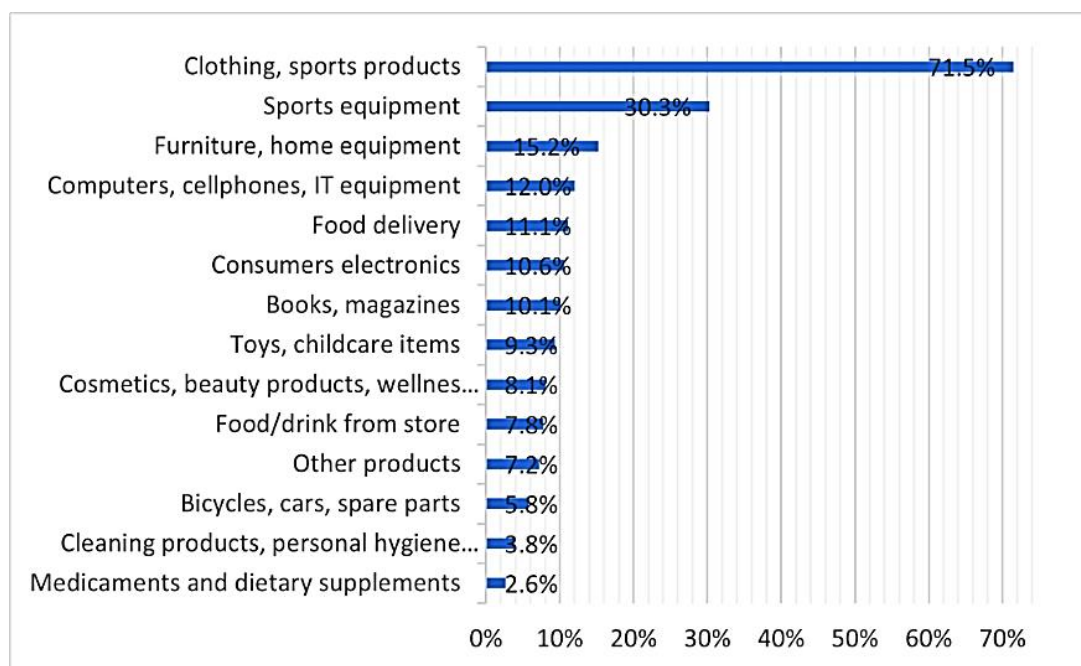
*(Image source: RZS, 2022, p. 24)*



## Book of Proceedings

If we compare the data with 2009, when the number of online shoppers in the last three months accounted for only 6.5% of Internet users, we will notice an intensive growth of more than seven times. Such results are attributed to a better and more diverse offer, the prevalence of cards, and increased transaction security.

Via the Internet, citizens mostly bought clothing (71.5%), sports equipment (30.3%), furniture (15.2%), computers, tablets, and mobile phones (12%), and the least pharmaceutical products, only 2.6%.



Graph 4. Type of goods/services that Internet users purchased/ordered via the Internet in the last 12 months (%)

Source: RZS, 2022, p. 25

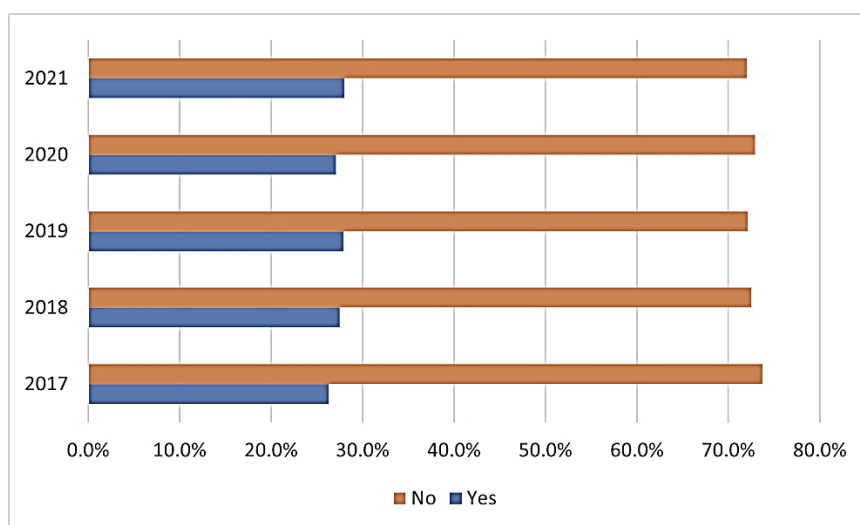
Consumers in Serbia have identified the following principal reasons for not shopping online:

- A lack of credit/debit cards
- A lack of trust in the security of online purchases
- A lack of computer and internet skills

Undoubtedly, using the Internet for personal and business purposes significantly reduces costs. This is precisely why there is an increasing adoption of this medium by companies and consumers alike. Until the beginning of the 21st century, the presence on the Internet was limited to a small number of companies, primarily through general-purpose websites with limited information and without integration with other media and various business functions (Veljković & Chroneos-Krasavac, 2015, p. 272).

Today, companies offer a wide range of services through their websites, including product/service descriptions, price lists, links to the company's social media profiles, the ability for visitors to customize products, and online ordering and job application options. In our region, the primary role of company websites is to support offline purchases, with increasing synergy between various forms of communication.

According to research by RZS in 2021, only 28% of companies in the Republic of Serbia were selling products/services online, representing a slight increase compared to 2017.



Graph 5. Share of companies selling their products/services online (%)

Source: RZS, 2022, p. 72

When we look at the structure of companies by size, we get the following results:

- 24.9% of large companies were selling products/services online.
- 25.0% of medium-sized companies were selling products/services online.
- 21.8% of small companies were selling products/services online.

Let's consider the percentage of total revenue generated by selling products/services online. We can see that it's less than 25% for 69.3% of companies, between 25% and 50% for 17.7% of companies, between 50% and 75% for 12.8% of companies, and 75% or more for only 0.2% of companies.

Table 1. Percentage of Total Revenue Generated by Online Sales of Products/Services in 2021.

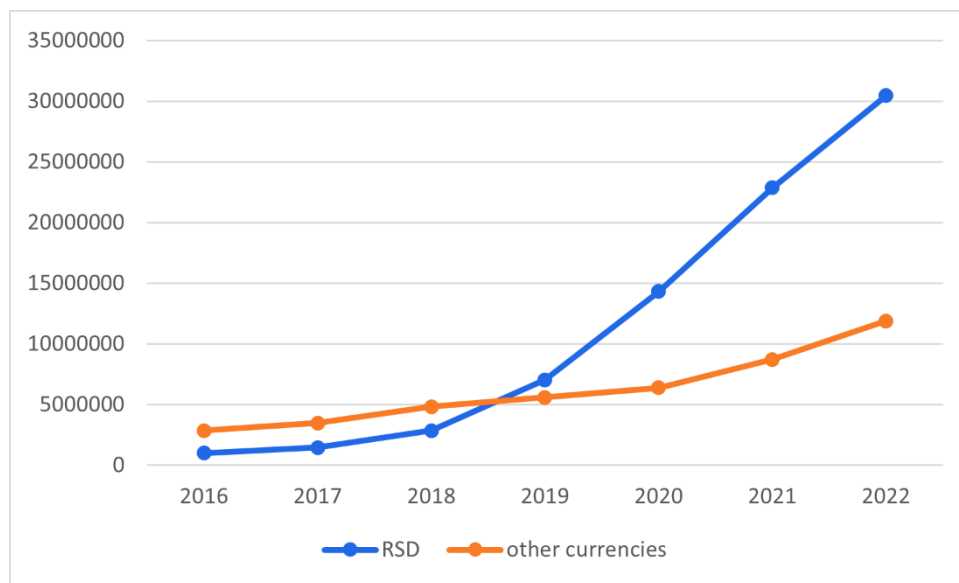
	Company size			Region				Total
	Small (10-49 emp.)	Medium (50-249 emp.)	Large (250+ emp.)	Belgrade	Vojvodina	Sumadija	South and Eastern Serbia	
1-24%	68.8%	69.4%	78.7%	71.3%	60.6%	70.6%	73.4%	69.3%
25-49%	18.7%	15.6%	8.9%	16.7%	23.3%	13.9%	18.6%	17.7%
50-74%	12.4%	14.8%	10.2%	12.0%	15.8%	14.6%	8.0%	12.8%
75-100%	0.2%	0.2%	2.1%	0.1%	0.3%	0.9%	0.0%	0.2%

Source: RZS, 2022, p. 87

According to data from the National Bank of Serbia on card transactions carried out over the Internet, there is a noticeable growth trend from 2016 to 2022. Until 2019, payment for goods and services in foreign currency dominated, although, during that period, the number of orders in dinars exceeded the number of orders in other currencies (Graph 6).



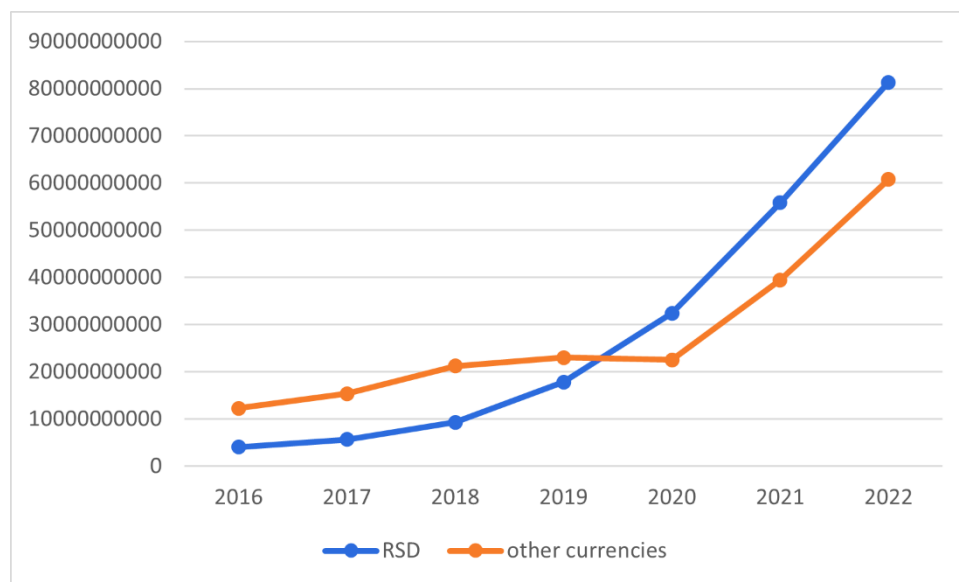
Book of Proceedings



*Graph 6. Number of Completed Transactions in the Republic of Serbia via the Internet – dinars vs. other currencies*

*Source: Based on data from the National Bank of Serbia*

Already in the following year, 2020, the value of orders paid with cards in the local currency exceeded the value of charges paid with cards in other currencies combined (Graph 7). Additionally, the number of dinar transactions paid with a card over the Internet doubled in 2020 compared to 2019.



*Graph 7. Value of Completed Transactions*

*in the Republic of Serbia via the Internet – dinars vs. other currencies*

*Source: Based on data from the National Bank of Serbia*

It is a fact that the global COVID-19 pandemic had a significant impact on the rapid growth of e-commerce in Serbia. A severe health crisis of global proportions has dramatically changed both consumer habits and behavior on the one hand and the organization and operation of companies on the other.

In 2022, there were approximately 11.9 million transactions for purchasing goods and services with cards abroad. Of these, around 6.9 million transactions were for buying goods and services with cards in





## Book of Proceedings

foreign online stores where the sales were made in euros, 4.8 million in foreign online stores where the sales were made in dollars, and 207,676 transactions in other foreign currencies. In addition, there were as many as 30.4 million transactions within Serbia. These figures should also include non-recorded transactions for goods ordered online and paid for in cash.

### **CONCLUSION**

The survival and prosperity of companies are in direct correlation with the competence and skillfulness of their management to understand current trends and manage change, especially in today's digital age. Information and computer technology, in particular, have accelerated changes and compelled businesses to be more actively involved in its currents.

Already in the mid-1980s, companies entered a new phase of business, aiming to gain additional segments of differentiation and competitiveness by directing special corporate efforts and respect to e-business. In the economic field, this phenomenon had a very stimulating effect on achieving critical competitive advantages. Marketing and sales found new strategic efforts and incentives.

The advantages of e-business are numerous: a practically unlimited consumer base, irrelevant geographical boundaries and time zones, increased revenue, cost reduction through, for example, the automation of product ordering processes and monitoring order phases in the delivery cycle to the customer, faster response to market changes, a better relationship with customers (CRM), eliminating the "middleman" in product distribution, and more.

E-commerce in Serbia has dramatically increased in recent years, with predictions that the growing customer preference for this type of shopping will continue. The global pandemic caused by the coronavirus certainly had a significant impact on the rapid growth of e-commerce in Serbia and a strong influence on changing consumer habits and behavior, which affected the organization and operation of companies.

According to reference predictions, e-commerce is likely to become a massive form of commerce in the future. An increasing number of users possess state-of-the-art communication and multimedia capabilities, with a continuous growth in connections to online services. Competition between virtual stores and conventional ones is intensifying. Therefore, it is essential to apply coordinated and active marketing approaches based on interactive and partnership relationships in traditional and e-commerce.

### **REFERENCES**

- Aaker, D., Kumar, V., Day, G. (2008). Marketing research. 9th edition John Wiley&Sons, Inc., New York.
- Ćuzović, S., Sokolov-Mladenović, S., Ćuzović, Đ. (2012). Trgovina u uslovima Internet-web ekonomije – društveno-ekonomske pretpostavke i etička načela. *Ekonomске teme*, 187-204
- Damnjanović, R., Bešlin-Feruh, M., Rajković, A. (2020). Marketing održivog razvoja i ekološki menadžment. *Održivi razvoj*, 2(2), 31-40.
- Kostić, R., Savić, A., Mihajlović, M. (2021). Analiza značaja marketing miksa u elektronskoj trgovini. *Megatrend revija*, 19(1), 293-310.
- Laudon, K., Traver, C. (2017). E-commerce 2017: Business, Technology, Society Always Learning. Pearson, London.
- Lovreta, S., Končar, J., Petković, G. (2005). Kanali marketinga. Ekonomski fakultet, Beograd
- Marković, N. (2003). Elektronsko poslovanje. *eMagazin*, 7, 52-59.



**Book of Proceedings**

Rakić, M., Rakić, B. (2019). Tržišna moć digitalnih potrošača u povezanom svetu 24/7/365. *Megatrend revija*, 16(2), 79-100.

Rašić, M. (2003). Elektronski mostovi. *Ekonomist*, 19, 22-25.

Statistički godišnjak Republike Srbije 2021. (2022). RZS, Beograd.

Veljković, S., Chroneos-Krasavac, B. (2015). Direktni marketing. Ekonomski fakultet, Beograd

Vračar, D. (2006). Strategije tržišnog komuniciranja. Ekonomski fakultet, Beograd

Vulić, M. (2015). Elektronska trgovina. Visoka škola strukovnih studija za IT-ITS, Beograd



Book of Proceedings

***TRADE BARRIERS BETWEEN CHINA AND THE UNITED STATES OF AMERICA DURING THE PERIOD OF 2017 – 2020.***

*Davor Bešić*<sup>1</sup>

*Nikola Radić*<sup>2</sup>

*Vlado Radić*<sup>3</sup>

***ABSTRACT***

*Global economic powers, such as the United States of America and the People's Republic of China, strive to liberalize their markets but to protect their economy from excessive imports and foreign competition, they resort to protectionist measures. Protectionist measures are reflected in high rates of customs duties and tariffs that affect the economy of a country through an increase or decrease in deficits and surpluses in the balance of payments, changes in the gross social and national product, increased product prices, and a decrease in demand and purchasing power of consumers. The rules of the World Trade Organization allow the introduction of protectionist measures under prescribed conditions. The effects of protectionist measures are reflected in the conclusion of favorable trade agreements for certain countries, an increase in the export of goods and protection from excessive imports, the prevention of unfair competition, and negative trade practices leading to the bankruptcy of companies and loss of jobs.*

***Key words:*** *protectionism, customs, tariffs, import, export, markets.*

***JEL Classification:*** *F51, H20, H30,*

***INTRODUCTION***

The paper analyzes the protectionist measures and trade barriers that the two largest economic powers in the world introduced to each other based on the principle of reciprocity. Although the United States of America (USA) and the People's Republic of China (PRC) advocate liberalization and free markets, without limiting the principle of competition between companies, these countries resort to the introduction of protectionist measures to protect domestic production and domestic producers from foreign competition. Although unpopular, protectionism as an economic policy measure is permissible from the point of view of trade rules prescribed by the World Trade Organization (WTO). Manifest forms of protectionist measures are high customs duties, tariffs, dumping, and anti-dumping measures.

Individuals think that protectionist measures affect producers and consumers the most because due to higher product prices, the demand and purchasing power of the population decreases. The unwanted effects of the protectionist measures of the state governments are trying to eliminate the producers by approving subsidies and more favorable loans. The effects of protectionist measures are visible in the balance of payments in the surplus and deficit columns of countries, from which it can be seen whether a country has a loss or a gain from the application of protectionist measures. Countries try to conclude more favorable bilateral and multilateral trade agreements for certain products with other countries through the introduction of protectionist measures.

---

<sup>1</sup> Ministry of Internal Affairs of the Republic of Serbia, Belgrade, Serbia, davorbesic@hotmail.com

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, nikola.radic@vspep.edu.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, vlado.radic@vspep.edu.rs



**Book of Proceedings**

***THE TERM OF PROTECTIONISM***

Protectionism comes from the Latin word *protectio*, which means protection, in a narrower sense it is a system of economic policy measures by which a country protects the domestic market and production, and in a broader sense protectionism means giving privileges and benefits to some groups of people for certain special reasons (Krivokapić, 2010).

The most important advocate and progenitor of American protectionism at the end of the 18th century was Alexander Hamilton, who justified protectionism with the need to protect American industry. Protectionism is defined as an instrument of foreign trade policy aimed at protecting domestic production from foreign competition. Although the vast majority of countries advocate free trade and market liberalization, many of these countries resort to protectionist measures. Protectionism is a measure of economic policy aimed at protecting domestic production and favoring domestic producers over others. It is characterized by the application of high tariffs and customs rates to reduce the import of foreign products into one market.

The application of protectionist measures by one state against another causes reciprocity or "retaliation" of that state against the state that introduced protectionist measures. That country then also takes protectionist measures to protect its economy. In addition to protectionism organizing the choice of available goods and raising their prices, high prices of domestic goods limit the purchasing power or demand for goods. The new protectionism of developed countries advocates "fair" trade. Subsidizing domestic production in developed countries is a significant source of protectionism. Some of the reasons for the introduction of protectionist measures can be: that due to the import of foreign goods, there will be a decline in domestic production, which will cause the bankruptcy of some companies, then, that the self-regulatory mechanisms of the market do not work automatically and that protectionism leads to the conclusion of more favorable bilateral and multilateral trade agreements between countries.

***LEGAL FRAMEWORK AND TYPES OF PROTECTIONIST MEASURES***

The application of lower tariffs contributes to the liberalization of the market and the greatest impact was achieved through multilateral trade, which was made possible by the General Agreement on Tariffs and Trade (GATT) adopted in 1947. This agreement was subsequently replaced by the WTO, which deals with the rules of trade between countries at the global level, i.e. liberalization of the international trade regime. Each country can establish barriers to products that it considers to be the subject of unfair trade from other countries. A WTO member state can temporarily restrict imports of a product (take "safeguard" measures) if the domestic industry is suffering or is at risk of suffering from excessive imports. Excessive imports that justify safeguard measures can be a real increase in imports (absolute increase), or it can be an increase in the share of imports in a reduced market, even if the amount of imports itself has not increased (relative increase). Industries or companies can request protection from their governments.

The agreement sets out the criteria for assessing whether there is a "serious injury" or a threat, as well as factors that must be taken into account when determining the impact of imports on the domestic industry. In principle, protective measures cannot be directed at imports from a specific country. When a country organizes imports to protect domestic producers, it must in principle give something in return. This takes place through a certain compensation that is the result of consultations between the two states. However, if no agreement is reached, the exporting country can retaliate with an equivalent action. WTO rules allow developing economies to use tariffs and subsidies to develop new, particularly technologically advanced industries.

The rules of origin are the criteria for defining where the product is made. The rules are an essential part of the general trade rules because a large number of policies discriminate against exporting countries:



## Book of Proceedings

quotas, preferential tariffs, anti-dumping measures, and countervailing duties levied to neutralize export subsidies. What is observed in trade is that countries themselves set new rules when they introduce measures that are not defined at the global level. The WTO introduced an agreement in 1995 (Technical Barriers to Trade – TBT), but many technical barriers now make trade difficult, even with full compliance with the agreement. Customs procedures and technical barriers to trade account for more than half of all trade barriers identified. G20 member states introduced 39 new trade arrangements between mid-October 2017 and mid-May 2018, doubling their number compared to the previous period, affecting trade in iron, steel, plastics, and vehicles.

Customs duty is a duty that is paid on goods when they cross the customs line of a country, it is calculated and collected as a percentage or in absolute amount of the value of the goods, which is stipulated in the customs tariff. It can be seen as an instrument of economic and foreign trade policy, that is, a fiscal instrument that aims to improve the position of the domestic country in international trade, that is, to protect domestic production. Depending on the way customs rates are determined, they can be minimum or maximum. There are other divisions according to the direction of movement of goods, the method of calculation and collection, the economic-political effect, and the method of determining customs rates. The purpose of customs duties is the protection of economic, financial, and fiscal interests, the protection of the state against illegal and illegal trade, the safety and protection of people and the environment, and the facilitation of international trade. Import duties and the collection of customs duties performed by the customs service mainly represent an instrument for the protection of domestic products, but customs duties with a high percentage participate in the creation of budget revenues. The WTO defines tariffs as customs duties that are calculated on the import of goods, which give an advantage to the prices of locally produced goods compared to similar goods that are imported, thereby increasing the income of a government.

### ***PROTECTIONISM OF THE UNITED STATES AND CHINA***

Protectionism in the US represented by US President Donald Trump is not new in US economic policy, that type of economic policy existed earlier and was most present in the 19th century when they tried to protect the industry of the "Northern parts of the states" through import control. Protectionist measures included tariffs and quotas on imported goods, along with subsidies and other means, to ensure fair competition between imported and local goods. Proponents of protectionism are concerned about the deficit in the balance of payments, when the trade deficit persists and grows "politicians begin to rule" with the slogan "protectionism in the fight against perceived injustice in trade relations between countries". (Abboushi, 2010).

The reasons for protectionist measures in the US are numerous: state protection of interest and lobby groups, which in the US is called "rent-seeking" or the provision of protection by the state, the policy of the "middle voter" which implies that public policymakers are re-elected by the majority of voters, a preference for the "status quo" which implies that under free trade, industries unwilling to withstand competitive pressures may lose market share and jobs, "losers are easier to identify than winners", which attracts public attention and creates political pressure for protectionism and protectionism, and domestic "partisan" politics (ever since independence in 1776, the US Congress has regulated trade through tariffs and various protectionist measures).

Although the US economy is a free market economy and a world advocate of unrestricted international trade, significant protectionist measures have always existed and continue to be imposed in various industries to protect industrial services and public interests. Protectionist measures enable the well-being of interest groups but to the detriment of the majority in society. It is often argued that protectionism is good for the country. Such rhetorical arguments are attractive and arouse public sentiment, but protectionism cannot improve public welfare because trade protectionism harms public welfare. The motive for protectionist measures can be a very strong force such as politics. Politicians of all factions



## Book of Proceedings

were afraid of serving the interests of politically capable and aggressive interest groups. While this may be part of the nature of a democratic political system in which government responds to pressures from politically active and resourceful interest groups, the disadvantage is a loss that will befall a large portion of the population whose well-being is compromised by trade protectionism. One of US President Trump's election promises regarding economic policy was trade protectionism.

According to the World Bank, global growth slowed to 2.6 percent in 2019, 0.3 percentage points below the previous projection – reflecting broad weakness seen in the first half of the year, including a further slowdown in investment amid rising trade tensions. (Global economic prospects, 2019). Further escalation of trade tensions and growing political uncertainty could affect investments, which will cause financial market instability, increased debt growth, and vulnerability of the corporate sector with greater refinancing pressures. The increase in US tariffs on Chinese imports and China's retaliatory actions have resulted in significant economic losses for exporters of the targeted products. Intensification of trade tensions involving major economies could increase the likelihood of a global escalation in protectionist measures. One of the moves of US President Trump from his pre-election promise is the withdrawal of the US from the "Trans-Pacific Partnership" in January 2017, an international trade agreement signed between 12 countries on three continents that lasted almost ten years. According to experts, the withdrawal of the US from this agreement will lead to a decrease in global trade, a fall in the gross domestic product, an increase in unemployment, the termination of the free trade agreement, and the return of protectionism. During the election campaign, Trump also opposed other trade agreements, such as the "North American Free Trade Agreement (NAFTA)".

In the election campaign, Trump stood for redefining relations with China and for a policy that will show strength, because the leadership in Beijing has been under pressure since economic growth weakened and since no solution was found for the large debts of state-owned companies and provincial governments. In the "US National Security Strategy for 2017", the information is stated: "If China spreads unfair trade practices, invests in key industries, sensitive technologies, and infrastructure" where the US will try to work with partners to challenge China's unfair trade and economic practices and limit the acquisition of sensitive technologies. (National security strategy of the United States of America, 2017). Structural changes in China have not been implemented and they bring the biggest problems to the Chinese economy, the stabilization of the Chinese economy is done through gigantic borrowings while the debts of companies continue to grow.

The most important decision-makers in the USA are aware of the problems facing the Chinese economy, and by redefining the policy towards Russia, they are trying to win over Russia as an "ally" against China. Although China has pursued an expansionary economic and trade policy with the strengthening of the convertibility of the yuan, China's political importance and participation in the votes of the International Monetary Fund (IMF) cannot be compared, as the US has over 17% of the votes and China 3.8%, to which the way the US and its allies block decisions and create global economic policy. All of the above has changed since the beginning of the Russian military operation in Ukraine, and President Biden's administration is distancing itself from and strongly opposing any economic relationship with Russia.

The most important decision-makers in the USA are aware of the problems facing the Chinese economy, and through redefining the policy towards Russia, they tried to win over Russia as an "ally" against China. However, since the beginning of the Russian military operation in Ukraine, President Biden's administration has distanced itself from and strongly opposes any economic ties with Russia. Although China has pursued an expansionary economic and trade policy with the strengthening of the convertibility of the yuan, China's political importance and participation in the votes of the International Monetary Fund (IMF) cannot be compared, as the US has over 17% of the votes and China 3.8%, to which the way the US and its allies block decisions and create global economic policy. (Garić & Filipović, 2019).

This outcome allows the US to keep its allies in the Pacific. China has significantly reduced the amount of US government bonds in the market in recent months, with Japan becoming the largest foreign creditor of the US. It is untenable to argue that China could sell US Treasuries because it would be affected by falling bond prices. At the session of the Standing Committee of the Politburo of the Communist Party of the





## Book of Proceedings

People's Republic of China in October 2016, "Financial stability and capital outflow" was discussed. Owners prefer to keep money abroad than in China and accordingly have less confidence in China's positive economic growth, which is a problem for China, not for the US. Former American President Trump specified the new foreign policy and trade course by declaring that he "does not want to adapt to the situation, but wants to create it." After the Seventeenth Congress of the Communist Party of the People's Republic of China in October 2007, China confirmed a new course of internal market development, gradually abandoning the export-oriented economy and the approach to building a medium-developed society. (Mladenović & Ponomareva, 2011).

Yee Wong dealt with the imbalance that exists in the amount of private consumption in the US and China, as well as the impact of this phenomenon on the world economy. He presented the data that in 2008 private consumption in the USA reached 72% of the gross national product, while private consumption in China in the same year was 37%. However, due to the change in economic circumstances, the USA tended to reduce this percentage to 68% by 2014, and in the same period in China, it increased to 49%. (Vukadinović Šundrić, 2014). Josh Bivens points out that from 1947 to 2001, the main driver of American growth was consumption on the domestic market, which was made possible by a large population, large incomes, and because American companies recognize their needs. (Ibidem). In addition to Canada and Mexico, China represents one of the largest trade partners of the USA, so in 2017 the level of trade between the USA and China was 636 billion dollars, while the export of American goods to China in the same year was 115.6 billion dollars. (Mallick, 2018).

Authors Dušan and Zoran Jerotijević state that the problem of economic growth from the point of view of Chinese national security was a very high degree of dependence on foreign companies, especially American ones because most of the earnings were made by companies from developed countries, especially from the USA. (Jerotijević, 2019). With China's industrial transformation strategy "Made in China 2025" a new phase of development of the world's leading industry began, along with the "Belt and Road" initiative from 2013, which is a comprehensive network of infrastructure projects that would stretch from China, along Asia and Eurasia, to the Middle East and the European Union. The China 2025 initiative has clear principles, tools, and a sectoral focus. Its guiding principles are innovation-based production, emphasis on quality over quantity, realizing "green" development, optimizing the structure of China's industry, and nurturing talents. The goal of the initiative is to increase the content of basic components and materials to 40% by 2020 and 70% by 2025. In addition, the initiative aims to build innovation centers, protect small and medium-sized enterprises, use intellectual property more effectively in business strategy, and set better international standards. Some believe that the broader concept of "China 2025" is derived from the "Industry 4.0" strategy, i.e. the fourth industrial revolution. "Industry 4.0" represents a part of strategical program of Federal Republic of Germany published in Hanover in 2011. (Karabegovic, 2018).

A foreign firm that wants to sell its products in China is told that market access is conditional on building and installing manufacturing facilities in China, with the equity stake being linked to a company with direct ties to the Chinese government. (Liu & Wing Thye, 2018). Most companies around the world are moving their production facilities to China to reduce labor costs and increase profit margins. Most of China's trade surplus comes from trade by foreign and joint venture enterprises, so a revaluation of the yuan would reduce the surplus or help the US strengthen its economy. A reduction in China's trade surplus means a reduction in the profits of foreign companies, which is harmful not only to Chinese employment but also to American employment. Chinese markets are part of the international market and inevitably increase competition in the market.

According to the 2018 Economic Report of the President, the US faces greater barriers to exporting to foreign markets than foreign manufacturers do to exporting to the US. (Economic report of the President, 2018). The principle of comparative advantage is the defense of the "status quo" which imposes greater export barriers on American producers than on foreign producers. (Ibidem). The global trade system, due to the influence of some countries, such as China, has enabled the violation of market principles, which has led to the disruption of the functioning of the global market.



## Book of Proceedings

The US administration's focus is on advancing trade agreements that benefit American businesses and American workers. Trade agreements are the main element of modern trade negotiations and they allow countries to commit to a positive approach to trade, improving the terms of trade between parties compared to non-members, increasing the level of efficiency in gains between the parties to the agreement, enabling multilateral trade liberalization and providing rents for special interests. In the US, there was a sharp decline in employment concentrated in the industry that was exposed to the change in US trade policy towards China due to the introduction and application of low tariffs. According to the People's Bank of China, the biggest force undermining the dollar is the US Federal Reserve. With dollar interest rates near zero, the government prints more money and pumps it into the US markets from where the dollar flows into the rest of the world, causing the dollar to fall and inflation to rise, asset and commodity prices to rise and the dollar to depreciate. (Gang, 2010). Of the total amount of dollars in circulation, three-quarters circulate outside the US, an "unearned privilege" but a significant source of American power. (Milenković & Spalović, 2013). Rapid growth in consumer credit has led to China having one of the world's largest banking sectors, which is three times the average size of the banking sector in other emerging and developing economies, leading to risks reflected in cross-border capital spillovers from banking services.

However, according to some opinions, former US President Trump initiated the procedure of introducing a series of tariffs to "punish" the unfair trade practices of both allies and economic rivals. This measure aimed to temporarily protect domestic industry from imports. US trade policy rests on five principles:

1. to support US national security,
2. strengthening the American economy,
3. negotiating better trade agreements,
4. aggressive enforcement of US trade laws and
5. reforms of the multilateral trade system.

The Trump administration has taken three major tariff actions designed to protect American workers, American companies, and US national security. Thus, at the proposal of the Office of the US Trade Representative and based on the recommendations of the International Trade Commission, in January 2018, tariffs were introduced on solar modules in the amount of 30% and on washing machines in the amount of 50% to protect American workers, farmers, and companies. LG Electronics Inc, which accounts for 18% of US retail laundry sales measured in dollars, has announced to retailers that it plans to raise the retail prices of laundry appliances. For imports of large laundry machines in buildings, the Trump administration imposed tariffs of 20% on 1.2 million units a year, then 50% on imports, and then 50% tariffs on imported parts of those machines. (Tangel, 2018). Proponents of free trade argue that tariffs will lead to higher prices for consumers and encourage counter-action by other countries that make it harder for American companies to sell their products abroad. On the other hand, supporters of tariffs believe that such measures protect the domestic industry from harmful competition abroad.

However, the US solar industry is divided over the issue of tariffs - some believe that a large number of imported panels has led to a catastrophic drop in prices, while others argue that the tariffs will drastically increase prices, which will mean job losses. China has accused the US of undermining the multilateral trading system by acting under US law instead of through the WTO. This measure of Trump's economic policy carried the slogan "America First" and was aimed at reducing the US trade deficit by shifting US trade policy from multilateral trade agreements to bilateral trade agreements. In a 2017 address to Congress, Trump stated, "We've lost more than a quarter of our manufacturing jobs since NAFTA was approved, and we've lost 60,000 companies since China joined the WTO in 2001." Our trade deficit in goods with the world last year was 800 billion dollars". (Remarks by president Trump in joint address to Congress, 2017).

In his public appearances, President Trump stated that China "took" hundreds of billions of dollars a year from the American economy due to unfair trade practices, including the theft of American intellectual capital. In a memorandum dated August 14, 2017, the US President authorized the US Trade Representative to initiate an investigation into China's acts, policies, and practices related to technology, intellectual capital transfer, and innovation. The US Trade Representative's order said the Chinese government used various



## Book of Proceedings

mechanisms to regulate US companies' operations in China and require them to make intellectual property over technologies produced by US companies the property of Chinese companies. Second, the Chinese government has reportedly, through acts, practices, and various policies, deprived American companies of the ability to determine market licensing terms, and third, the Chinese government allegedly directs and/or unfairly facilitates the systematic investment and acquisition of funds by American companies in the acquisition of what the Chinese consider superior technology. important government industrial plans. (Initiation of Section 301 Investigation; Hearing; and Request for Public Comments: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 2017).

The Office of the US Trade Representative and the US International Trade Commission organized panels where representatives of US companies from various branches of economy and industry expressed their opinions within the scope of their activities, with the participation and presentation of representatives of the Chinese Chamber of Commerce and other Chinese experts. The panels began on October 10, 2017, and were held in May, July, and August 2018 and again in June 2019. While the investigation was ongoing, US President Trump announced that he would impose tariffs on steel and aluminum imports from all countries. (Long, 2018). The imposition of large tariffs on steel and aluminum is justified to protect US national security, as steel is important to US national security and current steel import flows have adversely affected the US steel industry. According to the first report of the Office of the US Trade Representative, which was published on March 22, 2018, it is stated that "China's technology regulations are licensing technologies produced by US companies under non-market conditions, that China is leading and supporting intrusions and thefts from US computer networks and that China directs and unfairly facilitates systemic investment". (Report on China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 2018). On April 6, 2018, the Office of the Trade Representative proposed the introduction of tariffs on imports of certain Chinese products in the amount of 25% to 35%. (Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 2018).

Already on April 7, 2018, the Office initiated a procedure before the WTO to hold consultations with the Government of China, to resolve the trade dispute by the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). (Following President Trump's Section 301 Decisions, USTR Launches NEW WTO Challenge Against China, 2018). In response to the introduction of tariffs on imports of Chinese products, China's Ministry of Commerce imposed tariffs on 128 products imported from the US, such as aluminum, car imports, pork and soybean imports (up to 25%), fruit and steel in the amount of 15%. The US administration's imposition of tariffs and tariffs meant Chinese taxation of corresponding US products. The US Secretary of Commerce stated: "The tariffs imposed by China do not pose a threat to the US because they account for 0.3 percent of the gross domestic product (GDP)". (Berkeley, 2018). The Dow Jones industrial index, as one of the growth indicators of the industrial sector, was in decline due to the intensification of trade tensions between the USA and China. The American Soybean Association, a lobbying group representing 21,000 producers, has confirmed that China is the largest market for US soybeans and that China's 25% tariff on US soybean exports is a "devastating" tariff for US farmers; it was estimated that farmers lost \$1.72 billion in just one day. (Smith, 2018). This measure reduced America's most valuable crop exports and forced the US administration to compensate American farmers. American farmers have applied for trade aid, but trade uncertainty has made long-term planning difficult, as an open market generates financial stability. Soy was the largest single agricultural product for export.

In 2017, China achieved a trade surplus with the US in the amount of 375 billion dollars. President Trump has demanded that China reduce the trade gap by \$100 billion. (Ibidem). China responded that it had submitted a request for consultations on the new US tariffs to the WTO. In May 2018, Chinese officials stated that they would "significantly reduce" the US trade deficit with China, pledging to "significantly increase" purchases of American goods. However, the trade dispute between the two countries continued through the introduction of customs tariffs on a variety of products. As a mediator in the trade dispute, the WTO failed to resolve the trade barriers imposed by both countries because China walked out of the negotiations due to the imposition of additional tariffs on US products. The biggest US trade action of 2018



## Book of Proceedings

was the imposition of tariffs on \$250 billion worth of Chinese goods in three tranches. (Economic report of the President, 2019).

In May 2019, US President Trump signed an executive order restricting the export of US information and communications technology to "foreign adversaries" based on national security interests. Thus, the Chinese telecommunications company "Huawei" was put on the blacklist of the US Department of Commerce for the reason that the company is involved in activities that are contrary to the national security and interests of the US foreign policy (industrial espionage, theft of intellectual property, and violation of US sanctions against Iran due to the export of "Huawei"). equipment). This order would restrict the use of chips or memory in Huawei devices unless it is granted after a license is requested. The aforementioned organization may lead to a prolongation of procedures for the export of American technologies and components, and an increase in prices for the Chinese company. The "2018 Economic Report of the President of the United States" states "that 5G coding technology is a symbol of China's growing leadership in 5G technology." (Economic report of the President, 2018). The import restriction encouraged the creation of new target industrial technologies in China: for example, the ban on Google created Baidu, the ban on Twitter created Weibo, and the ban on WhatsApp created WeChat.

During the G20 summit held in Osaka in June 2019, President Trump and Chinese President Xi Jinping reached a "truce" in the trade dispute that previous tariffs should remain in place, but no future tariffs would be imposed "for now". Trump said that American companies will be able to sell components to the company "Huawei", but that it will also remain on the blacklist of the US Department of Commerce. On August 5, 2019, the US Treasury declared China a currency manipulator, however, the International Monetary Fund found that the yuan was correctly valued and the dollar overvalued. The impact of the trade dispute between the US and China would be felt not only by the countries directly involved but that impact would also be felt in other countries through cross-border investment and global supply. The trade dispute would also lead to the transfer of production capacities from the US and China to other countries, such as Mexico, Canada, and Southeast Asia, and the loss of jobs in the US and China.

In August 2019, China ordered state-owned enterprises to stop buying American agricultural products. The purchases amounted to about \$20 billion a year before the trade dispute erupted, a move that American ranchers and farmers called a "blow to the bodies of thousands of farmers who are already struggling to get by," as exports to China were cut by \$1.3 billion during the first half of the year. (Karst, 2019). This resulted in volatility that was so high that "no one knows the rules of the game and no one knows how to look at things going forward." China's reciprocity influenced the US administration, which decided during the 2019 Christmas holidays to delay the implementation of some tariffs to avoid harming US consumers. Americans for Free Trade, the umbrella organization for 161 trade associations, requested President Trump in August 2019 to delay all planned tariff increases. However, his response followed: "Bad management and weak companies blame these small tariffs instead of themselves being responsible for bad management." (Schroeder, 2019). In September, the US Department of Commerce issued preliminary anti-dumping duties on manufactured steel structures from China, Canada, and Mexico.

### ***EFFECTS OF PROTECTIONIST MEASURES***

The first steps towards normalizing trade barriers came in October 2019 when a framework agreement was signed for the "first phase" of a trade deal, in which China agreed to buy up to \$50 billion worth of agricultural products and accept more US financial services in its market. while the USA accepted the obligation to suspend the application of the new tariffs scheduled for October 2019.

The normalization of the damaged trade relations between the two countries took place in mid-January 2020 when a trade agreement was signed focusing on intellectual property rights, technology transfer, food and agricultural products, financial services, exchange rate issues and transparency, trade expansion with references to bilateral assessments and dispute resolution procedures on a bilateral basis. Although tariffs provide benefits, they also





## Book of Proceedings

create costs. The federal government benefited from \$14.4 billion in revenue collected in 2018 from the newly imposed tariffs. (Economic report of the President, 2019). Tariff revenue was historic for US tariff policy, domestic producers benefited from price increases, offsetting these benefits are costs paid by consumers in the form of higher prices and reduced consumption. (Ibidem). Simultaneously with higher tariffs, the US successfully updated its trade agreements with key trading partners – Canada, Mexico, and South Korea – in record time. Tariffs imposed on steel and aluminum imports allowed US firms to avoid importing certain products that are available in the US without paying tariffs. With the tariffs taking effect, imports of steel and aluminum decreased, while steel and aluminum production in the US increased along with employment growth. The establishment of a new trade relationship with China meant an economic benefit for the US that was reflected in the reduction of short-term costs. During the first decade of the 21st century, the growth of the industry in China amounted to 181%, while in the USA it was 11%, from which it can be concluded that the share of the USA in industrial production is declining in favor of China. (Nikolić, 2013).

The economic consequences of the trade dispute are visible, first of all, on the macroeconomic level, where there was a drop in the volume of world trade by 0.6%, a drop in world GDP by 0.03%, the expected capital return in each country equals the global return, trade the US deficit and China's trade surplus are shrinking, with US and Chinese capital falling from 2.7% to 3.3% as a result of falling investment income. (Tsutsumi, 2018). Higher tariffs imposed by the US reduced the attractiveness of Chinese goods in the US market, which suppressed Chinese exports to the US. The change in tariff and exchange rate affected the price of goods. The trade dispute also caused a drop in China's GDP by 1.01%, given that the growth rate of the Chinese economy in 2017 was 6.9% and job losses were 4.83%. (Chong & Xiaoyang, 2019). Based on the permission of the WTO, the Trump administration introduced tariffs of 10% on the production of European Airbus airplanes and 25% tariffs on French wine, Scottish and Irish whiskey, and cheese from all corners of the continent. The USA charged a 2.5% customs duty on the import of cars from the European Union (EU), while the EU countries charged a 10% duty on the import of smaller cars from the USA, while the import of trucks was subject to higher customs duties of 25%.

Some of the "winners" in this trade dispute are international companies that compete with American companies and they have seen sales growth. Airbus could profit from Boeing's loss of sales in China, although Boeing can offset the loss by shifting markets to India and the Middle East. Japanese automakers would benefit if sales of U.S. cars in the Chinese market slowed and Latin American soybean exporters could meet China's demand. The application of protectionist measures destroys competition and free trade, which can be seen throughout history in the example of the economic crisis of 1873 when the USA, France, and Germany used protectionist measures to protect themselves from the economically most developed Great Britain.

## **CONCLUSION**

The protectionist measures manifested in trade barriers were the result of the policies advocated by US President Trump. Driven by the interest to fulfill the pre-election promises made to the American voters to protect their jobs and protect the US economy because "America comes first", the US president, on the other hand, also protected the interests of the big capitalist and economic groups in the US by making some put Chinese companies on the "black list". Since he belongs to the sphere of business and is considered the first US president to own a large fortune, in speeches and addresses to citizens he promised to withdraw from all trade agreements that are harmful to the US and American citizens. He made good on his promise by withdrawing from some trade deals so that the US could later conclude more favorable trade deals with partners such as Canada, Mexico, South Korea, and China. Through the package of protectionist measures he introduced on Chinese exports, the US president forced major trading partners to buy more US goods and increase their share of imports, placing those goods on the domestic market. By withdrawing products from the American market, some companies compensate for their loss in business by redirecting the sale of goods to the markets of other countries, such as India, countries of Latin America, the Middle East, and the European Union. Based on the introduced protectionist measures, the USA achieved a historic income.



Book of Proceedings

**REFERENCES**

- Abboushi, S. (2010). Trade protectionism: reasons and outcomes. *Competitiveness Review an International Business Journal*, 20(5), 384-394. doi:10.1108/10595421011080760
- Berkeley, L. (2018). Commerce Secretary Wilbur Ross: China tariffs amount to only 0,3% of US GDP. CNBC, 4 April. Available at: <https://www.cnbc.com/2018/04/04/commerce-secretary-wilbur-ross-china-tariffs-amount-to-0-point-3-percent-of-us-gdp.html>. (20.05.2023.)
- Chong, T. T., Xiaoyang, L. (2019). Understanding China-US trade war: causes, economic impact, and the worst-case scenario. Working Paper No. 71, Lau Chor Tak Institute of Global Economics and Finance, The Chinese University of Hong Kong.
- Gang; X. (2010). No winner in a currency war. Available at: [https://www.bankofchina.com/en/bocinfo/bi1/201011/t20101112\\_1201619.html?keywords=trade+war](https://www.bankofchina.com/en/bocinfo/bi1/201011/t20101112_1201619.html?keywords=trade+war). (02.04.2023.)
- Garić, D., Filipović, S. (2019). What are the prospects of the Yuan becoming the World's new Reserve Currency? *Industrija*, 47(2), 61-75.
- Jerotijević, D., Jerotijević, Z. (2019). Political and economic relations of Russia and China by the home. *Ekonomika*, 65(2), 75-85.
- Karabegović, I., Karabegović, E. (2018). Implementacija „Industrije 4.0“ primjenom robota i digitalne tehnologije u proizvodnim procesima u Kini. *Tehnika*, 73(2), 225-231.
- Karst, T. (2019). China: no more purchase of U.S. agricultural products. Available at: <https://www.agweb.com/article/china-no-more-purchases-us-agricultural-products>. (30.05.2023.)
- Krivokapić, B. (2010). Enciklopedijski rečnik međunarodnog prava i međunarodnih odnosa. Beograd: Službeni glasnik Republike Srbije.
- Long, H. (2018). Winners and losers from Trump's tariffs. Available at: <https://www.washingtonpost.com/news/wonk/wp/2018/03/06/winners-and-losers-from-trumps-tariffs/>. (31.05.2023.)
- Liu, T., Woo, W., T. (2018). Understanding the U.S.-China Trade War. *China Economic Journal*, 11, 319-340. doi.org/10.1080/17538963.2018.1516256
- Mallick, P. K. (2018). US-China trade war. Vivekananda International Foundation, New Delhi.
- Milenković, N., Spalović, K. (2013). Intenziviranje rusko-kineske saradnje i transformacija međunarodog monetarnog sistema. *Ekonomski pogledi*, 15(2), 35-48.
- Mladenović; M., Ponomareva, J. (2011). Kina-Amerika-Rusija globalni trougao u 21. veka. *Sociološki pregled*, 65(4), 459-476.
- Nikolić, G. (2013). Tendencies of the leading world economies in the second decade of the 21st century – the global power rebalancing and consequences for Serbia. *Ekonomski pogledi*, 15(3), 45-67.
- Office of the USA trade representative (2017). Request for Public Comments: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation. Available at: <https://www.federalregister.gov/documents/2017/08/24/2017-17931/initiation-of-section-301-investigation-hearing-and-request-for-public-comments-chinas-acts-policies>. (05.06.2023.)
- Office of the USA trade representative (2018). Notice of Determination and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation. Available at:





## Book of Proceedings

<https://www.federalregister.gov/documents/2018/04/06/2018-07119/notice-of-determination-and-request-for-public-comment-concerning-proposed-determination-of-action>. (05.06.2023.)

Office of the United States trade representative (2018). USTR Launches NEW WTO Challenge Against China. Washington DC. Available at: <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/march/following-president-trump%E2%80%99s-section>. (07.05.2023.)

Office of the United States trade representative (2018). Report on China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 22 March. Washington DC. Available at: <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF>. (05.06.2023.)

Schroeder, R. (2019). Trump faults companies over management as tariffs set to take effect. Marketwatch, 30. August. Available at: <https://www.marketwatch.com/story/trump-faults-companies-over-management-as-tariffs-set-to-take-effect-2019-08-30>. (30.03.2023.)

Smith, D. (2018.). Trump plays down US–China trade war concerns: When you are \$500bn down you can't lose. Available at: <https://www.theguardian.com/business/2018/apr/04/trump-china-trade-war-concerns-import-taxes-stock-market>. (30.05.2023.)

Tangel, A. (2018). LG to raise prices on washers after Trump imposes steep tariffs. Available at: <https://www.dowjones.com/scoops/lg-raise-prices-washers-trump-imposes-steep-tariffs/>. (30.03.2023.)

Tsutsumi, M. (2018). The economic consequences of the 2018 US-China trade conflict: A CGE simulation analysis. Discussion Paper Series, No. 676, Center for Intergenerational Studies, Institute of Economic Research, Hitotsubashi University, Kunitachi, Japan. Available at: <https://www.gtap.agecon.purdue.edu/resources/download/9206.pdf>. (30.05.2023.)

Vukadinović Šundrić, S. (2014). Spoljnopolitička pozicija Srbije u kontekstu mogućeg geostrateškog konsenzusa SAD i Kine. *Vojno delo*, 66(2), 46-71.

The White House. (2017). National security strategy of the United States of America. Available at: <https://trumpwhitehouse.archives.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>. (31.05.2023.)

The White House. (2018). Economic Report of the President, Washington DC. Available at: <https://www.whitehouse.gov/wp-content/uploads/2021/07/2018-ERP.pdf>. (30.05.2023.)

The White House. (2019). Economic Report of the President, Washington DC. Available at: <https://www.whitehouse.gov/wp-content/uploads/2021/07/2019-ERP.pdf>. (04.07.2023.)

The White House (2019). Remarks by President Trump in a joint address to Congress, Washington, D.C. Available at: <https://trumpwhitehouse.archives.gov/briefings-statements/remarks-president-trump-joint-address-congress/>. (07.06.2023.)

World Bank Group. (2019). Global economic prospects. Washington DC.



Book of Proceedings

***IMPACT OF THE WAR IN UKRAINE ON INFLATION IN THE EUROPEAN UNION***

*Dragan Momirović<sup>1</sup>*

*Raica Milićević<sup>2</sup>*

*Ninoslav Eric<sup>3</sup>*

**ABSTRACT**

*Indications of inflationary pressures in the EU appeared as early as 2021 due to the impact of shocks on the supply side, primarily expressed through disruptions in the supply chain that occurred during the pandemic. The war in Ukraine in February 2022 further increased inflationary pressures due to the high dependence on energy and food imports from Russia. Sanctions against Russia contributed to the suspension of oil, especially gas supplies for EU countries, which affected the enormous growth of their prices, reflected in the sudden jump in inflation at the historically highest level since the creation of the EU in mid-2023. Such a trend caused uncertainty in the prospects of inflation and the emergence of higher risk for the economy and financial stability. The ECB took restrictive monetary policy measures, raising key interest rates on many occasions to influence the contraction of aggregate demand and reverse the downward inflationary trend. The substitution of Russian gas from alternative sources had the effect of lowering the price of gas, which, in addition to the strict policy measures of the ECB, led to a gradual lowering of the mains inflation, for different it is the core inflation still maintained a high level. And in addition to the encouraging indications, there is still high uncertainty and risk in the movement of inflation, especially core inflation, associated with unstable energy and food prices. Despite the downward trend, the outlook for inflation in the EU remains highly linked to sluggish growth, sticky inflation, and earnings. Easing supply chain bottlenecks, lower energy prices, and gradual removal of headwinds in aggregate demand should support a slow but cautiously optimistic recovery. At the same time, the existing overstrain of the labor market and the possibility of a jump in energy prices, like the risk of fragmentation, can worsen financial conditions and cause lower growth and higher inflation.*

**Key word:** *inflation, energy, uncertainty, risk, ECB*

**JEL Classification:** *E31, E58, G01*

***IMPACT OF WAR ON INFLATION IN THE EU***

After the end of the COVID-19 Pandemic and optimistic expectations of future efforts for a quick recovery of the economy, the European Union (EU) guessed a new problem, the war in Ukraine. Russia's special operation in Ukraine has brought economic and financial trouble to the EU. The political elites of the EU supported Ukraine, introducing sanctions against Russia.

The EU's political approach has disrupted the supply of oil derivatives, gas, and other strategic raw materials and finished products to the EU economy. At that moment, the EU was 40% dependent on energy imports from Russia. The decline in energy imports from Russia and slow substitution from other sources directly led to the strengthening of inflationary tendencies that culminated in 2022 and the first quarter of

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, dragan.momirovic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, raica.milicevic@vspep.edu.rs

<sup>3</sup> National Assembly of Serbia, Belgrade, ninoslav.eric@cuprija.rs



## Book of Proceedings

2023. A significant increase in energy and food prices had an impact influence on the growth of overall inflation. The EU's political approach has disrupted the supply of oil derivatives, gas, and other strategic raw materials and finished products to the EU economy. At that moment, the EU was 40% dependent on energy imports from Russia. The decline in energy imports from Russia and slow substitution from other sources directly led to the strengthening of inflationary tendencies that culminated in 2022 and the first quarter of 2023. A significant increase in energy and food prices had an in particular strong impact on the growth of overall inflations. At the same time, it should emphasize that the energy and food prices, even before the start of military conflicts, increased significantly, probably for speculative reasons, but also due to the reopening of the economy after the COVID-19 pandemic.

Future pessimistic expectations of shortages, especially natural gas, have influenced a significant increase in energy prices. At the same time, food prices have risen directly because Russia and Ukraine are the head suppliers of agricultural products to the EU and indirectly because energy is input momentous for food production and transportation.

Even though it is familiar and clear to everyone that the war in Ukraine caused an increase in inflation, there is still a dilemma as to how much this war contributed to the growth of inflation and how many other factors are within the EU. When they are concerned about other factors, the effects of reopening the economy after COVID-19, interrupted global supply chains causing bottlenecks in supply, the emergence of excess demand, etc. Supply bottlenecks affect the shortage of influencing inputs for industrial production, including a partial lack of the necessary workforce, which, together with the effects of the pandemic, caused a sharp jump in inflation. In addition, the lifted restrictions related to the pandemic affected the recovery of demand, especially in the service sector, which also caused a jump in the inflation rate. As monetary policy works through the demand channel and with a delay, it is difficult to objectively assess the influence of supply and demand factors on the movement of overall inflation.

That is why it is complicated to make realistic estimates of the effects of the war in Ukraine on inflation, the reason that before the Russian intervention, inflation was already in full swing. However, the fact that the war undernourished the already expressed inflationary pressures and, in many ways, influenced its flare-up and reaching its historical maximum in the middle of 2023. However, it is difficult to distinguish individual effects, the impact of the war in Ukraine, and internal EU factors, on the growth of inflation, although not the only cause of the negative inflation trend. Also, it is noticeable that energy and food prices started to rise during 2021, which fueled inflationary pressures and pushed inflation upwards. It remains unclear whether these increases are the cause of some unforeseen situations or events or the conscious behavior of market participants before Russia's operation.

This development trend in the Eurozone has led to a sudden deterioration of financial conditions, a sharp decline in economic growth, an increase in inflation, and the appearance of financial stress attacks.

Unlike the political elites, who considered and created new packages of sanctions against Russia, the European Central Bank (ECB) responded, according to some reports, somewhat slower, taking appropriate monetary policy measures to mitigate and curb the sudden inflationary spiral. As the policy rate was at the lower zero bounds, the ECB responded by redeploying a wide range of emergency and creative measures to increase the accommodative stance of monetary policy.

In the spectrum of many measures, the most significant was the increase of key interest rates, first of all, the reference interest rate, to slow down aggregate demand, ensure the smooth transmission of monetary policy, and reduce the borrowing of the real sector. To avoid market fragmentation purchase of securities by the Pandemic Emergency Purchase Programmed was stopped Asset Purchase Program is decreasing a new Transmission Protection Instrument (TPI) program has been established. The TPI helped prevent an undue rise in sovereign spreads and contributed to and implementation of the accommodative stance of monetary policy.

The falling energy prices and the harsh and restrictive measures the ECB contributed to stopping and gradually reducing inflation, which fell from a record 8.2% in July 2022 to 5.6% in May 2023. Core inflation also declined but remained high, with uncertain future developments.



## Book of Proceedings

The fragile recovery of inflationary pressures carries higher uncertainty in the future movements of both inflations and risks for the financial system's stability and economic growth. And besides that certain optimistic expectations, achieving the inflation target is still a long and uncertain road away. ECB is exposed to heavy pressures, obligations, and tasks to maintain and preserve financial stability and fragile recovery, overcome inflation, and preserve credibility.

### ***IMPACT OF WAR IN UKRAINE***

After the great recession of 2020, the world economy recovered in 2021, although were not abolished all restrictive measures established during the COVID-19 pandemic. The recovery of the economy is mirrored by the strong growth of demand, especially for various types of goods and services, which indirectly affected the increase in demand for energy. At the EU's increased demand for energy has influenced the increase in their prices also the reduction in the supply of oil and gas, which are not guaranteed by long-term contracts by Russia, in September 2021, the beginning of the war, in February 2022, it led to the suspension of these reduced deliveries. The import of Russian oil and gas by the EU and the interruption of supply have further influenced the growth in prices.

In the energy market, uncertainty was more related to the gas than the oil market. The gas market was alarming in the EU because, in great measure dependent on Russian gas, which accounted for 45% of the total need for gas imports in 2021. In addition, introducing an embargo on energy from Russia affected the incomplete use of the existing, built infrastructure for gas transportation. This caused additional uncertainties and large measures of the substitution of Russian gas by other suppliers and led to objective difficulties in redirecting the flow of transport infrastructure in the short term. Uncertainty and fear of a shortage of Russian gas and the inability to replace imports from Russia by the short deadline have caused pessimistic expectations and an unprecedented gas price shock on the European market.

The average market price of Brent crude oil was 27 USD in April 2022 and will reach 86 USD in January 2023. At the same time, the price average of gas fluctuated less than the average price of oil, which reached its first maximum in December 2021 of 112.5 EURO. The further increase in energy prices continued in February 2022, and in a few weeks, it would reach an even increase and peak in June 2022. At the beginning of August, the price of gas per cubic meter exceeded 300 EURO but, since it has started to decline. Analogously, electricity prices have also increased due to adjustments to the marginal energy costs. (Blot et al., 2023)

The fear that the war in Ukraine will spill over into Europe has caused great concern among EU consumers. The Commission on Consumer Confidence conducted in May 2022 showed that consumer confidence has declined significantly some pessimism for the future. It is a clear signal that the situation is unstable. Even though consumer surveys can often give helpful or useless data, the fact is that the attitude of consumers in the EU is similar to what it was during the pandemic. In such conditions, worried consumers have changed the structure of their consumption, orienting on purchasing necessary goods and avoiding durable consumer goods. The decline or instability of consumption has affected companies to reduce investments in purchasing new technologies. Expectations were that reduced demand, i.e. consumption, would affect the gradual decline of inflation.

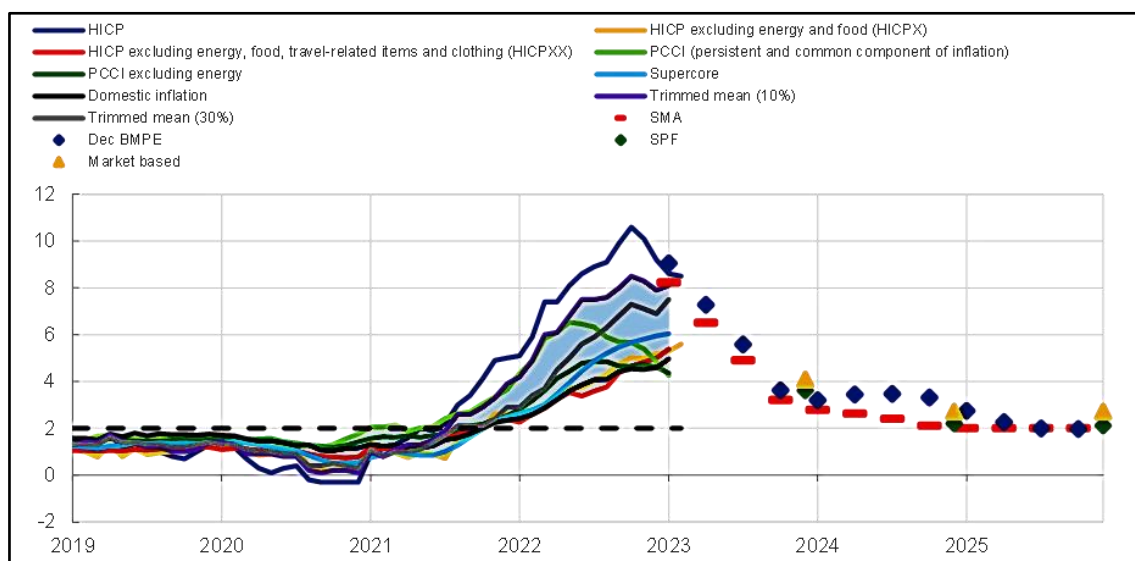
## ***INFLATION IN THE EUROPEAN UNION***

The war in Ukraine triggers three main categories of economic effects: (1) It is a supply shock, which raises inflation and reduces growth; (2) It is likely to reduce demand; (3) It will also affect national budgets. (Wyplosz, 2022) Shocks to the supply side – notably the supply bottlenecks created by the pandemic, the brutal Russian invasion of Ukraine, and the ensuing energy crisis – have raised input costs for firms. (Lagard, 2023). At the same time, the lifting of restrictions and the gradual opening of the EU economy influenced the increase in consumption, making it possible for firms to pass these costs to prices much faster and more strongly than in the past. (Lagard, 2023) Although inflationary pressures were present before the start of the war in Ukraine, the conflict undoubtedly contributed to an unprecedented and rapid jump in inflation in the EU. Shocks on the supply side and, to some extent, the demand side continuously fueled inflationary pressures and immediately contributed to its explosion in the short term.

The increased growth of inflationary tendencies led to an upward spiral of the inflationary trend, which fell sharply from mid-2021. It was the period, before the war in Ukraine, when there by a significant rebound component of inflation contained through "the transmission of shocks in energy and food costs to other sectors, the impact of bottlenecks and the effects of the reopening of the pandemic due to which there are temporary mismatches between demand and supply in sectors with intensive contact" (Lane, 2023). Even though there have been some reversals in the action of these factors process of adjusting to new shocks is still ongoing and may affect the medium-term trend of inflation, even though the effect of inflation is higher in the short term.

At the beginning of 2022, overall inflation, measured by the Harmonized Index of Consumer Prices (HICP) in the Eurozone, increased and was higher than the target inflation of 2%. In the same year in January, the year-on-year fall in prices reached 5.1%. Since January, price growth has doubled to reach a peak of 10.6% in October 2022, after which it began to decline but remained at a high level in February 2023 at 8.5%. In May 2023, inflation fell compared to February and amounted to 6.1%. The growth of overall inflations is affected by energy prices at 4.5%, which is much higher than January's at 2.7%. In 2021, food prices, especially, began to rise more strongly after the start of the war in Ukraine.

*Graph 1. Indicators of underlying inflation, inflation projections, and expectations*



*Source: Lane, 2023.*

Core inflation includes those variables that make up the slow part of the inflation, which continue to operate in the medium term, although temporary anomalies have weakened considerably.





## Book of Proceedings

The core rate of inflation measured by HIPC, without energy and food (HICPKS) in 2022 averaged 8.4%. The HIPCX was significantly higher in 2022 compared to the average in 2021 of 2.6%, to reach the level of 5.3% in May 2023. The latest available (January) estimates show that the other underlying inflation indicators range between 4.1 percent (Persistent and Common Component of Inflation - PCCI - excluding energy) and 8.1 percent (the 10 percent trimmed mean). While the PCCI measures have eased in recent months, most other indicators do not show signs of a turnaround (Lane, 2023).

Therefore, the ECB monitors the dynamics of base inflation, which is a more reliable indicator of the path of inflation that can be seen in real-time through monetary analysis so that the ECB has no tangible evidence that core inflation has peaked maximum of sharp monetary policy measures. Whether there will be changes or remain at the current level will mainly depend on the balance between the price of energy and the level of wages.

However, core inflation is not a good indicator of headline inflationary pressures because they may extend beyond the energy and food sectors. Energy and food affect core inflation through the trade of input-output because both are input to produce various products and services. The growth of inflation under the influence of the price of energy and food led to a domino effect to an increase in other prices through the input-output structure, the automatic indexation of many products and services, and the automatic indexation of wages. (Blot et al., 2023) Energy, and above all natural gas, is input in almost all economic sectors and is used as a chemical raw material and source input. Increased natural gas prices increase production costs and service prices. If companies can pass on increased production costs to other companies or end consumers, it leads to rising prices and inflationary pressures. In addition, the direct indexation of wages, which exists in many EU countries, conditions the growth of wages, which also affects inflationary pressures. Therefore, rising wage pressures are increasingly acting as a significant factor in increasing inflation. Because of the energy crisis, workers have experienced considerable wage losses in this period due to lower overall incomes. Their earnings were 4% lower than during the pandemic. Labor markets in the EU are closely interconnected and have strong bargaining power that workers use to compensate for wage losses. In addition, the lack of qualified labor affects the conclusion of new labor contracts with higher wages in many industries. Thus, in Germany, earnings increased from 3.9% in the last quarter of 2022 to 5.1% in the first quarter of this year. The increase in wages has a double effect on the growth of inflation, firstly through an increase in the price of labor and secondly through an increase in the price of food. Despite that does not necessarily mean that there will be an unwarranted rise in persistent inflation during the period of wage loss compensation. It should not happen if the costs of the energy shock by ultimately shared in a balanced way between companies and workers (Lagard, 2023).

Also, in some EU countries, there is an automatic indexation of the prices of goods and services. For example, apartment rent by indexed in line with the rise in headline inflation, although landlords use discretion to increase rental prices outside this rule. Or toll prices in France, which by also indexed to the growth rate of overall inflation. Therefore, even core inflation is not immune from fluctuating energy prices.

Comparing headline inflation to the various standard indicators of underlying inflation, Chart 1 also shows that the decline in inflation has been primarily due to the easing of some temporary inflation pressures, most notably the remarkable decline in gas prices in recent months (Lane, 2023). Although the just-of-late and expected reduction in energy prices have spurred some of the falls in core inflation, the effect has not been strong enough to bring it down quickly and significantly. In addition, we should not ignore the broader geo-economic fragmentation, which carries the risk of stagflation that can slow economic growth and encourage inflation.

Despite small favorable signals of recovery, fragile stability, and the fall of individual components of inflation, the situation remains sensitive and vulnerable, and the risks to growth, financial stability, and inflation could collapse the efforts of the ECB so far and make the situation complicated for making monetary decisions. However, it is wrong to conclude that the growth of inflation in 2022 is solely a consequence of the geopolitical and economic situation caused by the war in Ukraine. Result of the pandemic through long-term bottlenecks in the supply chain for industrial goods, the growth of demand after the lifting of restrictions, and the depreciation of the euro, which harmed price growth and the strengthening of inflationary pressures. The war in Ukraine only deepened the already existing, accumulated anomalies in the EU.





## Book of Proceedings

### *THE ECB'S ANSWER*

Central banks were the first to stand on the bulwark of defense against the impact of high inflationary pressures. Seen through the time machine of the crisis, the Central Banks have never been anemic when economic troubles occur, so their reactions were not absent this time either (Momirović et al., 2021). Worried but also taken aback, central banks worldwide, after some hesitation, reacted strongly by taking harsh to respond measures to suppress inflationary pressures and took appropriate to the shocks caused by the war in Ukraine. The ECB, aware that the recovery achieved after the pandemic by endangered and that the war in Ukraine will significantly affect the reduction of economic activity and public policies not possible to do much with a little delay, took appropriate measures. Dedicated to preserving price stability to support the economy and the population and mitigate risks, the ECB has taken steps to normalize monetary policy. Those steps refer to implementing an adaptive attitude, i.e., appropriate monetary policy in the newly created conditions.

Following the adopted sequence of measures, the ECB, on July 1, 2022, will stop net purchases within the Pandemic Emergency Purchase Programme (PEPP). The Asset Purchase Program (APP) portfolio is declining at a measured and predictable pace, as Eurosite does not reinvest all of the principal repayments from the maturing securities (ECB, 2023). The ECB has decided to continue reinvesting and paying principals from maturing securities purchased under the APP even after the key interest rate hike, as necessary to maintain liquidity conditions.

After the ECB's announcement in June 2022 that it will soon start raising interest rates, the sudden inflation shock in the US has caused unexpected powerful, and unjustified movements in the government bond market, which has led to concerns about increased tendencies that may threaten and lead to dysfunctions, market fragmentation. To prevent the fragmentation of the market and ensure the transfer of an adaptive stance of monetary policy in the normalization of monetary policy, a new program, the Transmission Protection Instrument (TPI), was formed. At the same time, serious attention does not disturb the adaptive stance of monetary policy. TPI facilitated the purchase of public sector securities in jurisdictions that met the eligibility requirements for the sale of assets. TPI program has proven to be a powerful tool that has helped to stem and reduce undergrowth in sovereign spreads. The program helped to ensure a smooth transmission of the accommodative stance of monetary policy in the EU. Since the announcement of the TPI, sovereign spreads have been range-bound and rather insensitive to shifts in rate expectations, despite repeated tightening shocks over the past year as the historically unprecedented sharp interest rate hiking cycle proceeded. (Cshnabel I., 2023) Therefore, the TPI was an important tool in the smooth transmission of monetary policy and significantly contributed to the resolutions of inflationary pressures.

At the same time, the unprecedented and sudden jump in inflation forced the ECB to resort to harsh monetary policy measures. Seeing clear prospects for inflation, she reacted fast and completely changed the course of monetary policy by introducing restrictive measures or a policy of expensive money (Table 1).

*Table 1: Movement of key ECB interest rates*

	Reference interest rate	Main refinancing rates	Marginal lending facilities
18. September 2019	-0,50	0,00	0,25
27. July 2022	0,00	0,50	0,75
14. September 2022	0,75	1,25	1,50
2. November 2022	1,50	2,00	2,25
21. December 2022	2,00	2,50	2,75
8. February 2023	2,50	3,00	3,25
22. March 2023	3,00	3,50	3,75
10. May 2023	3,25	3,75	4,00
21. June 2023	3,50	4,00	4,25

*Source: [ecb.europa.eu/stats/policy](http://ecb.europa.eu/stats/policy) 2023*



## Book of Proceedings

The first increase in the interest rate followed, after an unexpected, accelerated jump in the inflation rate, in July 2022, and since from interest rate has been increased by 390 basis points in less than a year from – 0.50 to 3.50 in June 2023. Lagard, president of the ECB, said at the meeting in Hanover that "inflation is too high today and will remain for too long and that is why we have raised rates at the fastest pace ever – and we have made it clear that we still have ground to cover interest rates at a sufficiently restrictive level." When and how much more the key interest rates will increase depends on prospects for inflation, the trend of base inflation, and the effect of the transmission of monetary policy.

The unexpected sharp rise in interest rates has exposed fragilities in the financial system that had built up over the long period of low-interest rates, adding to the uncertainty caused by the pandemic and Russia's war of aggression against Ukraine (Schnabel, 2023).

### *ACHIEVED EFFECTS*

Despite the robust and rapid increase in the interest rate, inflation remained high, but this measure brought the accommodative stance of monetary policy to a different position. The taken measure activities in monetary policy related to financing and the creation of conditions have influenced some progress in decreasing inflationary pressures. The growth of the key interest rate has led to a sharp increase in borrowing costs with the already visible dynamics of the decrease in crediting to the economy and the population. At the same time, the lower crediting to the real sector decreased significantly during the third quarter of the previous year. In addition, the ECB decreased the growth of money supply M1 which for the first time in its history is negative in the EU.

Besides that, the shift from low to long-term, higher levels of the key interest rate has affected sensitive components of aggregate demand such as investment. In the last three quarters, investments in the construction of flats have been declining, and business investments have also recorded a fall. Besides that, the increase in the ECB's key interest rates strongly acted on the changes in bank lending conditions, which affected the slowdown fall of household and business borrowing dynamics.

Also, supply-side pressures have decreased significantly following the jump in commodity prices after the start of the war energy and food prices are below pre-war levels at the same time, supply chain conditions have improved in 2022, leading to a falling drop in producer price inflation (Ider et al., 2023).

The harsh measures taken influenced the slow lowering of inflation from its historical level. The decrease in inflation was influenced by the sudden fall in the price of energy, which affected the downfall in base inflation, which is it is still higher and more persistent than expected. Despite certain positive effects, the turn in the inflationary path is still uncertain and carries numerous risks. Supply shocks have begun to reverse, with energy and food prices receding from their peaks last year and supply bottlenecks easing (Panetta, 2023).

Of course, we should bear in mind the impact of the EU government's fiscal policy undertaken during 2022 to mitigate the consequences of the energy shock with the aim of an adaptive attitude of both politics (fiscal and monetary) and mutually effective interaction. Monetary policy should keep excessive inflation rates under control and fiscal policy (nationalized or centralized) should support the absorption of bottlenecks on the supply side that triggered the inflation process. (Benigno et al., 2023)

And besides that the turnaround in monetary policy from July 2023 and certain positive developments in reducing inflation, it is still far from the adopted medium-term goal (Sikols, 2023).



Book of Proceedings

***INSTEAD OF A CONCLUSION - CAUTIOUSLY OPTIMISTIC  
EXPECTATIONS AND RISK***

The accomplished, positive effects of monetary policy in suppressing inflationary pressures sowed cautiously optimistic expectations for the future. The favorable downward turn of the inflationary path, due to the fall in the price of energy and partially food products, produced positive future expectations, primarily in a significant decrease of headline inflation. In the coming months, it is expected that headline inflation could achieve a downward trajectory that would converge to a level slightly above the target rate of 2%. These optimistic expectations are based on falling energy prices as an overriding driver of inflationary pressures. The effects of falling energy prices reflect costs that are already falling and act to reduce headline inflation.

At the same time, the threatening danger is that the pressure on the price of domestic products could endanger or neutralize the positive impulses mentioned. It primarily refers to measures of headline inflation, which refer to sensitive components of the business cycle, especially core inflation. Prices of imported products, regardless of low imports, continue to rise. If this trend continues, there may be an increase in the current level of aggregate demand, which will cause increased pressure from imported to the prices of domestic products and lead to increased pressure on all prices.

Will it take place, the achieved stagflation impulses be maintained so that the possible negative impact of the increase in aggregate demand prevails depending on the movement in earnings? Because of the price of EU energy, the EU has experienced high losses in trade relations costs which should be borne equally by companies and workers. Accordingly, it would be good if there is a fair sharing of the burden of costs between companies and workers and if there is an awareness that neither side can fully compensate for the lost revenues that the EU paid for the procurement of energy and other products and the aroused loss. In this sense, there is optimism that if workers and companies have accepted a fair distribution of the burden, the increase in earnings would be nothing but a rebalancing between labor and capital, which would probably cause a gradual reduction of pressure on wages and prices. It is especially true of companies, which take advantage of the resulting imbalances between supply and demand, and increase prices above costs, testing the pulse of consumers. As these companies do not have market power, they expected that during a time, due to the unsustainable aggregate demand, they absorb the increase in their costs in the fall of the margin, which reflects easing the pressure on prices.

And in addition to certain positive impulses in the fight against inflation, great uncertainty and high risks lie ahead in the coming period. The potential risks are related to the possibility of another jump in energy prices due to the unstable market and the growth of wages. Earnings could rise more than expected as a reaction to more compensation for the recent decline in purchasing power. Rapid earning growth would fuel headline inflation with a more permanent survival, which shows a high material risk in the EU, especially in countries with double-digit nominal earning growth. In addition, it seems that the harmful impact of the pandemic crisis and the energy crisis on the production capacities of the EU, which additionally affect inflationary risks, is addition underestimated.

Because of this and other influences, the ECB should implement a strict monetary policy until core inflation reaches the target level. Achieving that goal may require further increases in the referential interest rate and tightening measures in some member states where real interest rates are low, labor markets by overexerted, and headline inflation is sticky. Because of the potential threats and risks regarding the prospects for the future trend of inflation, the harsh monetary policy measures taken, due to the known lag, have yet to show their effects in the future. Because of the potential threats and risks regarding the prospects for the future trend of inflation, the harsh monetary policy measures taken, due to the known lag, have yet to show their effects in the future.



## Book of Proceedings

The ECB the adopted measures, with a restrictive policy, an increase in key interest rates, and a creasing in aggregate demand will succeed in decreasing inflation and protecting the economy from uncertainty and risks due to constant inflationary pressures.

A restrictive monetary policy would not be necessary to achieve its goals in the event of a tightening of financial conditions affecting financial stability. Increases in key interest rates represent risks and raise concerns for financial stability, but because of this, it would probably be wrong to take monetary policy easing measures. Maintaining financial stability is necessary to carry out, regular control and supervision of the banking and non-banking sectors to control their plans and corrective measures in case of financial troubles.

## REFERENCES

- Benigno, P., Canofari, P., Di Bartolomeo, G., Messori M. (2023). Prospects for monetary policy one year into the war in Ukraine. Economic Governance and EMU Scrutiny Unit 2023, Brussels.
- Blot, C., Creel, J., Geerolf, F. (2023). The direct and indirect impact of the war on inflation. Monetary Dialogue Papers, European Parliament, Brussels.
- ECB. (2023). Combined monetary policy decisions and statement. [ecb.europa.eu/stats/policy 2023.pdf](https://www.ecb.europa.eu/stats/policy/2023/pdf)
- Ider, G., Kriwoluzky., A, Schumann, B., Kurcy, F. (2023). Addressing inflationary risks in the face of high energy prices: what can the ECB do? Economic Governance and EMU Scrutiny Unit 2023, Brussels.
- Lagarde, K. (2023). Speech at „Dautscher Sparassenting“- The fight against inflation. Frankfurt na Main.
- Lane, P. (2023). Core inflation. Trinity College Dublin, Ireland.
- Momirović, D., Simonović, Z., Kostić, A. (2021). ECB Monetary policy during COVID 19. *Ekonomika*, 67(2), 13-22.
- Panetta, F. (2023). Monetary policy after energy shock. ECB (Member of the Executive Board of the ECB).
- Sikols, P. (2023). Out of the fog? Inflation in an era of ECB policy reversal. Economic Governance, and EMU Scrutiny Unit 2023, Brussels.
- Schnabel, I. (2023). Monetary and financial stability-can they are separated? Conference on Financial Stability and Monetary Policy, London.
- Wyplosz C. (2022). And now, the Ukraine shock. War in Ukraine: implications for the ECB. European Parliament 2022, Brussels.



Book of Proceedings

***IMPACT OF TARGET INFLATION RATE ON FINANCIAL STABILITY OF REPUBLIC OF SERBIA ECONOMY***

*Miloš Roganović<sup>1</sup>,  
Đorđe Vidicki<sup>2</sup>*

***ABSTRACT***

*The target rate of total inflation, as an annual percentage change in the consumer price index, is the only numerical guideline for monetary policy implemented by the National Bank of Serbia. The inflation target is determined as a single value with a permissible deviation, measured by the annual percentage change in the consumer price index, for several years in advance. Monetary policy plays one of the major roles in an economy through its purpose of influencing macro- economic performance in order to increase economic activity and achieve price stability. Macroeconomic trends both at the global and regional level have greatly influenced the financial stability of the economy of the Republic of Serbia in a negative direction, as indicated by inflation, one of the decisive factors in the growth of the financial stability index. In this paper, we will deal with the analysis of financial stability index by calculating GDP growth, Bank Z-score, Household final consumption, Current account balance, Total reserves and Foreign direct investment series, which shows success of the target inflation rate through overall inflation. The subject of some of the following research may be both the ability of developing countries to keep inflation in the target interval in periods of crisis, as well as the impact of a stable exchange rate policy on keeping inflation at the desired level.*

**Key words:** *Inflation, monetary policy, economic activity, FSI, financial stability*

**JEL Classification:** *G21, G28*

***INTRODUCTION***

The National Bank of Serbia strives to support the implementation of the Government's economic policy, provided that this does not jeopardize the achievement of the target inflation rate, nor the stability of the financial system.

The target inflation rate is determined by the National Bank of Serbia in cooperation with the Government, based on the analysis of current and expected macroeconomic trends and the medium-term price correction plan on which the Government has a direct or indirect influence and is achieved by changes in the reference interest rate, which is applied in the implementation of the main operations on the open market (currently, in the implementation of one-week reverse repo operations). That interest rate represents the basic instrument of monetary policy, while other instruments of monetary regulation have an auxiliary role - they contribute to the smooth transmission of the influence of the reference interest rate on the market, as well as the development of financial markets, without jeopardizing the stability of the financial system. A traditional common view is that financial stability and price stability are complementary and mutually consistent objectives (Bernanke, Gertler, & Gilchrist, 1999) which can be simultaneously achieved by a flexible inflation targeting regime.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milos.roganovic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, djordje.vidicki@vspep.edu.rs





## Book of Proceedings

Based on the analysis of current and expected macroeconomic trends and the medium-term price correction plan on which the Government has a direct or indirect influence, the target inflation rate is determined by the National Bank of Serbia in cooperation with the Government. Stable inflation may also promote predictable returns on investment, and therefore, may positively affect financial stability (Schwartz, 1998).

Huge inflow of foreign capital can rise challenges for policy makers in developing economies, because this kind of capital inflow can lead to appreciation of real exchange rate (Radovic Markovic et alia, 2022). Floating exchange rate regime is managed by interventions on the domestic foreign exchange market in order to mitigate excessive short-term fluctuations of the exchange rate of the dinar against the euro. By maintaining the relative stability of the exchange rate of the dinar against the euro, the National Bank of Serbia contributes to the preservation of business and investment confidence at a high level, limiting the spillover effects of import price growth on domestic prices, as well as overall macroeconomic stability in conditions of increased global uncertainty. It is argued that central banks with an inflation target may become myopic and only concentrate on commodity prices and therefore may not pay enough attention to financial developments – such as a credit-financed real estate boom – and thus inflation targeting policy may exacerbate financial instability (Woodford, 2012).

The inflation target is determined as a single value with a permissible deviation, measured by the annual percentage change in the consumer price index. The inflation target is a precise and clear signal to the public about the level of inflation that the central bank is trying to achieve. Also, the target is symmetrical, which makes it easier for the central bank to communicate with the public in case of not only shifting but also falling short of the target.

The width of the permissible deviation from the target ( $\pm 1.5$  p.p.) indicates the zone that is considered acceptable for the movement of inflation, taking into account the fact that there may be numerous transitory shocks of a smaller scale that will cause short-term oscillations in inflation rates, but will not require a reaction of monetary policy. It reflects the determination of the National Bank of Serbia to stabilize economic activity, as it provides room for monetary policy flexibility without damaging its credibility.

Other instruments of monetary regulation have an auxiliary role - they contribute to the smooth transmission of the influence of the reference interest rate on the market, as well as to the development of the financial market without jeopardizing the stability of the financial system. The inflation target is a medium-term target, which means that the achieved inflation may deviate from the target in the short term due to exogenous disturbances. The National Bank of Serbia will allow a temporary deviation of inflation from the established target in the event that returning inflation to the target in a short period of time would require such changes in monetary policy that would cause macroeconomic disturbances.

The rest of the article is structured as follows: the second section provides a brief overview of the literature on the positive and negative aspects of inflation targeting and its impact on financial stability. In the third section, a sample of research and methodology is defined. The fourth section presents the results and discussion, while the fifth section concludes the paper and provides guidance for further research.

## ***LITERATURE REVIEW***

Central banks use the inflation targeting policy to control and steer inflation levels in the economy, i.e., to maintain price stability. Central banks adjust monetary policy instruments to keep inflation within the desired range and achieve the set goal. Schwartz (1998) believes that stable inflation can also encourage predictable returns on investments and therefore can positively affect financial stability. Among the different monetary policy strategies, domestic inflation targeting achieves the best result towards stabilizing aggregate variables (Ferrero et al., 2008). There is an evidence that inflation targeting plays significant role in anchoring long-run inflation expectations and in reducing the intrinsic persistence of inflation (Levin et alia, 2004). Montes (2013) considered inflation targeting as an important strategy for





## Book of Proceedings

achieving a more stable macroeconomic environment, which has been of great importance for investment and job creation.

Analyzing the data of the Czech economy, Kotlan and Navratil (2003) conclude that although the inflation targets are missed more often than they are met, the inflation targeting policy has significantly contributed to the stabilization of the Czech economy. Analyzing monetary and fiscal stability in the euro area, Granville and Mallick (2009) came to results that suggest that the interest rate instrument used for inflation targeting is conducive to financial stability.

However, the literature, especially after the global financial crisis from 2007/8, suggests that inflation targeting as a monetary policy framework can exacerbate financial instability, especially if episodes arise from the accumulation of financial imbalances, such as excessive credit growth and abnormally high asset prices (Tobal, Menna, 2020). Given that the long-term trend represents an economy at the level of full employment, if actual output has become greater than potential, inflationary pressures arise (Roganovic & Vidicki, 2022). As monetary and fiscal policy measures have not been proven effective enough to prevent financial crises, the phenomenon of financial stability is gaining importance in times of global crises (Alihodzic et al., 2020).

Investigating the impact of inflation targeting on inflation, Tawadros (2009) concluded that central banks which have adopted an inflation-targeting regime do not appear to have been particularly successful in reducing inflation in any significant way. Samarina et al (2014) came to an interesting conclusion. Their study found that inflation targeting has a significant negative effect on inflation in emerging and developing countries, but no effect on advanced economies, and this conclusion is consistent across different estimation methods. Aissa and Rebei (2012) asserted that strict headline inflation targeting could be outperformed by sectoral inflation targeting, output gap stabilization, or a combination of these.

Kim and Mehrotra (2017) found that there are periods when macroprudential policy shocks contributed to inflation deviation from the inflation target and when monetary policy shocks contributed to credit growth, suggesting that there were short-term trade-offs between price targets and financial stability. Research results of Khodeir (2012) gave support to the application of flexible inflation targeting regime instead of strict inflation targeting regime. Gong and Qian (2022), investigating the connection between Inflation targeting and financial crisis, concluded that price-stability-oriented monetary policy frameworks, such as inflation targeting, also have non-negligible 'side effects' on financial stability. Contrary to the belief of inflation targeting skeptics, Libich (2011) noted that an explicit long-term inflation target can improve the variability tradeoff, making both inflation and output less variable in equilibrium. Parkin (2014) in his study showed that central bank independence and inflation targeting both enhance macroeconomic performance, but inflation targeting is more effective in lowering inflation rate, variability of inflation, variability of real GDP growth, and output gap. Similarly, Ardakani et alia (2018) found that inflation targeting reduces sacrifice ratio and interest rate volatility in the developed economies, and that it enhances fiscal discipline in both the industrial and developing countries.

Considering Monetary Policy Strategies for the Federal Reserve, Svensson (2019) concluded that average-inflation targeting is superior to other strategies, including nominal-GDP targeting, in fulfilling the Federal Reserve's dual mandate of maximum employment and price stability. Mishra and Dubey (2022) studied data for 64 developing economies and concluded that there are positive and significant spillover effects of inflation targeting policy adoption on banking sector resilience and foreign capital inflows. They also found no negative impact of inflation targeting on financial stability.

## ***DATA AND METHODOLOGY***

With the agreement on inflation targeting between the Government of the Republic of Serbia and the National Bank of Serbia, which became effective from January 1, 2009, the National Bank of Serbia formally switched to inflation targeting as a monetary policy regime. (National Bank of Serbia, 2012).

In order to assess the impact of inflation targeting on overall financial stability, eight variables that indicate four different measures of financial stability were used. As an indicator of Macroeconomic Stability GDP Growth and Inflation Rate were used, Bank Z-Score was used as an indicator of Banking Sector Stability, Household Final Consumption Expenditure was used as an indicator of Household Sector Stability, and finally, Current Account Balance, Total Reserves, Exchange Rate and Foreign Direct Investment - net Inflows were used as an indicator of External Sector Stability.

In order to show the movement of these variables in the Serbian economy, all available data from the World Bank and the National Bank of Serbia from 1995 to 2022 were used. The movements of the variables for the period before the adoption of the inflation targeting policy in 2009 and the period after were also shown in comparison.

In the literature, for calculating Financial Stability Index (FSI), commonly used weighting methods are Dynamic Factor Analysis, Simple Factor Analysis, Principal Component Analysis, Variance-weighted Average and Variance Equal Weighting (Mishra and Dubey, 2022). After analyzing all available approaches and relevant literature, we opted for Principal Component Analysis (PCA) to calculate the index.

PCA calculates the covariance matrix of the standardized variables to identify whether there is any relationship between the variables. To get principal components in accordance with the variance, PCA arranges eigenvectors in order of their eigenvalues from highest to lowest. As suggested in (Mishra and Dubey, 2022) the first component was used as an index of financial stability because it explains most of the variance in the data.

The FSI is calculated as follows:

$$FSI_{it} = \sum_{n=1}^8 \omega_n x_{int} \quad (1)$$

In equation (1),  $\omega$ 's are weights with  $n$  loadings and  $x$ s are standardized indicators. An increase in the value of the index indicates a worsening of financial stability.

To maintain the FSI in one direction, GDP growth, Bank Z-score, Household final consumption, Current account balance, Total reserves and Foreign direct investment series have been reciprocated so that increasing values of the series denote financial instability.

## DISCUSSION OF RESULTS

GDP growth is an annual percentage growth rate of GDP at market prices based on constant local currency. Compared to the period before inflation targeting (Figure 1b), we can conclude that after inflation targeting, GDP growth moves without major fluctuations.

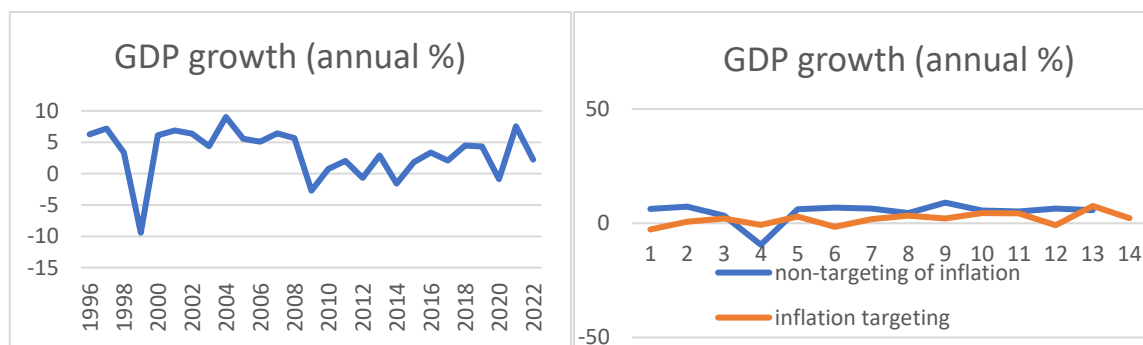


Figure 1: GDP growth

Source: Authors, based on World Bank national accounts data and OECD National Accounts data files



Book of Proceedings

Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services. Compared to the period before inflation targeting (Figure 2b), we can conclude that after inflation targeting, yearly inflation is much lower.

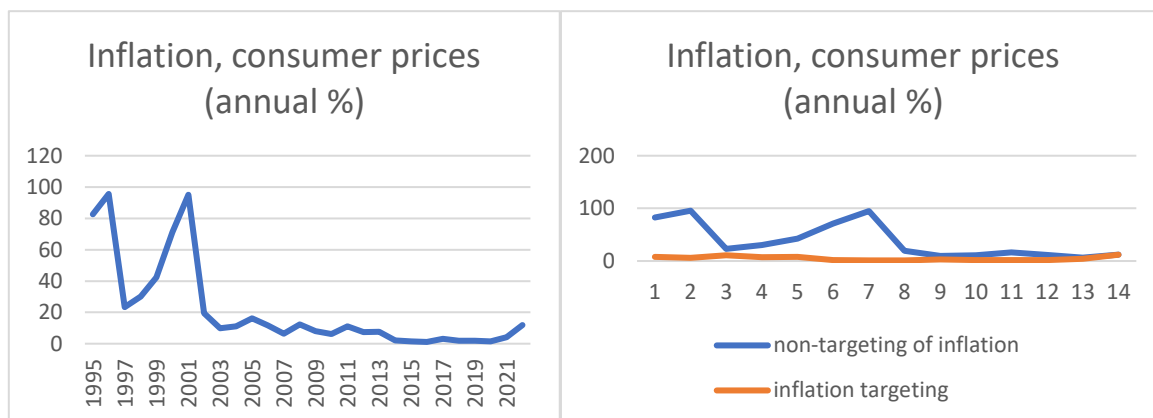


Figure 2: Inflation

Source: Authors, based on IMF, IFS and data files

Bank Z-score captures the probability of default of a country's commercial banking system. Z-score compares the buffer of a country's commercial banking system (capitalization and returns) with the volatility of those returns. A higher value of the z-score means lower bank risk. In recent years we can see a decrease in Bank Z-score (Figure 3) that increase the risk of default of the commercial banking system. The cause could be increasing of interest rates in order to fight inflation.

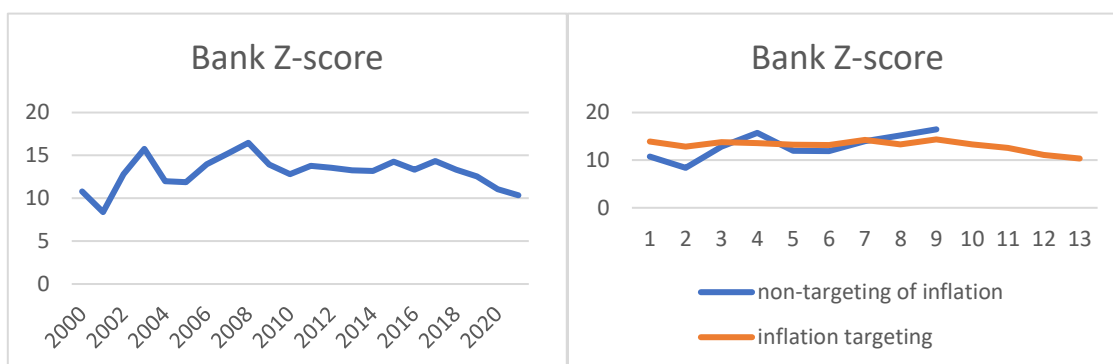


Figure 3: Bank Z-Score

Source: Authors, based on Bankscope (2000-14) and Orbis (2015-21), Bureau van Dijk (BvD), Bank Z-score, Data from database: Global Financial Development

Household final consumption expenditure is the market value of all goods and services, including durable products. On Figure 4, a clear trend of increasing hoshould final consumption can be seen until 2021. An increase in Household final consumption expenditure could also be an indicator of an increase in the wage rate and a decline in the unemployment rate (Pardede & Zahro, 2017).



Book of Proceedings

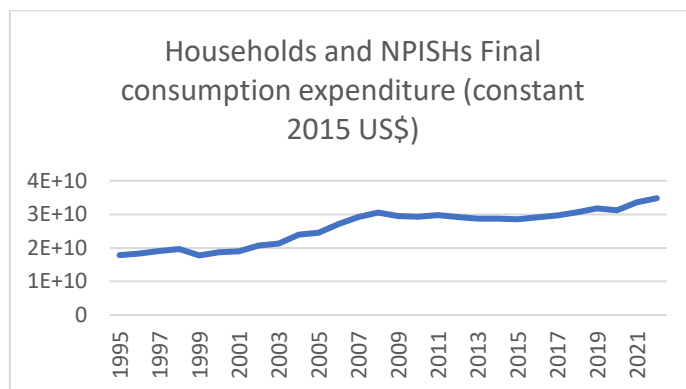


Figure 4: Households final consumption

Source: Authors, based on World Bank national accounts data, and OECD National Accounts data files

Current account balance is the sum of net exports of goods and services, net primary income, and net secondary income. Data are in current MM Eur. Compared to the period before inflation targeting (Figure 5b), there is no improvement in current account balance.

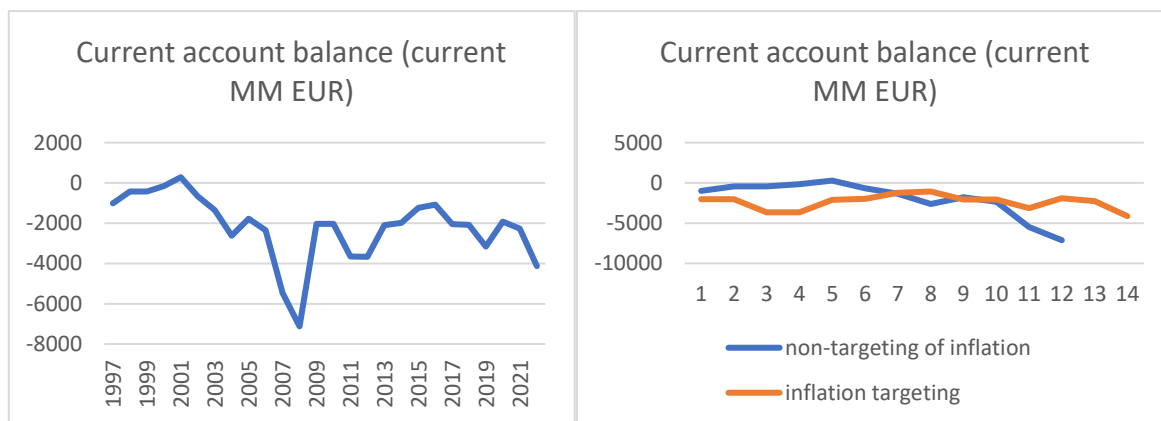


Figure 5: Current account balance

Source: Authors, based on NBS, Republic of Serbia Balance of Payments, 1997-2006 and 2007-2022

Total reserves comprise holdings of monetary gold, special drawing rights, reserves of IMF members held by the IMF, and holdings of foreign exchange under the control of monetary authorities. On Figure 6, a steady growth of total reserves can be noticed.



Figure 6: Total reserves

Source: Authors, based on IMF, IFS and data files

Official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on



Book of Proceedings

monthly averages. Figure 7 shows the continuous weakening of the domestic currency against the dollar. However, in previous years, the National Bank of Serbia has successfully maintained the relative stability of the dinar against the euro. Yet, this policy limits the possibilities for implementing the primary goal of price stability.

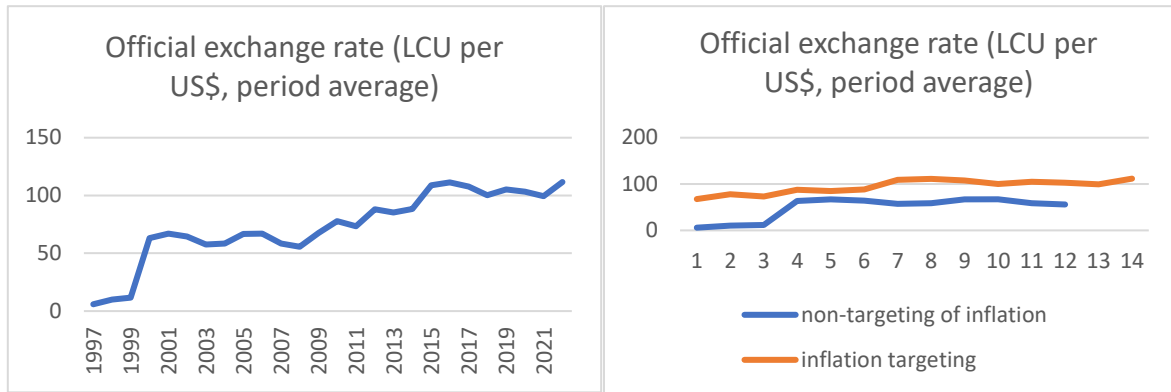


Figure 7: Exchange rate

Source: Authors, based on IMF, IFS

Foreign direct investment refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital. On Figure 8, in past 10 years, a steady growth of foreign direct investment can be noticed.

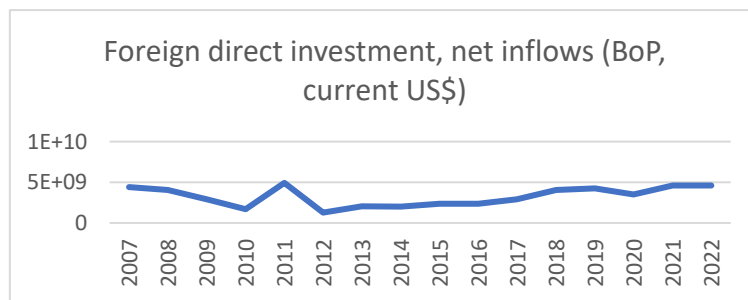


Figure 8: Foreign direct investment

Source: Authors, based on IMF, Balance of Payments database data

Taking these 8 variables into account, the financial stability index was calculated, which is presented on Figure 9. FSI was calculated based on data from 2007 to 2021.

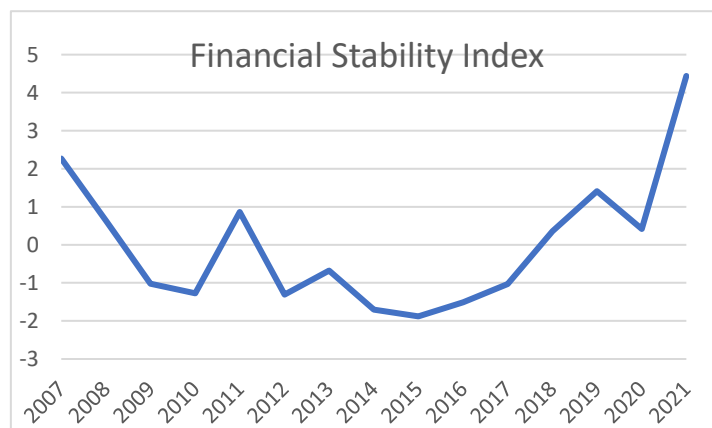


Figure 9: Financial Stability Index

Source: Authors



## Book of Proceedings

As we mentioned earlier, the growth of FSI means an increase in financial instability. Since 2019, there is an obvious deterioration in financial stability that coincides with the outbreak of the Covid 19 pandemic. The growth of inflation above the targeted level contributed the most to the weakening of financial stability. Also, to financial instability contributed the decrease in household final consumption in 2021, as well as the reduced inflow of foreign direct investments.

### ***CONCLUSIONS AND POLICY IMPLICATIONS***

Inflation, as one of the determining factors of the growth of the financial stability index in the past period, indicates that macroeconomic trends both at the global and regional levels have greatly influenced the financial stability of the economy of the Republic of Serbia in a negative direction. Therefore, the role of the central bank of the Republic of Serbia is extremely important, to largely establish the stability of the country's entire economic system through the target inflation rate.

Target inflation will still be slightly above the level of the quantitative definition of price stability and the level of target inflation in developed countries (2.0% or 2.5%) because the inflation target is based on the assessment that the process of nominal, real and structural convergence towards the European Union will not be completed in near future.

It should be borne in mind that the inflation target is a medium-term goal, i.e. that the achieved inflation may deviate from the target in the short term, due to exogenous shocks and that National Bank of Serbia will allow a temporary deviation of inflation from the established target in cases where returning inflation to the target in a short period would require such changes in monetary policy that would cause additional macroeconomic disturbances. It refers to sudden changes in prices of primary products. The National Bank of Serbia, in cooperation with the Government of the Republic of Serbia, can change the established targets for inflation and such changes should only be undertaken in exceptional circumstances.

The decrease in household final consumption in the past period implies that it is imperative to raise the standard of living of the population through the improvement of economic activities and the efficiency of the state administration with the aim of raising personal incomes of both the private and public sectors.

The analysis of the variables of the financial stability index leads to the conclusion that the financial stability of the economy of the Republic of Serbia in the coming period should be achieved through low and stable inflation, measures of relative stability of the exchange rate, full coordination of economic policies, creation of an environment of macroeconomic stability and favorable prospects for growth with the aim of creating a favorable perception of investors and the continuation of the inflow of capital to Serbia.

Future research could focus on the ability to maintain inflation at the target interval during periods of crisis, especially in developing countries. It is also recommended to investigate the impact of a stable exchange rate policy on the possibility of maintaining inflation at the desired levels.

### ***REFERENCES***

- Aissa, M., Rebei, N. (2012). Price Subsidies and the Conduct of Monetary Policy. International Monetary Fund (IMF) Research Paper Series. <https://doi.org/10.1016/J.JMACRO.2012.03.004>.
- Alihodzic, A., Halilib, E. I., Bernab, D. (2020). The determinants of bank stability: Evidence from selected Balkan countries and Turkey. *International Review*, 1-2, 95.
- Ardakani, O., Kishor, N., Song, S. (2018). Re-Evaluating the Effectiveness of Inflation Targeting. *Macroeconomics: Prices*. <https://doi.org/10.2139/ssrn.3238084>.





**Book of Proceedings**

Bankscope (2000-14), Orbis (2015-21), Bureau van Dijk (BvD), Bank Z-score, Data from database: Global Financial Development. Available at: <https://databank.worldbank.org/source/global-financial-development/Series/GFDD.SI.01#>

Bernanke, B., Gertler, M., Gilchrist, S. (1999). The financial accelerator in a quantitative business cycle framework. *Handbook of macroeconomics*, 1, 1341–1393.

Ferrero, A., Gertler, M., Svensson, L. (2008). Current Account Dynamics and Monetary Policy. *National Bureau of Economic Research*, 199-244. <https://doi.org/10.3386/W13906>.

Gong, D., & Qian, Z. (2022). Inflation targeting and financial crisis. *Applied Economics*, 54, 4782 - 4795. <https://doi.org/10.1080/00036846.2022.2036685>.

Granville, B., Mallick, S. (2009). Monetary and financial stability in the euro area: Pro-cyclicality versus trade-off. *Journal of International Financial Markets, Institutions and Money*, 19, 662-674. <https://doi.org/10.1016/J.INTFIN.2008.11.002>.

International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and official national sources (2023). World Development Indicators, Foreign direct investment, net inflows (BoP, current US\$), Available at: <https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?locations=RS>

International Monetary Fund, International Financial Statistics (2023). World Development Indicators, Official exchange rate (LCU per US\$, period average), Available at: <https://data.worldbank.org/indicator/PA.NUS.FCRF?country=NL&locations=RS>

International Monetary Fund, International Financial Statistics and data files (2023), World Development Indicators, Inflation, consumer prices (annual %), Available at: <https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=RS>

International Monetary Fund, International Financial Statistics and data files (2023), World Development Indicators, Total reserves (includes gold, current US\$), Available at: [https://data.worldbank.org/indicator/FI.RES.TOTL.CD?locations=RS&year\\_high\\_desc=true](https://data.worldbank.org/indicator/FI.RES.TOTL.CD?locations=RS&year_high_desc=true)

Khodeir, A. (2012). Towards inflation targeting in Egypt : the relationship between exchange rate and inflation. *South African Journal of Economic and Management Sciences*, 15, 325-332. <https://doi.org/10.4102/SAJEMS.V15I3.203>.

Kim, S., Mehrotra, A. (2017). Managing price and financial stability objectives in inflation targeting economies in Asia and the Pacific. *Journal of Financial Stability*, 29, 106-116. <https://doi.org/10.1016/J.JFS.2017.01.003>.

Kotlán, V., Navrátil, D. (2003). Inflation Targeting as a Stabilization Tool: Its Design and Performance in the Czech Republic. *Czech Journal of Economics and Finance*, 53, 220-242.

Levin, A., Natalucci, F., Piger, J. (2004). The Macroeconomic Effects of Inflation Targeting. *Canadian Parliamentary Review*, 86, 51-80. <https://doi.org/10.20955/R.86.51-80>.

Libich, J. (2011). Inflation Nutters? Modelling the Flexibility of Inflation Targeting. *The B.E. Journal of Macroeconomics*, 11. <https://doi.org/10.2202/1935-1690.2298>.

Mishra, A., Dubey, A. (2022). Inflation targeting and its spillover effects on financial stability in emerging market economies. *Journal of Policy Modeling*, 44(6), 1198-1218.

Montes, G. (2013). Credibility and monetary transmission channels under inflation targeting: An econometric analysis from a developing country. *Economic Modelling*, 30, 670-684. <https://doi.org/10.1016/J.ECONMOD.2012.09.035>.

National Bank of Serbia (2012), Inflation Report, Available at: [https://nbs.rs/export/sites/NBS\\_site/documents-eng/publikacije/ioi/izvestaji/inflation\\_report\\_02\\_2012.pdf](https://nbs.rs/export/sites/NBS_site/documents-eng/publikacije/ioi/izvestaji/inflation_report_02_2012.pdf)

National Bank of Serbia (2023), Republic of Serbia Balance of Payments, 1997-2006 and 2007 - 2022, Current account balance, Available at: [https://www.nbs.rs/en/drugi-nivo-navigacije/statistika/platni\\_bilans/index.html#](https://www.nbs.rs/en/drugi-nivo-navigacije/statistika/platni_bilans/index.html#)



**Book of Proceedings**

Pardede, R., & Zahro, S. (2017). Saving not spending: Indonesia's domestic demand problem. *Bulletin of Indonesian Economic Studies*, 53(3), 233–259.

Parkin, M. (2014). The Effects of Central Bank Independence and Inflation Targeting On Macroeconomic Performance: Evidence from Natural Experiments. *Review of Economic Analysis*. <https://doi.org/10.15353/rea.v6i1.1410>.

Radović-Marković, M., Vesić, T., Đekić, M. (2022). Monetary and financial cash flows as drivers of foreign direct investments at the global level. *International Review*, 1-2, 10-16.

Roganović, M., Vidicki, Đ., Pajković, P. (2022). Is the real estate bubble about to burst? Analysis of the real estate market in the Republic of Serbia. 11<sup>th</sup> International Scientific Conference "Employment, Education and Entrepreneurship" (EEE 2022), Proceedings, 340-356.. ISBN 978-86-6069-202-5

Samarina, A., Terpstra, M., Haan, J. (2014). Inflation targeting and inflation performance: a comparative analysis. *Applied Economics*, 46, 41-56. <https://doi.org/10.1080/00036846.2013.829205>.

Schwartz, A. J. (1998). Why financial stability depends on price stability. *Money, Prices and the Real Economy*, 34, 41.

Svensson, L. (2019). Monetary Policy Strategies for the Federal Reserve. *Macroeconomics: Monetary & Fiscal Policies eJournal*. <https://doi.org/10.3386/w26657>.

Tawadros, G. (2009). Testing the impact of inflation targeting on inflation. *Journal of Economic Studies*, 36, 326-342. <https://doi.org/10.1108/01443580910973556>.

Tobal, M., Menna, L. (2020). Monetary policy and financial stability in emerging market economies. *Latin American Journal of Central Banking*, 1(1–4), Article 100017

Woodford, M. (2012). Inflation targeting and financial stability (No. w17967). National Bureau of Economic Research.

World Bank national accounts data and OECD National Accounts data files (2023), World Development Indicators, GDP growth (annual %), Available at: <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=RS>

World Bank national accounts data, and OECD National Accounts data files (2023), World Development Indicators, Households and NPISHs Final consumption expenditure (constant 2015 US\$). Available at: <https://data.worldbank.org/indicator/NE.CON.PRVT.KD?locations=RS>



Book of Proceedings

***THE ASSESSMENT REVISION OF THE MECHANISMS  
EFFICIENCY IN RISK MANAGEMENT IN THE SERBIAN  
BANKING SECTOR – FOCUSING ON EXTERNAL FRAUD***

*Tamara Vesić<sup>1</sup>  
Milan Gavrilović<sup>2</sup>  
Jovana Vesić<sup>3</sup>*

***ABSTRACT***

*The modern business environment, shaped by globalization, the increasingly intensive application of modern technologies and innovations in business, are an inevitability to which banks are supposed to adapt in order to win in the market competition. Progressively strong competition, but also gradually selective and demanding clients are characteristic of the increasing number of frauds, being gradually complex, and having lasting consequences on the bank operations. The paper subject is reflected in the research of the impact of potential fraudulent actions on the credit process, as well as general risk management. The analysis of the phenomenon of fraudulent actions in the banking sector is important in order to find adequate ways to prevent them, that is, to eliminate or reduce them. The paper objective is to describe the defined fraudulent acts, with the intention of establishing the profile characteristics of the potential perpetrator acting the fraud and thus helping mathematicians, analysts, managers, bankers (decision makers in general) in preventing future potential losses. Discussing the case study (on the data basis from a real bank operations in the territory of the Republic of Serbia), the profile of the person who most often committed external credit fraud has been observed. The results indicate that the Covid-19 virus pandemic has had a positive effect on the increased number of attempted frauds in the post-pandemic period compared to the same quarters years before, and the most common method of credit fraud is document falsification.*

***Key words:*** risk management, credit risk, financial fraud, economic crime, bank frauds

***JEL Classification:*** G21

***INTRODUCTION***

Banking is an area of economy engaged in banking phenomena, products and jobs. Banking has one of the key roles in the functioning of each state and its economy (Hull, 2010). Modern banking are characterized by complex banking, information and communication systems and international banking networks (Nikolić et al., 2019). Despite the strong expansion of innovation in the banking sector and generally in the financial services sector, at the end of the XX and the early XXI century, credit risk is still the main and the essential reason for bank insolvency. An explanation of why this should be found in the fact that in the new and modern business, over 80% of the bank's balance, generally relate to this aspect of banking risk management (Greuning et al., 2003).

Modern business environment, shaped by globalization, increasingly intensive by modern technologies and innovations, and consequences of the global economic crisis, gradually stronger

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, tamara.vesic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milan.gavrilovic@vspep.edu.rs

<sup>3</sup> Addiko Bank, Belgrade, Serbia, jovanavesic7@gmail.com



## Book of Proceedings

competition and by more selective and demanding clients, has also characterized increasing number of fraud, and which are more complex consequences for banks' business (Milojević, 2016). It can be concluded that in today's turbulent environment, banks are exposed to a large number of potential risks that can significantly influence their business and business results, and banks should recognize such risks and find the best solution in combat with them (Barjaktarović et al., 2022). As a part of credit risk, in modern times, with the advent of new techniques and technologies, banks are exposed to increasingly common attempts of financial fraud, as the activities that these banks as financial institutions conduct enabling the perpetrators to acquire direct financial benefits with minimal investments (Arežina et al, 2016; Wolf et al, 2004). By making the fraud, individuals cause harm to banks in both material and reputational sense (Momirović et al., 2021). A large number of banks are hardly recovered from the consequences causing from the individual who has acted the fraud (Vona, 2008) - their reputation is permanently damaged, and in an environment in which cost minimization often represents the strongest quality in competition, financial losses that are most commonly measured by hundreds thousands of euros are often an invincible obstacle to further survival of banks. Therefore, banks are increasingly turning to the development and improvement of various mechanisms in combating fraud.

The paper subject is focused on the investigation of potential fraudulent actions in the credit process, as well as general risk management that can cause potential fraudulent actions in the banking system in the period before, during and after a pandemic caused by the Covid-19 virus, i.e. in the period from 2018 to 2022. This research is designed as a case study, within which are the observed parameters of the real bank operating in the Republic of Serbia, but its business name will not be shown due to data sensitivity. The aim of this research is to assess the efficiency of existing systems and risk management practices in the banking sector and the case in providing information collected and processed from real resources. Accordingly, as a basic paper hypothesis, the following is set:

*H0: Identification of the risk indicators for fraudulent actions has significant participation in adequate risk management in general.* Additional hypotheses are:

*H1: The Covid-19 virus pandemic has had a positive effect on the increased number of attempted fraudulent actions.*

*H2: The most common ways to commit credit fraud are falsifications of documents.*

The scientific justification of the research is reflected in the application of scientific methods in the analysis of the phenomenon of fraudulent actions in the banking sector. The social justification of the research is reflected in the analysis of fraudulent actions and finding adequate ways to prevent them, that is, eliminate or reduce them. The expected contribution is characterized by a description of recognized fraudulent actions in the observed bank, with the intention of establishing the profile characteristics of a potential perpetrator of fraudulent actions on its example and thus helping mathematicians, analysts, managers and bankers in preventing future potential bank losses, but also pointing out examples of good practice in discovering the ways in which potential perpetrators of fraudulent actions are used in practice are shown.

## ***LITERATURE REVIEW***

Identifying persons who are planning or are already in the process of committing fraud is the first step in reducing the extent of damage, because the longer the fraud is carried out, the greater the financial and other damage to the bank. It is very important, to begin with, to understand the thinking of the person who would commit fraud, his personality and behaviour, in order to control and detect the possibility of committing fraud.

Identification of potential suspicious persons, potential perpetrators of fraud, is not an easy and simple task at all. In banks, everything starts with a sales interview that takes place in the bank's official premises - branches (Saunder & Cornett, 2010). To begin with, it is necessary to pay close attention to the physical behaviour of the person who is trying to carry out the fraudulent action. That behavior can be recognizable



## Book of Proceedings

and striking, and can be a signal or a sign that an individual may be committing or intending to commit fraud. The nervous behaviour of the applicant, i.e. frequent changes in mood from cheerful to aggressive, can very often be an "alarm" that indicates that the individual is burdened with financial problems, which can be a trigger for engaging in fraudulent activity (Bologna & Lindquist, 1995). Emotionally unstable individuals are very unpredictable, at one moment they feel cheerful, satisfied, and at the next moment they feel like a victim. Mood shifts from one extreme to another (Golden, Skalak, & Clayton, 2006).

Although it is definitely possible, based on certain indicators, to create a basic pattern for recognizing potential fraud, it is important to keep in mind that this pattern is constantly changing, because the ways of conducting fraudulent actions also change in accordance with the development and possibilities of new technologies. If there is a situation in which identity theft is suspected, where e.g. a person submitted a falsified personal document (identity card or passport) to a bank employee for inspection when submitting an application for a loan, such a person could, when asking questions about the date of birth, validity of the personal document, place of issue of the personal document, become visibly upset and thus give a direct signal to the bank employee that something is wrong.

A similar pattern of behaviour is present in the forgery of other documents. The list of "red flags", i.e. risk indicators that may indicate a potential fraudulent action, is not completed (Risc, 2002), because every day banks are faced with new situations for which it is necessary to establish new controls and over which it is necessary to carry out some new activities so that in the future any new form of fraud can be remedied before it has consequences for the bank's operations. In the following text of this paper, based on the analyses carried out on the portfolio of bank "A", a descriptive explanation of those characteristics that most closely match the potential perpetrator profile of credit fraud is given.

Fraud is an intentional act aimed at exploiting the other party in a dishonest way or misappropriating property benefits in an unworthy manner (Cogoljević & Savić, 2019). Fraud is understood as a series of illegal and dishonest, consciously performed activities aimed at achieving a certain benefit for the one who commits the fraud. Fraud could be considered any intentional act designed to mislead (deceive) others, resulting in loss for the victim (defrauded party) and/or gain for the perpetrator of the fraud (Pivalica, 2022). In other words, the person who commits the fraudulent act manipulates the victim and directs him/her to do something for his benefit.

Frauds can be of an external nature, when they represent malicious activities of third parties towards a certain institution, or of an internal nature, which include the intentional activities and/or omissions of at least one person employed in that institution for the purpose of personal gain (Stanišić, 2014). In banking terminology, the generic notion of fraud and unauthorized activity is usually used to describe a number of illegal activities and offenses (Djuričin et al., 2022), such as fraud, illegal appropriation of assets, non-compliance with general bank acts, disruption of business procedures or system failures, default processing of transactions, inadequate management of processes and relationships with third parties and suppliers, actions taken by an external party that include embezzlement, illegal appropriation of property or violation of legal regulations, loss or damage to the bank's physical property, bribery, forgery and the like (Stanišić, 2007).

The main challenges faced by banks are finding adequate solutions to prevent potential fraud. The reasons for this are multiple. The trends in the methods of fraud are constantly changing, the techniques used to carry out fraud are being improved, the complexity of fraud is increasing, which makes it difficult to effectively monitor various innovative banking products and sales channels (online, Internet and mobile banking, which is expanding, ATM machines, POS devices). Furthermore, the insufficient degree of data integrity, the inability to integrate and validate data from numerous banking channels and other data sources mean that they are often incomplete and unreliable (Đekić et al., 2016).

Limited analytical capabilities, i.e. limitations in the analysis of transactions that do not allow transactions to be effectively analyzed in order to identify suspicious patterns of behaviour, make banks susceptible to organized crime and illegal practices. Limited human resources are also one of the reasons - the ability to prioritize work and appropriate activities in specific cases of fraud is of key importance for optimizing resources, but it is, however, difficult to implement without an adequate solution. Another reason is the frequent changes in regulatory requirements.





## Book of Proceedings

In order to prevent financial losses, the speed and timely detection of potential fraud are crucial (Dabić et al, 2010). Detection of a potential fraudulent act and its prevention comes down to a continuous struggle between banks on the one hand, and malicious potential users of banking services on the other hand, where sometimes even seconds can mean either big savings for the bank or significant losses (Albrecht, 2008). For this very reason, fraud risk management for each transaction, for each credit request, in real time, is the most effective option for preventing fraud and potential material loss.

### ***CASE STUDY "A" BANK AD BELGRADE***

The essential thing in credit risk management is for the bank to properly assess the loan request, that is, to properly assess the applicant's creditworthiness and his ability to return the borrowed funds to the bank in the future. A part of the process of assessing credit requests, and therefore a part of credit risk management, is an adequate risk management of fraudulent activities. The subject of the analysis will be external credit and card fraud. Due to the high data sensitivity that will be discussed, the bank will not be named by its exact business name, but will be presented as bank "A". The data presented in this paper are in accordance with the real data from the operations of the aforementioned bank in the period from 2018 to 2022, i.e. current data until the moment of writing this part of the paper.

In the case of the aforementioned "A" bank, the portfolio will be analyzed in the period from 2018 to 2022. The analysis will show the movement of confirmed cases of external fraud committed by natural persons, as well as their impact on the bank's portfolio. Also, statistical data related to fraudulent actions with payment cards of natural persons will be presented. The impact of those cases in which the bank's employees recognized risk indicators of fraudulent actions in a timely manner, on the basis of which significant material losses for the bank have been prevented and on the basis of which the reputational risk has also been avoided, will be shown, as well as the impact of those cases in which the bank's employees recognized indicators of the risk of fraudulent actions on the basis of which significant material losses for the bank have been prevented and on the basis of which the reputational risk has also been avoided.

*Chart 1: Number of credit frauds confirmed in the period 2018-2022 compared to the number of loans placed during the same period*

Year	2018.	2019.	2020.	2021.	2022.
<b>Number of fraud confirmed</b>	66	70	29	24	196
<b>Number of loans placed</b>	21,995	28,122	20,776	32,599	54,092
<b>Percentage</b>	<b>0.30%</b>	<b>0.25%</b>	<b>0.14%</b>	<b>0.07%</b>	<b>0.36%</b>

*Source: Authors*

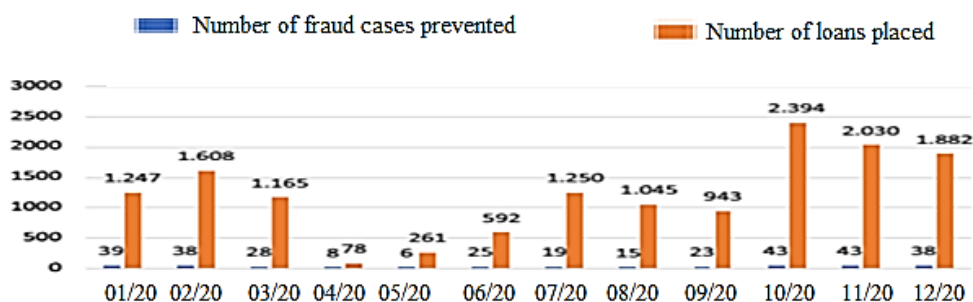
Chart 1 indicates a review of changes in the portfolio of the above banks over a period of 5 years. What can be clearly seen from the chart is an increased number of cases of confirmed credit frauds during 2018 and during 2019, while during 2020 and 2021, the Bank recorded a significant decline in these figures. A significant rise of detected frauds during 2022 can also be further seen from the chart.

An explanation of the numerous cases of confirmed frauds during 2018 lies in what natural persons, loan beneficiaries, have found a way to use dedicated loans for a purpose defined by loan agreements. Concrete examples are refinancing loans. A number of loan users have realized that banks themselves cannot transfer money intended for refinancing credit products that should be settled by these funds and cannot complete the refinancing process provided by the contract. The situation has been used by making certain loan users have raised money from current accounts or transferring money from current accounts via e-banks (or m-banking) through partial transactions to accounts that have in other banks. This type of behaviour of loan users is one sort of credit fraud, because the provisions of the loan contract are violated and instead for a purpose defined by the loan agreement, money has been used for a completely different purpose.





Book of Proceedings

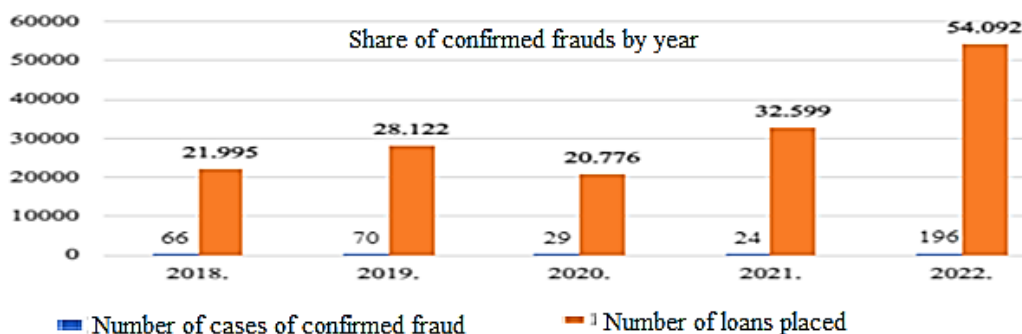


Graph 1. Confirmed credit frauds in the period 2018 - 2022 in relation to the number of loans placed during the same period

Source: Authors

On Graph 1 it may be noticed that the number of debt frauds were reduced in 2020, but a decrease in production was also observed, i.e. in the number of loans placed. The reason may lie in shortening the working hours of the branch during the pandemic, the reaction of people during the state of emergency, which lasted in the Republic of Serbia from March 15 to May 7, 2020. At that time, banks, as well as many other institutions, were faced with new challenges, potential problems and possible losses due to the influence of pandemic on the economy of the entire country. The number of loans placed declined from 28,122 to 20,776, and the number of detected frauds in the portfolio decreased from 70 to 29. The focus of the work was absolutely placed on prevention as the most important phase in the risk management of fraudulent activities. It was set up a number of new defense mechanisms, both through the bank's system, and through employees, whose implementation started at a far frequent level compared to previous years. The approximate profile of the persons is set up for being more ready than others to commit credit fraud, the guidelines are described in detail, which enabling the bank's employee easily, faster and more efficiently notice the potential fraudulent action. An effective system of preventive actions was shown as successful since the number of discovered frauds was nearly duplicated in 2022. An organized criminal group was uncovered, and after this case, a number of activities started for awareness raising employees of the importance of risk management and the prevention phase resulting in the reduction of confirmed fraud cases in the aforementioned bank portfolio (Graph 1).

For the year 2020 (Graph 2) it is important to emphasize that most of these cases were recognized and prevented during a state of emergency. The Covid-19 pandemic reduced the number of jobs in certain economic activities, which directly meant dismissal of workers, forced sick leave, forced work absence or unpaid leave, and also a reduction in earnings. All this resulted in increased number of persons, due to the crisis caused by a pandemic, money needed more than in some previous periods. Under pandemic pressure, a number of persons who have performed illicit and dishonest activities were increased in providing creditworthiness and all in order to obtain loans and needed money. Most prevented fraud cases in the course of 2020, presented forged employment or counterfeit transaction documentation on current accounts of other banks - thus confirming the setting hypothesis of H2.



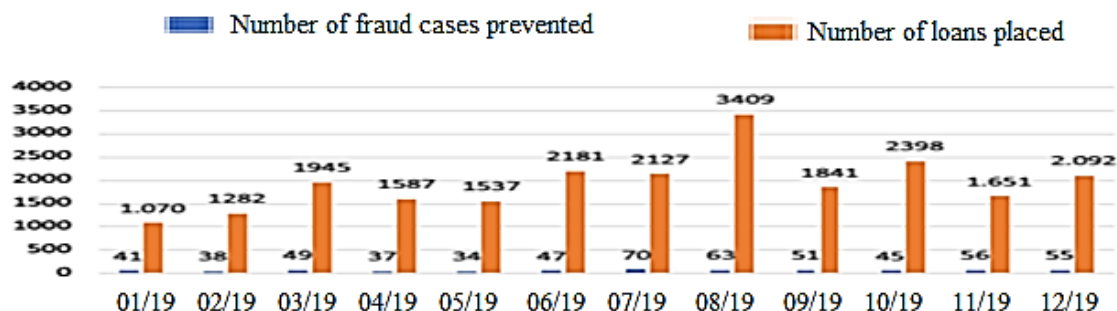
Graph 2. Fraud cases prevented in 2020. In relation to the number of loans during the same year

Source: Authors



Book of Proceedings

On Graph 3 there are fraud cases prevented during 2021, in relation to the number of loans placed in that period. From the graph, it can be seen that the production scope increased significantly compared to 2020 with reducing the influence of Covid-19 pandemic, but also that the number of credit frauds increased with the increase in the number of loans placed.



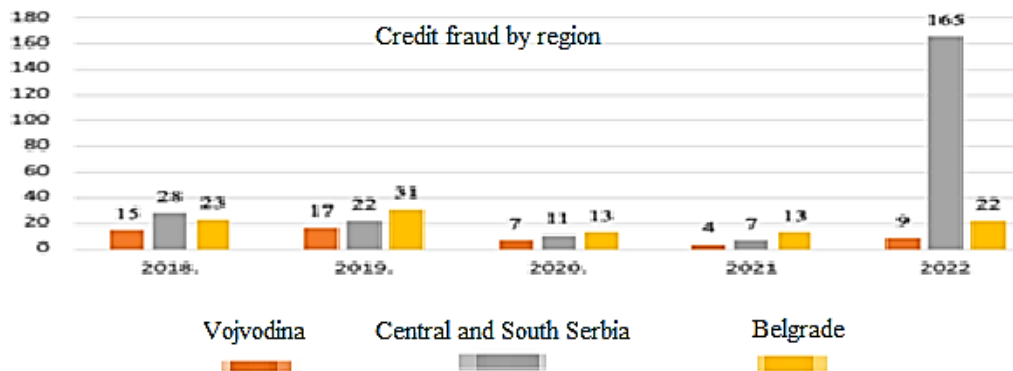
Graph 3: Fraud cases prevented during 2021 in relation to the number of loans placed during the same year

Source: Authors

On Graph 3 there is the production (number of disbursed loans) increased significantly during 2022 - a total of 40,591 loans were placed. While the total number of fraud cases prevented was 327, i.e. 0.80%. On Graph 4, there is a graphic presentation of prevented fraud attempts during the year 2022, which enabling us to confirm the hypothesis H1. This year, the increase in production (number of loans placed) is a direct consequence of the introduction of a new product in the portfolio of bank "A". What can also be seen from all three graphs is that during each year the increased concentration of cases of fraud cases appears mainly during the summer period as well as at the very end of the year.

This phenomenon has an explanation. During the summer and winter holidays, as well as in the periods before the holidays (especially the New Year), credit fraud cases are more frequent. In those months, natural persons need more funds and some of them, due to the lack of them, will intend to perform illegal activities and thus trying to get loans from banks. This phenomenon is not only characteristic of the years shown on the graphs, but it is something that generally repeats every year.

The number of credit fraud cases is also influenced by the location of bank branches. On Graph 4 there is the credit frauds confirmed in bank "A" in the period from 2018 to 2022 by region. The operations of bank "A" are divided into three regions - the region of Belgrade, the region of Vojvodina and the region of Central and Southern Serbia. From the graphic presentation, it can be noted that the highest concentration of detected credit frauds during the period 2018 - 2021 was recorded in the territory of Belgrade, then in the region of Central and Southern Serbia, and eventually in Vojvodina. The highest concentration of fraud in that period existed in the territory of the Belgrade region as a consequence of the highest concentration of population compared to the rest of Serbia. However, during 2022, the situation changed.



Graph 4. Number of credit frauds confirmed in the period 2018-2022 by region

Source: Authors



## Book of Proceedings

With the introduction of a new credit product (consumer credit for devices), the largest part of detected fraud moved to the region of Central and Southern Serbia. As a new product was introduced during this period that did not require additional documentation to an ID card, combined with the fact that wages were the lowest in the southern part of Serbia, as a result, at the end of 2022, out of the total 196 confirmed credit frauds as many as 165 of them occurred on the territory of Central and Southern Serbia.

### ***FRAUD DETECTION BANK "A" AD BELGRADE***

It is important to question whether some people are more likely to commit a fraudulent act than some other persons. It is quite clear that it is not possible to create a perfectly accurate profile of a potential perpetrator of a fraudulent act, which would serve to accurately detect potential fraud. Detecting the fraud indicators often requires months or even years of learning, experience and work to understand and recognize certain signals that point to potential fraud. However, in order to find the closest and most accurate answer to the above question, certain analysis was carried out on the portfolio of "A" bank. The results of the analysis carried out, answering which persons are more ready to commit a fraudulent act, are presented in this paper.

*Chart 2. The relation between the level of education and the number of credit frauds confirmed in the period 2020-2022*

Education Level	Primary Education	Secondary education	College/Faculty	Master	No data on education
Number of frauds confirmed in 2020	0	20	4	0	5
Number of frauds confirmed in 2021	0	16	7	0	1
Number of frauds confirmed in 2022	15	151	30	0	0
<b>Total</b>	<b>15</b>	<b>187</b>	<b>41</b>	<b>0</b>	<b>6</b>

*Source: Authors*

Chart 2 shows the relations among the education level of users who have been identified as risk indicators, that is, who have been confirmed to have committed credit fraud and who have been granted a loan based on false and inaccurate information in "A" bank. The period of two years - 2020 and 2021 - was analyzed. From Chart 3 it can be concluded that the largest number of fraudulent actions for the sake of obtaining a loan were committed by persons who have secondary education, i.e. completed high school. According to the "A" bank data, Chart 3, there is the natural persons' age who were fraudulently approved and paid loans in "A" bank and apparently the majority, according to age in the period of 2020, is reduced to those persons who are 31 to 40 years old.

*Chart 3. Number of credit frauds detected in relation to the age of natural persons who have committed the fraud*

Clients age	Up to 30	31-40	41-50	51-60	Over 60
Number of frauds detected 2020	10	2	9	7	1
Number of frauds detected 2021	9	7	1	5	2
Number of frauds detected 2022	79	47	34	25	11
<b>Total</b>	<b>98</b>	<b>56</b>	<b>44</b>	<b>37</b>	<b>14</b>

*Source: Authors*

## Book of Proceedings

However, in 2021, there is an increase in credit fraud committed by persons under the age of 30. The reason for this is reflected in the consequences caused by the Covid-19 pandemic, the restrictive policy of banks towards persons who do not have a credit history, in the development of new techniques and technologies that are more accessible to young people than to older populations, in the fact that young people always need more additional money particularly earning "easy" money.

Chart 4 shows the level of influence to the average salary which resulting the total number of detected frauds in the portfolio of bank "A". What can be concluded from the data shown in Chart 5 is that during 2020, a significant number of credit frauds were recorded, which were committed by persons with average monthly incomes between RSD 40,001 and RSD 50,000. The situation is somewhat different in 2021, during which period the portfolio of bank "A" recorded an increase in the number of frauds by persons whose average earnings ranged from RSD 30,001 to RSD 40,000.

*Chart 4. The influence of the average salary on the total number of credit frauds confirmed in the period 2020 - 2022*

Average salary (RSD)	Up to 30.000	30.001-40.000	40.001-50.000	50.001-60.000	Over 60.001
<b>Number of frauds confirmed in 2020</b>	5	5	<b>11</b>	3	5
<b>Number of frauds confirmed in 2021</b>	1	<b>8</b>	3	3	9
<b>Number of frauds confirmed in 2022</b>	0	18	35	63	<b>80</b>
<b>Total</b>	<b>6</b>	<b>31</b>	<b>49</b>	<b>69</b>	<b>94</b>

*Source: Authors*

The person's gender is also something that can contribute to building a profile of a person who is ready to commit a fraudulent act. Previously, the paper discussed the research conducted by the auditing company KPMG (KPMG, 2011) based on 348 current cases of financial fraud in 69 countries.

*Chart 5. Persons' gender who committed credit fraud in relation to the total number of detected frauds in the period 2020 - 2022*

Gender	Male	Female
<b>Number of frauds confirmed in 2020</b>	16	13
<b>Number of frauds confirmed in 2021</b>	18	6
<b>Number of frauds confirmed in 2022</b>	107	89
<b>Total</b>	<b>141</b>	<b>108</b>

*Source: Authors*

Among the results of the aforementioned research, one of the results is that the perpetrators of fraudulent actions were mostly men. The result of the analysis carried out by KPMG was confirmed by the results of the analysis of credit fraud cases that were detected in the portfolio of "A" bank. During 2020 and 2021, the total number of detected loans that were placed and for the approval of which persons used fraudulent actions, amounted to 53 loan parties. Out of 53 persons, even 34 are male (63%).

## CONCLUSION

In the paper, research has been carried out using the case study method, the basis of which has been data from the real sector in the Republic of Serbia of bank "A", whose business name has not been shown, due to the data sensitivity. The results indicate that the growth trend of credit frauds detected in the portfolio of "A" bank during 2019 increased further compared to the previous year. The increase in the number of confirmed frauds is organized fraud that occurred during 2019. After this case, a series of activities was launched by the bank with the aim of raising employees' awareness of the importance of risk management of fraudulent actions and the prevention phase itself, which in the following years resulted in a reduction



## Book of Proceedings

of confirmed frauds in the bank's portfolio - that is why we can state that the initial hypothesis H0 has been confirmed in this work, since the *identification of risk indicators for fraudulent activities has a significant role in adequate risk management in general.*

By observing the changes in the portfolio of bank "A" (Graph 2), it can be seen how the pandemic caused by the Covid-19 virus has affected the bank's operations. In April 2020, the number of loans placed was drastically reduced (from 1,165 in March to only 78 in April), which is a consequence of the pandemic itself. Later, with smaller variations, stabilization in the loaning sector began till October. In this regard, the analysis of the portfolio of bank "A" confirmed that the Covid-19 virus pandemic significantly contributed and positively influenced the development of card business and the increased use of payment cards, i.e. the increased number of transactions and payments made with payment cards.

During 2020 and 2021, the total number of detected loans that were placed, and for the approval of which persons used fraudulent actions, amounted to 53 loan parties. Out of 53 persons, even 34 are male (63%). Observed by age, the number of detected credit frauds in relation to the age of natural persons who has committed the fraud has shown that the largest number of "fraudsters" is under the age of 30. Until 2022, the most frauds were committed by perpetrators with earnings of up to 50,000 dinars, and from 2022, almost 8 times more perpetrators earned over 60,000 dinars. The highest concentration of fraud existed in the territory of the Belgrade region, until 2022, however, with the introduction of the new credit product, the largest part of the detected fraudulent actions has been moved to the region of Central and Southern Serbia.

On the other hand, we have a situation in which, with adequate measures and strengthened controls, a large number of attempted fraudulent actions can certainly be prevented. This statement is based on the fact that in the case of "A" bank, after adequate activities being undertaken and after the implementation of new protection mechanisms, the number of prevented frauds has increased drastically. All of the above confirms the fact that it is very important for bank employees to be aware of the existence of the fraudulent activities risk on the one hand, and to be aware of how important it is to properly manage this type of risk and to recognize the signals that appear in time, on the other hand. What will most certainly be the challenge that banks will face in the future are further changes in the methods by which credit frauds are carried out, their further modification and improvement of the techniques of persons who are ready to commit fraudulent acts, on the one hand, and finding the best solutions in order to fraud attempts were recognized and prevented on time, on the other hand. Banks are increasingly transferring their operations to the Internet, improving electronic operations. In this way, in the future, banks will be increasingly exposed to the so-called cyber fraud actions, but what is also certain is that fraud attempts, in the traditional way, will remain present in their business.

## REFERENCES

- Albrecht, W., Albrecht, C., Albrecht, C. (2008). Current trends in fraud and its detection. *Information Security Journal: A global perspective*, 17(1), 1-32.
- Arežina, N., Mizdraković, V., Knežević, N. (2016). Profesionalne prevare kao pretnja funkcionisanju privrednih društava. FINIZ, Zbornik radova, 209-213. Beograd: Univerzitet Singidunum.
- Barjaktarovic, L., Vesic, T., Laki, B. (2022). What Can Be Expected In Credit-Risk Management From NPL In The Western Balkans Region In The Future? *International Review*, 3-4, 96-103.
- Bologna, G., Lindquist, R. (1995). *Fraud Auditing and Forensic Accounting*. New York: John Wiley & Sons.
- Cogoljević, D., Savić, J. (2019). *Finansijska tržišta*. Beograd: Visoka škola za poslovnu ekonomiju i preduzetništvo.
- Dabic, S., Vasiljevic, B., Barjaktarovic Rakocevic, S. (2010). *Bankarski menadžment*. Beograd: FON.



**Book of Proceedings**

- Djekic, M., Filipovic, P., Gavrilovic, M. (2016). Forenzičko računovodstvo i finansijske prevare u svetu. *Ekonomija: Teorija i praksa*, 9(4), 71-86.
- Djuricin, D., Herceg-Vuksanovic, I. (2022). Vizija novog ekonomskog sistema posle prelaska pandemije u endemiju iz perspektive Srbije. *Ekonomika preduzeća*, 70(1-2), 1-22.
- Golden, T., Skalak, S., Clayton, M. (2006). Guide to Forensic Accounting Investigation. John Wiley & Sons, New York.
- Greuning, H., Brajović-Bratanović, S. (2003). Analyzing and Managing Banking Risk, The World Bank, Washington DC.
- Hull, J. (2010). Risk management and Financial Institutions. Boston: Pearson.
- KPMG. (2011). Analysis of Global Patterns of Fraud. Retrieved from: <https://assets.kpmg.com/content/dam/kpmg/pdf/2016/05/profiles-of-the-fraudster.pdf>
- Milojević, N. M. (2016). Savremeni izazovi u upravljanju rizicima banaka. *Poslovna ekonomija*, 10, 66-85.
- Momirovic, D., Simonovic, Z., Kostic, A., 2021. Monetarna politika ECB u vreme pandemije. *Ekonomika*, 97(2), 13-22.
- Nikolic, M., Vesic, T., Gavrilovic, M. (2019). Značaj savremenih informacionih tehnologija za donošenje poslovnih odluka. *Trendovi u poslovanju*, 7(1), 31-36.
- Pivalica, I. (2022). Platne kartice – Sve što ste želeli da znate o platnim karticama. Beograd: Privredna komora Srbije. Available at: <https://srpskaekonomija.rs/vesti/10/11//29449/Publikacija-Platne-kartice---Sve-%C5%A1to-ste-%C5%BEeleli-da-znate-o-platnim-karticama>
- Risc, B. (2002). Management in banking. New Jersey: John Willey & Sons.
- Saunders, A., Cornnett, M. (2010). Financial Market and Institutions, 5th Edition, McGrawHill, New York.
- Stanišić, M. (2007). Uloga interne revizije u otkrivanju i sprečavanju prevara u bankama. Retrieved from: [https://www.ubs-asb.com/Portals/0/Casopis/2007/1\\_2/UBS-Bankarstvo-1-2-2007-Stanistic.pdf](https://www.ubs-asb.com/Portals/0/Casopis/2007/1_2/UBS-Bankarstvo-1-2-2007-Stanistic.pdf) (06.11.2022.)
- Stanišić, M. (2014). Interna kontrola i revizija. Beograd: Univerzitet Singidunum.
- Vona, L. (2008). Fraud risk assessment: Building a fraud audit program. New Jersey: Willey and Sons.
- Wolfe, D., Hermanson, D. (2004). The Fraud diamond: Considering the four elements of fraud. *The CPA Journal*, 38-42.





Book of Proceedings

***FAMILY BUSINESS DEVELOPMENT IN SERBIA FROM THE ASPECT OF RURAL TOURISM POTENTIAL***

*Edita Kastratović<sup>1</sup>  
Milan Dragić<sup>2</sup>*

***ABSTRACT***

*Rural tourism, as a unique form of tourism that encompasses various activities, services, and additional amenities provided by the local population within family farms, represents an important tourism sector in EU countries. This paper examines the potential of rural tourism in Serbia and the opportunities it offers for the development of family businesses. The analysis includes an overview of trends as well as potential future development opportunities for rural tourism. The tourism potential of rural areas in Serbia shows a positive growth trend in terms of the number of visits and overnight stays by tourists compared to previous years. However, this positive trend only reflects a portion of the utilized potential and does not fully depict the actual possibilities.*

**Key words:** *rural tourism, village, entrepreneurship, development*

**JEL Classification:** *M21*

***INTRODUCTION***

Tourism represents a significant area of social activity in every country. The tourism potential of countries varies, as does the degree of utilization of that potential. Rural development in Serbia has been defined by the Government of Serbia as an economic, social, and environmental priority. Diversification of the rural economy in a socially, economically, and environmentally sustainable manner is necessary to improve the quality of life, reduce poverty levels, and combat social and environmental degradation [1]. The development of tourism involves the utilization of new ideas and their implementation for the benefit of users. One form of tourism that has significant potential and has been gradually increasing each year is rural tourism. The potential of villages in terms of tourism, and therefore in an economic sense, has come to the forefront alongside the drastic acceleration of the pace of life for people living and working in urban areas. A large amount of daily and weekly information, pressure regarding defined norms, imposed material and life values, are just some of the factors that have influenced the needs of modern individuals. "According to the definition of the Council of Europe from 1986, rural tourism represents 'a form of tourism that encompasses all activities in rural areas, not just activities that could be defined as agrotourism or tourism on agricultural farms'" [2]. "Professional literature offers different definitions of rural tourism, from those that view it through the lens of space, defining it as 'tourism that takes place in rural areas,' to those that include a wide range of activities and elements of a comprehensive rural tourism product, such as recreation and activities in a rural environment, enjoyment of rural ambiance, appreciation of nature and the beauty of the region, cultural tourism, tourism on rural households, etc." The Pan-European non-governmental organization (EuroGates) defines rural tourism as: "the tourist valorization of agrarian areas, natural resources, cultural heritage, rural settlements, local traditional customs and products through specially designed tourism products that reflect the identity of the area and meet the needs of guests in terms of accommodation, food and beverage services, recreation and activities, animation, and other

---

<sup>1</sup>Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, edita.kastratovic@vspep.edu.rs

<sup>2</sup>Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milan.dragic@vspep.edu.rs



## Book of Proceedings

services, with the aim of sustainable local development, but also providing adequate responses to the needs of today's guests within the newly created relationship between the city and the countryside (rural area)" [3]. According to Njegovan, rural tourism represents "tourism that takes place in rural areas. In addition to rural settlements, the rural area includes the village as a settlement, as well as agricultural land (atar), uninhabited areas, and wilderness areas. However, rural tourism is not only viewed in terms of the area where it takes place but also encompasses a significant number of other elements." Furthermore, Njegovan outlines the key characteristics of rural tourism as follows: it is located in rural areas; it is based on small/family entrepreneurship, open spaces, direct contact with nature, heritage, and traditional activities; it allows tourists to participate in local activities, traditions, and the specific way of life of the local population; it provides personalized services; it is small-scale in scope – settlements and structures are of smaller scale; it is traditional in character, grows slowly, and is connected to local families; it develops in collaboration with the local community [4].

### ***DEVELOPMENT OF RURAL TOURISM***

Due to the increased demand for vacations and recreation in rural areas, active rural tourism has been growing over the past 25 years. The offer of rural tourism includes various forms of more or less active leisure, ranging from walks and horseback riding to increasingly popular "adventure sports" or "extreme sports" such as snowboarding, windsurfing, kayaking, and more [5]. Rural areas offer natural resources that urban residents cannot experience on a daily basis. The offer consists of peaceful and picturesque environments that encompass courtyards, meadows, forests, streams, rocks, and caves. Tourists engaging in this type of leisure fully perceive the rural environment as an alternative to the constraints of cities.

For rural Serbia, it can be said that it represents an important segment of the Serbian population and resources. Despite the significant wealth in terms of natural and cultural resources, it has not sufficiently reduced the unemployment rate. Depopulation, low economic activity, and the decline of natural resources are still present. In previous years, support and financing for rural development in Serbia have focused on increasing agricultural competitiveness, land consolidation, improving market orientation, and developing rural economic infrastructure. Furthermore, attention is increasingly being given to diversifying the rural economy towards non-agricultural activities and expanding the current agricultural scope to new activities. "Rural tourism has been identified as a key catalyst that can activate differentiation in the rural economy by initiating new business initiatives and finding synergy between existing agricultural production and tourism" [6].

### ***GOALS AND BENEFITS OF RURAL TOURISM***

The objectives of rural tourism can be classified into social and economic goals. The economic goals of rural tourism involve stimulating new economic entities, developing family businesses, and creating new jobs (especially for women). The social goals of rural tourism relate to the preservation of traditions, cultural heritage, traditional crafts, traditional food, and reducing migration of rural populations to urban areas [7]. The development of rural tourism is only possible if it is based on satisfying both economic and social goals that are intertwined.

In one of the studies conducted by Petković, the attitudes of the community in Vojvodina regarding the impact of tourism on their local population were examined. The research results showed that the respondents recognized both personal and social benefits of tourism development. The general attitude towards tourism development is more focused on the benefits and largely overlooks potential consequences and environmental degradation due to intensive tourism development [8]. Slovenia serves as a prime example of utilizing rural tourism. Rural tourism represents a strategic resource for Slovenia. Approximately 85% of Slovenia's territory is rural, with nearly 55% of the population living in rural areas.



## Book of Proceedings

In economic terms, rural areas in Slovenia play a significant role, as 41% of the GDP comes from rural communities.

Rural tourism represents a potential solution to the ongoing issue of population migration from rural to urban areas in many countries. Many governments and regional authorities have characterized rural tourism as an opportunity to revitalize economic activity in rural areas. They recognize rural tourism as a chance to stimulate employment and halt the decline of rural communities [9].

As society develops, nature becomes increasingly threatened, making the idea of eco-tourism essential. Ecotourism represents an alternative approach to tourism. Ecotourism only makes sense if its alternative approach fits within the framework of modern tourism. Conservation issues are now at the forefront of public opinion. The decline of natural rainforests, loss of endangered species, global warming and increasing land degradation have galvanised public support for conservation. It is no accident that the interest and growth of ecotourism and nature-oriented tourism has coincided with this world-wide concern. [10]. Ecological tourism was initially embraced in more developed countries with higher living standards and later spread as an "epidemic" to all parts of the world. Its development is of great importance for both humans and the environment.

The Republic of Serbia has defined a tourism development strategy and presented the path it will follow in the period from 2016 to 2025. The objectives of the strategy are:

1. Sustainable economic, ecological, and social development of tourism in the Republic of Serbia.
2. Strengthening the competitiveness of the tourism industry and related activities in the domestic and international markets.
3. Increasing the direct and overall contribution of the tourism sector to the gross domestic product (GDP) of the Republic of Serbia, as well as increasing the direct and overall number of employees in the tourism sector and their share in the overall employment structure of the Republic of Serbia.
4. Improving the overall image of the Republic of Serbia in the region, Europe, and the world [11].

The strategy also defines new directions related to the business mission of tourism in the Republic of Serbia, which involve "more efficient and sustainable use of existing and underutilized protected natural and cultural assets; their more efficient and comprehensive protection; raising energy efficiency and the use of renewable energy sources in tourism facilities and destinations; promoting rural and regional development and reducing depopulation; creating and maintaining a positive image of the Republic of Serbia in the world" [12].

Data on the increase in the number of visits and overnight stays in the Republic of Serbia, presented in Table 1, demonstrate a positive growth trend.

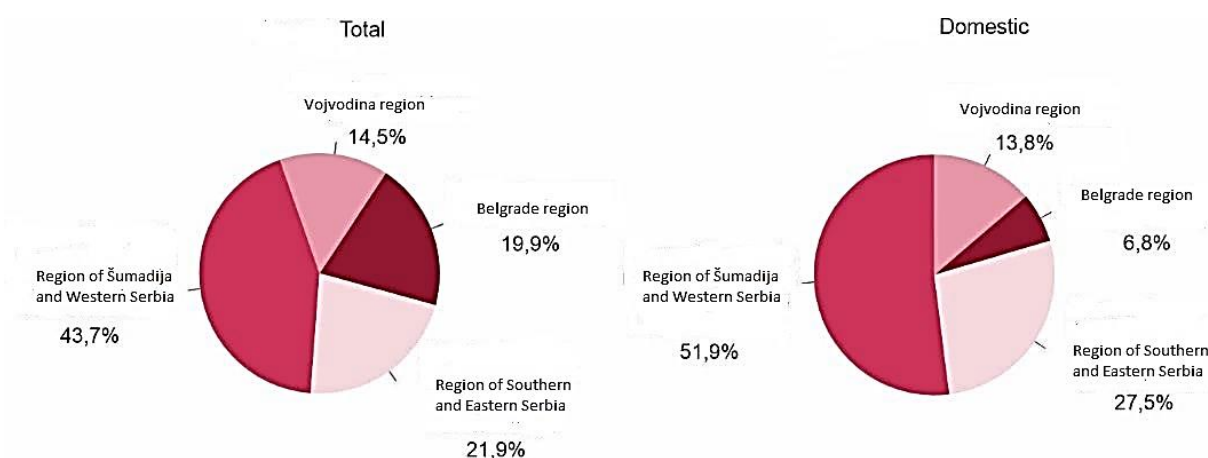
*Table 1. Tourists' arrivals and overnight stays, 2017–2021*

Arrivals	Total	Belgrade	Vojvodina	Šumadija and Western Serbia	Eastern and Southern Serbia
2017	3085866	1035205	496625	1086264	467772
2018	3430522	1160582	538472	1184051	547417
2019	3689983	1258348	561657	1259685	610293
2020	1820021	330897	268805	824358	395961
2021	2591293	607873	428373	1056801	498246
Nights	Total	Belgrade	Vojvodina	Šumadija and Western Serbia	Eastern and Southern Serbia
2017	8325144	2190474	1159845	3664283	1310542

2018	9336103	2480516	1314968	3926783	1613836
2019	10073299	2696832	1384344	4173466	1818657
2020	6201290	928233	764948	2979581	1528528
2021	8162430	1628288	1179984	3565312	1788846

Source: <https://publikacije.stat.gov.rs/G2022/Pdf/G20222055.pdf>

The results presented in Table 1 indicate a significant decline in the number of tourists in Belgrade in 2020 compared to the number of tourists who visited rural areas of other regions presented in the table. Such a result is expected due to the mobility restrictions imposed during the COVID-19 pandemic. It is also noteworthy that there is a growing trend in the number of visits and overnight stays by tourists in all regions both before and after 2020.



Graph 1. Tourists' overnights by regions, 2021

Source: <https://publikacije.stat.gov.rs/G2022/Pdf/G20222055.pdf>

Table 2 presents the model of growth in accommodation capacity and the number of overnight stays for the period from 2021 to 2025.

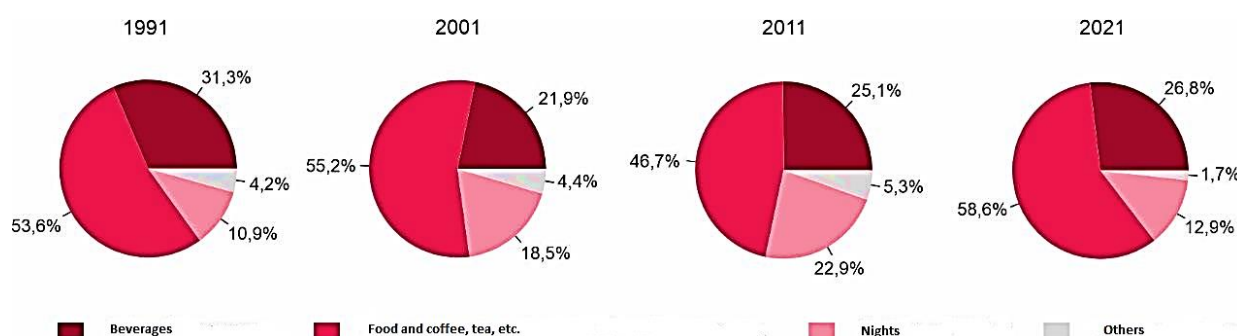
Table 2. Model of growth of tourist capacities

GROWTH MODEL 2021-2025				
Structure	2021		2025	
	Beds	Overnight Stays	Beds	Overnight Stays
Hotels	50.261	4.942.01	52.761	6.721.751
Campsites	20.498	373.064	25.998	1.892.654
Private Accommodation	21.896	1.594.029	28.896	2.629.536
Hostels	10.527	574.774	10.527	957.957
Spa Resorts	6.203	1.354.735	6.203	1.580.524
All Resorts	5.274	575.921	5.274	671.908
Other	3.533	192.902	3.533	385.804
Total	118.192	118.192	118.192	118.192

Source: [http://demo.paragraf.rs/demo/combined/Old/t/t2016\\_12/t12\\_0189.htm](http://demo.paragraf.rs/demo/combined/Old/t/t2016_12/t12_0189.htm)

Although Table 2 shows a positive trend in terms of the growth of tourists and overnight stays, there are a number of negative phenomena and a passive approach regarding the improvement of conditions for the development of rural tourism. One of the main obstacles to faster development of rural tourism is the lack of incentivizing policies for starting a family business in rural tourism. Most residents of rural areas rely solely on income from primary activities such as agriculture or livestock farming. Incentivizing policies should be directed towards developing additional, secondary sources of income that would encourage other family members to stay in the countryside and pursue their careers within the field of rural tourism. The regions in Serbia that dominate in terms of utilizing additional profitable activities are Šumadija and Western Serbia. In these regions, alongside agriculture, the potential of milk processing, fruit and vegetable processing, and offering accommodation for guests are actively utilized [11].

Below is the representation of the traffic structure in the Republic of Serbia from 1991 to 2021.



Graph 2. Turnover structure in the Republic of Serbia

Source: <https://publikacije.stat.gov.rs/G2022/Pdf/G20222055.pdf>

The potentials of rural tourism depend on various factors. The table below presents the potentials for the development of rural tourism in Serbia.

Table 3. Potentials of rural tourism in Serbia

	Potentials
Vojvodina	<ul style="list-style-type: none"> <li>• Development and promotion of rural estates (Additional activities: horseback riding school, archery)</li> <li>• Development of sports fishing in natural and artificial lakes</li> <li>• Development of hunting tourism</li> <li>• River and canal cruising in Vojvodina (Additional activities: camps and kayak/canoe competitions)</li> <li>• Visiting medieval castles (Additional activities: organization of historical events, spear throwing competitions, archery, sword handling, etc.)</li> <li>• Visiting monasteries in Fruška Gora ("Krušedol," "Velika Remeta," "Mala Remeta," "Rakovački Monastery," "Hopovo," "Grgeteg," "Fruška Gorska Ravanica," "Bešenevo," "Šimatovac," "Petkovica," "Kuveždin," "Ćipša," "Privina Glava").</li> <li>• Organization of camps and hiking tours (Fruška Gora, Titel Hill, Vršac Hill)</li> <li>• Wine tourism</li> </ul>





### Book of Proceedings

Central and Western Serbia	<ul style="list-style-type: none"> <li>• Visiting historical battle sites (Cer battle, First and Second Serbian Uprising)</li> <li>• Visiting Monasteries in Central and Western Serbia (Monasteries: Tronoša, Mileševa, Žiča, Studenica, Rača, Sopoćani, etc.)</li> <li>• Kayaking, boating, and rafting on rivers and lakes.</li> <li>• Organizing traditional competitions (harvesting, grape picking).</li> </ul>
Eastern and Southern Serbia	<ul style="list-style-type: none"> <li>• Visiting historical battle sites</li> <li>• Visiting monasteries in Eastern and Western Serbia (Monasteries: Manasija, Ravanica, Prohor Pčinjski)</li> <li>• Visiting waterfalls</li> <li>• Horseback riding and donkey riding</li> <li>• Camping, excursions, and nature seminars</li> </ul>

*Source: authors*

Table 3 presents only some of the potentials, some of which are already being utilized, while others should be included in the offer. For existing programs, activities are needed to improve organization and marketing in order to reach a wider range of potential users and inform them about the offerings.

Research has shown that an increasing number of children are experiencing issues with motor skills, social interaction, and emotional expression. Spending time in nature and engaging in recreational activities encourage motor development through play and socialization. Horseback riding stimulates the engagement of the entire musculature of the body and evokes a sense of joy in children. Numerous studies have confirmed the therapeutic role of horseback riding and spending time with horses, leading to its growing use in working with children who have multiple sclerosis and other neuromuscular disorders.

The promotion of archery represents a strive for direct connection with nature, tradition, and cultural heritage from the past. Archery aims to develop concentration, calmness, and control of breathing, thoughts, and body (muscles). Promoting archery, horseback riding, traditional games, and conquering obstacle courses could be a continuation of past activities for children and youth within nature-based programs. Sources of information about traditional games and competitions still exist in oral and written forms and could serve as an excellent means of mental relaxation. Simple games and spending time in oxygen-rich environments (forests, mountain pastures, and meadows) will be a prerequisite for the proper psychophysical development of future generations.

Hunting and fishing tourism are highly developed worldwide. In Serbia, there is a tradition, especially regarding hunting tourism, while fishing tourism is insufficiently promoted and developed. The hydrographic landscape of our region indicates great potential that needs to be utilized within the framework of ecological and sustainable tourism.

The rich history of Serbia, monasteries, and medieval castles represent significant potential, not only for the attractions themselves but also for the surrounding villages and towns. Organizing visits to historical sites should be included in the mandatory agenda of every household engaged in rural tourism.

Wine tourism represents the growing potential of Serbia each year. There is a long tradition of cultivating vineyards and producing wine in these areas. Love for wine and experience have been passed down through several generations. Wine tourism is particularly interesting in terms of its potential connection with other forms of tourism and joint promotion of gastronomic tourism.

Serbian cuisine is highly appreciated by tourists as it offers a combination of different types of dishes and flavors from all around the world. Historical contexts and the mixture of various nations and ethnicities have contributed to the diversity and wide range of specialties. Rural areas are underdeveloped, which is





## Book of Proceedings

one of the main assets regarding healthy food and traditional cultivation. Tourism fairs have significant importance in promoting our rural areas and their tourism potential.

Analyzing the potential of rural tourism in the region of Vojvodina, the tourist products that will quickly contribute to the development of tourism activities are: farmstay tourism (salašarski turizam), ethno-tourism, eco-tourism, gastronomic tourism, wine tourism, tourism in protected natural areas, hunting and fishing tourism, event-based tourism (numerous cultural, sports, and economic events), and others.

Farmstays are defined as a type of Vojvodina's farms and represent a unique spatial-urbanistic unit that includes a complete agricultural estate with a residential house, accompanying facilities, and related agricultural land (13). In Vojvodina, they are categorized into Sombor, Čenej, Bečej, and Subotica farmstays. Besides comfortable houses, the tourist offer also includes farmstays without water and electricity, equipped with old and traditional furniture.

Ethno-houses were created with the aim of preserving memories and the spirit of old times while also serving tourism purposes. The restoration and protection of ethno-houses are crucial as they preserve customs, traditional crafts, and costumes, allowing potential tourists to get acquainted with the material and spiritual culture of the people inhabiting this area. The analysis has shown that tourists are most attracted to events dedicated to preserving traditions, folk customs, folklore, and domestic crafts. Gastronomy and active participation in food and beverage preparation, as well as gastronomic events, are particularly interesting. The region of Vojvodina is highly suitable for the development of agriculture within the organic production system, which also contributes to the improvement of the gastronomic offer's quality. The production of safe and healthy food is more expensive compared to conventional methods because it is labor-intensive, making it challenging to market due to its higher cost. Villages with potential to become destinations for bio-rural tourism include: Stajićevo (organic cereals), Selenča (organic juices), Temerin (organic vegetables), Pivnice (organic vegetables), Čurug (organic milk and meat), Stari Ledinci (organic grapes and wine), and others (14).

Zasavica, Ludaško jezero, Gornje Podunavlje, Obedska bara, Delibatska peščara, Stari Begej-Carska bara, Slano Kopovo, Bagremara, Pašnjaci Velike droplje, and Koviljsko-petrovaradinski rit are special reserves in the Vojvodina region. Within these protected natural areas, there are also the National Park Fruška Gora, the Kamenički Park natural monument, Jegrička and Stara Tisa nature parks near Biserno Ostrvo, as well as the Vršac Mountains, defined as an area of exceptional characteristics. Tourism in protected areas also leads to an increase in the number of jobs for the local population, higher income levels, diversification of the local economy, promotion of local production, contribution to the preservation of natural and cultural heritage, support for research and development of good ecological practices, and more (13).

The key values in the regions of Central and Western Serbia, Eastern and Southern Serbia, are: cultural heritage, natural wealth, rivers, lakes, the Tara National Park, Zlatibor and Zlatar, rehabilitation centers, Mokra Gora (Šarganska osmica and Drvengrad), the Mileševa Monastery, the Kopaonik National Park, ski centers, the Ravanica and Manasija Monasteries, the gallery of naive painters, monuments of industrial heritage - Senjski Rudnik, natural wealth (Resavska Pećina, Vodopad Veliki Buk, Morava, Ravanica, and Grza), the Danube River, the Đerdap National Park, Bukovička Banja, Oplenac, the Rudnik Mountain, the "Man and Biosphere" reserve, Golija, Uvac and Uvačko Lake, Niška Banja, Vlasinsko Lake, Vranjska Banja, Deliblatska Peščara, Belocrkvanska Lakes, Stara Planina, Guča, Cer, Vlašić, Banja Koviljača, and others.

Taking into account the current state of development of strategic tourism areas, products, infrastructure, superstructure, and destinations, the ministry responsible for tourism, in cooperation with entrepreneurs, the scientific and tourism community, has determined: a list of tourist destinations with geographical coverage of the area, descriptions of attractions, and tourist products that include rural tourism; a detailed list of activities of significance for tourism development, which will be supported by measures of the government and special programs and funds of the EU in which the Republic of Serbia can participate. The priorities that have been defined will enable easier planning of resource allocation and more efficient monitoring of the implementation of the Strategy, but it is entirely certain that the final priorities will be



## Book of Proceedings

defined by the market itself - the availability of resources, the interest, and willingness of investors to participate in the realization of various tourism development projects in the Republic of Serbia, either through direct investments or through public-private partnerships (PPPs). The implementation of these and other activities and tasks that have been thoroughly elaborated in competitiveness, investment, and marketing plans represents the construction of a vision, strategic positioning, and development strategy of the national tourism policy(11).

Rural areas and villages are the greatest treasure and most valuable public good of every country, including Serbia. In addition to economic and social reasons, the preservation, renewal, and development of rural communities have their demographic, ecological, and cultural dimensions, expressing the need and ability to improve the quality of life in these communities to its fullest. The overall goal of rural tourism development in Serbia is to create a socially, economically, and ecologically sustainable product in the short and medium term, benefiting local communities in rural regions. Sustainable rural tourism is a source of local transformation, integrating local communities to improve their living conditions and reduce poverty, while contributing to the preservation of natural and cultural assets such as biodiversity, cultural heritage, and traditional values.

Sustainable tourism strives to minimize its impact on the environment and local culture, while supporting employment opportunities for the local population. The aim of sustainable tourism is to enable development that brings positive experiences to the local population, tourist organizations, and the tourists themselves. (15).

The establishment of associations of registered rural households shown on the map would enable easier and more significant access to development support funds. Expanding the range of offerings and providing content for different categories of tourists would increase the number of visits and overnight stays annually.

The European Union's support to agriculture and rural development in Serbia amounts to over 230 million euros from 2000 to the present day. EU projects in this sector encourage the utilization of funds for agriculture and rural development, aiming to improve consumer health protection, enhance product quality, provide incentives, and increase the competitiveness of Serbian farmers in the market of the European Union, which encompasses over 500 million consumers. The funds are used to boost the competitiveness of farms, companies, and processing capacities through the IPARD program (Instrument for Pre-Accession Assistance in Rural Development), ensure animal welfare and disease control, maintain land in good condition, establish national reference laboratories, ensure overall food safety, harmonize agricultural policies, and prepare public administration for the implementation of EU standards. Additionally, the capacity of the Agency for Agrarian Payments is strengthened, serving as a bridge between Serbian farmers and the institutions of the European Union. (16).

According to EU data, support to agriculture and rural development in Serbia through the IPARD program provides 175 million euros in assistance to Serbian farmers. This support can be used for investments in the physical assets of agricultural holdings, such as acquiring new machinery and equipment, as well as investments in processing and marketing agricultural and fishery products. In the future, subsidies will also be available for organic production, diversification of agricultural holdings, business development for rural tourism facilities, and technical assistance in program implementation. Among the most successful projects that have aided agriculture and rural development in Serbia are the eradication of rabies in wildlife, resulting in no reported cases of rabies in animals in 2019 and 2020, and the vaccination of pigs against classical swine fever, after which no cases of this animal disease have been recorded in Serbia. Through assistance in building a network of veterinary and phytosanitary laboratories in Serbia, the EU has also supported improved food safety control and the protection of human and animal health by procuring laboratory equipment and equipping rapid response teams in case of animal diseases and zoonoses.

According to EU data, the European Union recently supported the establishment of the European Center of Excellence for Advanced Technologies in Sustainable Agriculture within the BioSense Institute in Novi Sad, with a donation of 14 million euros, as part of the Horizon 2020 program. By combining IT and agriculture, this center will develop the latest technologies primarily in the field of agriculture, which will



## Book of Proceedings

be of significance to the whole of Europe. The EU investment is intended to strengthen the human resources of the Institute, employ top experts, and transfer knowledge from leading European institutions. With the opening of around 150 new scientific positions, the country will retain its best young experts and attract researchers from abroad.

Today, the EU is the most important trading partner of Serbia, which can be attributed, among other things, to its comprehensive support for agriculture and rural development in Serbia. 52% of Serbia's total exports go to EU countries - in the last 10 years, agricultural exports have tripled, reaching a value of 1.9 billion euros in 2020, with a tendency for further growth. In the same year, the value of agricultural products that Serbia exported to the EU was about half a billion euros higher than the value of products in the same category that Serbia imported from the EU. The support of the European Union is implemented in cooperation with the Government of Serbia.

## CONCLUSION

Rural tourism is slowly but steadily becoming a significant segment of tourism that will experience consistent growth in the future. The irony lies in the fact that underdeveloped countries, precisely due to their underdeveloped economy and poor infrastructure, have preserved rural areas that have become attractive for rural tourism in the last two decades. The analysis of rural tourism in Serbia has shown that it already contributes to the rural economy and has great potential for further development in Vojvodina, Central and Western Serbia, Eastern and Southern Serbia. It is also highly correlated with other types of tourism that are already developed. The development of rural tourism is particularly important considering the challenges of unemployment, depopulation, and the need for diversification of the agricultural economy.

Development plans for rural tourism with incentive programs are included within the tourism development strategy. The wealth of natural resources allows rural areas to promote untouched nature and provide an ideal vacation for those who choose rural tourism. Increasing accommodation capacities, expanding offerings and amenities, and significantly improving marketing strategies are necessary steps to foster the expansion of rural tourism. The youth education program in rural areas must involve an active approach that clearly highlights the benefits of starting a business within rural tourism. This allows rural tourism to position itself among the leading tourist destinations in the Balkans. To achieve the goals of rural tourism development, consolidated efforts from the Ministry, education sector, and media are necessary to jointly influence maximum promotion, training, and support. Achieving sustainable tourism is an ongoing process that requires constant monitoring of impacts, implementation of necessary preventive and corrective measures wherever necessary, enables a high level of tourist satisfaction, and ensures a multifaceted experience for them. It raises their awareness of sustainability and promotes sustainable tourism practices among them.

## REFERENCES

- Bogdanov, N., Babović, M. (2014). Radna snaga i diverzifikacija prihodna na poljoprivrednim gazdinstvima u Srbiji – stanje i izazovi za politiku ruralnog razvoja, Beograd, novembar 2014.godine. Available at: <https://pod2.stat.gov.rs/ObjavljenePublikacije/Popis2012/Radna%20snaga.pdf>
- Briedenhann, J., Wickens, E. (2004). Tourism routes as a tool for the economic development of rural areas – vibrant hope or impossible dream? *Tourism Management*, 25(1), 71-79.
- Dashper, K. (2014). Rural Tourism: Opportunities and Challenges. Cambridge Scholars Publishing.
- Đorđević Milošević, S., Milovanović, J. (2015). Održivi turizam u funkciji ruralnog razvoja – Mala



## Book of Proceedings

poljoprivredna gazdinstva i ruralni turizam u Srbiji. Fakultet za primenjenu ekologiju Futura, Univerzitet Singidunum, Beograd Agroznanje, Vršac FAO, Budimpešta, 247. Available at: [https://seerural.org/wp-content/uploads/2013/04/Odrzivi\\_Turizam\\_elektronsko\\_izdanje.pdf](https://seerural.org/wp-content/uploads/2013/04/Odrzivi_Turizam_elektronsko_izdanje.pdf)

EU podrška poljoprivredi i ruralnom razvoju u Srbiji. Available at: <https://poljoprivreda.europa.rs/eu-podrška/>

Horwath consulting HTL. (2009). Strategija razvoja ruralnog turizma Splitsko-dalmatinske Županije - konačni izvještaj. str. 10. Available at: <http://arhiva.rera.hr/Portals/0/docs/eu-turizam/ruralni-turizam-strategija.pdf>

Master plan održivog razvoja ruralnog turizma u Srbiji, Zajednički program UN „Održivi turizam u funkciji ruralnog razvoja“ finansiran od strane španskog Fonda za dostizanje milenijumskih ciljeva razvoja. (2011). Available at: <https://futurehospitalityleaders.files.wordpress.com/2012/11/master-plan-odrzivog-razvoja-ruralnog-turizma-u-srbiji.pdf>

Njegovan, Z. (2016). Ekonomika turizma i seoskog turizma. Novi Sad: Univerzitet u Novom Sadu.

Njegovan, Z., Demirović, D., Radović, G. (2015). Upravljanje održivim razvojem ruralnog turizma u Vojvodini. *Škola biznisa*, 1, 68–79.

Petrović, M. D., Bjeljac, Ž., Demirović, D. (2016). Tourism Impact Attitude Scale (TIAS) as a Tool of Contemporary Analysis in Agritourism. *Agricultural Bulletin of Stavropol Region*, No. 1 (Supplement), 13-19.

Programme of Rural Tourism Development 2023-2025, COVID Complementary measure - Support to SME in Montenegro, Instrument for Pre-Accession Assistance (IPA II) 2014-2020, 2023, 8.

<https://www.institutobrasilrural.org.br/download/20120219145557.pdf>, 27

Strategija razvoja turizma Republike Srbije, "Sl. glasnik RS", br. 98/2016.

Turistička organizacija Vojvodine (2020). Priručnik za ruralni turizam. Available at: <https://vojvodina.travel/media/2020/06/Prirucnik-za-ruralni-turizam-SR.pdf>

Wearing, S., Neil, J. (1999). Ecotourism, 1st Edition, Routledge, Ecotourism and protected areas: visitor management for sustainability, Chapter 4, 18.



Book of Proceedings

***THE SUCCESS OF INVESTING IN SERBIAN INVESTMENT FUNDS***

*Milan Gavrilović<sup>1</sup>  
Jovan Petronijević<sup>2</sup>  
Cvetko Lazović<sup>3</sup>*

***ABSTRACT***

*Considering the investment funds during their development period, it can be said that they were attracting a lot of attention, and thus realizing the possibility of their growth. This is certainly confirmed by the fact of the number of types of manifestation, the classification of actions and purposes. In a period of expansionary development, they were considered the darlings of the stock market and banking business, attracting billions of dollars in assets to manage. In addition, from the domain of closed and economically focused funds, private investment funds are increasingly developing. Thus, its strategic functions and domains, as well as the business management that manages them, are simultaneously developing. Certainly, it is one of the important indicators of their positive development in the future and the developmental role they have for every social and economic aspect. The COVID-19 pandemic, as well as armed conflicts in Ukraine, have significantly affected global economic development, so more and more people are looking for additional earnings by investing their money in financial products and services. An open-ended fund has a broad market. In addition, open-end funds have many options. It is suitable for all types of people with different levels of risk tolerance and investment ability. During crisis periods, the risk tolerance of investment products is always one of the most important factors for people to consider whether to invest. Therefore, the subject of this paper is an overview of investment funds in the Republic of Serbia, with the aim of analyzing their resistance to risk, flexibility, and adaptability, both in crisis periods and in relation to the needs and goals of investors.*

**Key words:** *Investment funds, open-end funds, goals of investors*

**JEL Classification:** *G11, G23, O16*

***INTRODUCTION***

Rapid economic growth has increased the incomes and purchasing power of individuals around the world. This growth has increased their desire and need for a wide range of financial products and services. In today's rapidly changing environment, financial products have attracted considerable attention from individuals to invest through various instruments to gain additional income and earnings. Among the different types of investment instruments, the stock market has been the most attractive to investors, as it gives higher returns to investors. However, this implies a high level of risk for investors. In addition, investors face the problem of choosing the best alternative from the available investment options in the financial market. This is due to the lack of necessary information regarding market fluctuations, time for market analysis and expertise in investment decisions. This has led to the majority of investors suffering significant losses on the stock market (Agrawal et al. 2017). Over the past few years, investors have shifted their attention from high-risk, high-earning stock markets to low-risk, higher-earning compared to bank

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milan.gavrilovic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, jovan.petronijevic@vspep.edu.rs

<sup>3</sup> Megatrend University, Belgrade, Serbia, clazovic@yahoo.com





## Book of Proceedings

savings (Vasiljević, 2002, p. 93), such as investment funds. An investment fund represents a financial institution that withdraws the funds of smaller individual investors to whom it issues shares or, more rarely, certificates of participation in the fund's financial assets (units) (Šoškić, & Živković, 2006, p. 451). Investment funds are collective investment institutions that “mobilize” an increasing share of savings and financial assets (Leclair & Pardo, 2001; Đekić & Jovančević, 2015; Burkhanov, 2020) and improve the country's financial system and the entire economy (Milojević & Joksimović, 2021, p. 98). The basic starting point for collective investment is the minimization of the investor's risk through portfolio diversification (Spuchľakova, at al. 2015, p. 167). The advantages of collective investment are more effective risk diversification, professional savings management (Đekić, at al. 2017; Korenak, at al. 2013), flexibility and expansion of investment opportunities for small investors. There is also a large selection of assets, high liquidity, lower transaction costs. A particular advantage of collective investment is that it offers a variety of investment strategies, where each investor can choose the type of fund that suits his approach to risk, mainly time and investment preferences. So that the investor, even with small funds invested in an investment fund, gets the diversification of differences characteristic of large investment amounts invested in a large number of different securities (Bracanski, 2011, p. 25). This is what attracts more and more investors to invest their funds in this way. Swapnaja (2021, p. 3610) states that investors today are inclined towards a diversified investment portfolio.

When it comes specifically to the economic segment of the positive future of investment funds, the fact emerges that one of the most compelling reasons for investing in Eastern Europe is the benefit of economic growth resulting from the transformation from a planned to a market economy, which is often achieved precisely through investment funds. This provides significant improvements in productivity, industrial production, labor policy and access to new markets, which in turn leads to company profits, a growth rate that significantly exceeds company earnings, but also an overall positive effect on the population. As a result, the population records an increase in disposable income, which leads to an increase in domestic demand and consumption.

Along with EU convergence, capital markets are changing in the region. The interest of investors, international requirements for listing on the market, acquisitions, and activities in economic sectors, create an increasing demand for transparency and reporting standards. Improvements in corporate governance and a reduction in political interference in the financial market have contributed to lower capital risk premiums. The result is that capital markets become more liquid, and in such a situation investing in funds leads to general prosperity, when we can certainly conclude that the future of these funds has a positive and growing perspective.

### ***ANALYTICAL ASPECT OF APPLICATION OF FUNDS***

In the pursuit of discovering the future of investment funds, we must be aware that high returns do not necessarily help in identifying an attractive fund. In some cases, a fund may have implemented a strategy that caused it to perform above normal for its category. Therefore, when certain funds are recognized as high-yield performers, it is important to identify the fund's strategy and compare its performance with other funds in the same category. To do this, an investor can establish guidelines by first generating an analysis of similar funds.

The investor has two guidelines that all funds must meet for further consideration. However, the application of these two guidelines still leaves too many assets to be assessed within a reasonable time. Additional guidelines need to be established, but they will not necessarily apply to the rest of the fund universe. For example, the guidelines for a merger arbitrage fund will differ from the guidelines for a long-term market neutral fund.

To facilitate the investor's search for high-quality funds that not only meet initial return and risk guidelines, but also strategy-specific guidelines, the next step is to establish a set of relative guidelines. Relative performance indicators should always be based on specific categories or strategies. For example, it would not be fair to compare a leveraged global macro fund with a market neutral, long or short equity





## Book of Proceedings

fund. To establish guidelines for a particular strategy, an investor can use an analytical software package to first identify types of funds using similar strategies, and then the analysis will reveal many statistics, divided into quartiles or deciles, for that type.

Guidelines will help to eliminate many funds and identify a relevant number of funds for further analysis and investment. An investor may wish to consider other guidelines that may either further reduce the number of funds for analysis or identify funds that meet additional criteria that may be relevant to the investor. Some examples of other guidelines include:

- The size of the fund or the size of the company - size guidelines can be minimum or maximum depending on the investor's wishes. For example, institutional investors often invest such large amounts that a fund or company must have a minimum size to accept a large investment. For other investors, an oversized fund may face future challenges by using the same strategy to match past success. This could be the case with hedge funds that invest in equity with small initial capital.
- Track Record - If the investor wants the fund to have a minimum track record of 24 or 36 months, these guidelines will eliminate new funds. However, sometimes a fund manager must start his own fund and even though the fund is new, the manager's performance can be tracked over a much longer period.
- Minimum investment - This criterion is very important for smaller investors, as many funds have minimums that can make proper diversification difficult. A fund's minimum investment can also give an indication of the types of investors in the fund. Higher minimums may indicate a larger proportion of investors, while low minimums may indicate a larger number of individual investors.
- Redemption conditions - These conditions have liquidity implications and become very important when the overall portfolio is highly illiquid. Longer lock-in periods are more difficult to include in a portfolio, and redemption periods longer than a month can present some challenges during the portfolio management process. The guideline can be applied to remove locked-in funds when the portfolio is already illiquid, while this guideline can be relaxed when the portfolio has adequate liquidity.

### ***OVERVIEW OF INVESTMENT FUND'S STRUCTURE AND BUSINESS***

After the regulation of the financial market was rounded off with the adoption of the Law on Investment Funds, in early 2007, the establishment of the first investment funds in Serbia began. Today in Serbia, although the financial market is insufficiently developed, investment funds are significant participants in the stock market. Essentially, they get funds by selling stocks or shares, and invest them in a large number of different forms of financial assets, primarily diversified portfolios of hundreds of different securities. However, it is important to point out that one investment fund cannot meet the investment criteria of all individual investors. The investment fund presents its investment policy in the fund's Prospectus, and the fund should be invested only after the investors are well acquainted with the expected returns and the degree of risk to which the fund will be exposed. Citizens and investors who need to join the financial market for the first time will be faced with a dilemma in which investment fund to invest money in, in a situation where investment funds do not have historical business results. Modern portfolio theory is focused on diversification as a basis for portfolio management. In a situation where the entire market is growing, which has been the case with all markets in the region in the last few years, almost every portfolio, even randomly diversified ones, achieves significant growth rates.

According to the latest valid law of the Republic of Serbia dealing with issues of investment funds, an investment fund is an institution of collective investment within which funds are collected and invested in various types of assets, in accordance with a predetermined investment policy, with the aim of generating income for the benefit of the owners of investment units, that is, members of the investment fund and reduction of investment risk (Sl. glasnik RS, br. 73/2019, 2019). The objective of the existence of investment funds is to generate income for the legal or natural person who is the holder (owner) of the investment

## Book of Proceedings

units and, consequently, the diversification of risks. In their name, no entrepreneur or legal entity may use the term "investment fund", unless their activity is exclusively engaged in investment fund affairs.

*Table 1. Number and value of investment units of all investment funds in Serbia in the period from 2019-2022.*

Investment fund	Number of investment units				Value of investment units			
	2019	2020	2021	2022	2019	2020	2021	2022
ILIRIKA CASH DINAR	150.920	78.807	54.209	20.411	1.989	2.003	2.006	2.021
ILIRIKA CASH EURO	7.010	7.005	/	/	1.297	1.300	/	/
Raiffeisen CASH	7.992.294	7.839.592	9.665.971	4.283.019	2.038	2.064	2.080	2.112
Raiffeisen EURO CASH	12.516.393	15.484.900	27.592.109	22.289.070	1.154	1.161	1.164	1.170
KomBank NOVČANI FOND	1.987.119	1.644.883	1.977.628	1.157.557	1.394	1.416	1.434	1.473
KomBank DEVIZNI FOND	15.147	13.526	39.872	74.396	1.030	1.070	1.087	1.091
WVP CASH	120.265	190.641	241.861	261.354	1.043	1.057	1.070	1.090
INTESA INVEST CASH DINAR	4.396.046	7.900.321	8.742.411	8.034.799	1.037	1.059	1.071	1.095
INTESA INVEST CASH EURO	/	/	2.999.311	7.350.927	/	/	1.179	1.188
ILIRIKA DYNAMIC	53.193	52.111	65.712	26.018.666	396	372	438	374
TRIUMPH	37.416	45.121	/	/	154	149	/	/
ILIRIKA PROACTIVE	134.069	131.395	141.016	142.755	652	584	730	631
WVP PREMIUM	131.086	249.019	378.920	532.413	1.108	1.054	1.275	1.201
WVP DYNAMIC	120.721	186.571	245.678	323.809	1.041	1.058	1.220	893
MERKUR SUSTAINABLE FUND DYNAMIC	/	/	/	99.000	/	/	/	1.067
ILIRIKA BALANCED	56.465	54.912	55.139	58.152	1.797	1.793	2.030	1.799
KomBank IN FOND	51.106	47.407	45.880	39.451	994	952	1000	1.014
Raiffeisen WORLD	854.337	811.202	832.554	808.773	1.616	1.594	1.747	1.533
WVP BALANCED	119.152	190.541	236.809	274.215	1.028	1.042	1.158	1.021
INTESA INVEST FLEXIBILE EURO	/	/	127.582	150.320	/	/	1.180	1.008
INTESA INVEST COMFORT EURO	3.719.276	4.064.119	5.355.005	3.684.971	1.033	1.053	1.059	962
Raiffeisen BOND	/	/	418.902	483.774	/	/	1.137	1.060
MERKUR SUSTAINABLE FUND SOLID	/	/	/	99.000	/	/	/	1.053
MERKUR SUSTAINABLE FUND BALANCED	/	/	/	99.000	/	/	/	1.109
WVP BOND	/	/	/	535.864	/	/	/	1.121
Raiffeisen GREEN	/	/	/	29.861	/	/	/	1.141
TOTAL	32.462.016	38.992.072	59.216.569	76.851.557				

*Source: Securities Commission in Serbia, Annual report in the period from 2019-2022*

At the end of 2022, the total number of investment units owned by all open investment funds amounted to 76.8 million units, and it has been constantly increasing since 2019, when that number was 32.4 million units. The largest number of investment units at the end of 2022 was owned by the members of the



### Book of Proceedings

ILIRIKA DYNAMIC investment fund, 33.85% of the total number of all investment funds or 26,018,666, while together with IF Raiffeisen EURO CASH (22,289,070 investment units- IU) they make 62.85 % of the total number of investment units. The smallest number of investment units was owned by members of the Raiffeisen GREEN investment fund (0.03% of the total number of all IFs or 29,861 IU). Raiffeisen GREEN was founded in 2022 and is the first ESG fund on the domestic market. At the end of 2022, the highest value of IU was achieved by the investment fund Raiffeisen Cash in the amount of 2,112 dinars. The value of the IU investment fund Raiffeisen Cash at the end of 2022 was 76% higher than the value of the average IU. The lowest value of the investment unit at the end of 2022 was achieved by IF Ilirika Dynamic in the amount of 374 dinars. The realized value of the investment unit of the Ilirika Dynamic investment fund was 68.9% lower than the value of the average IU.

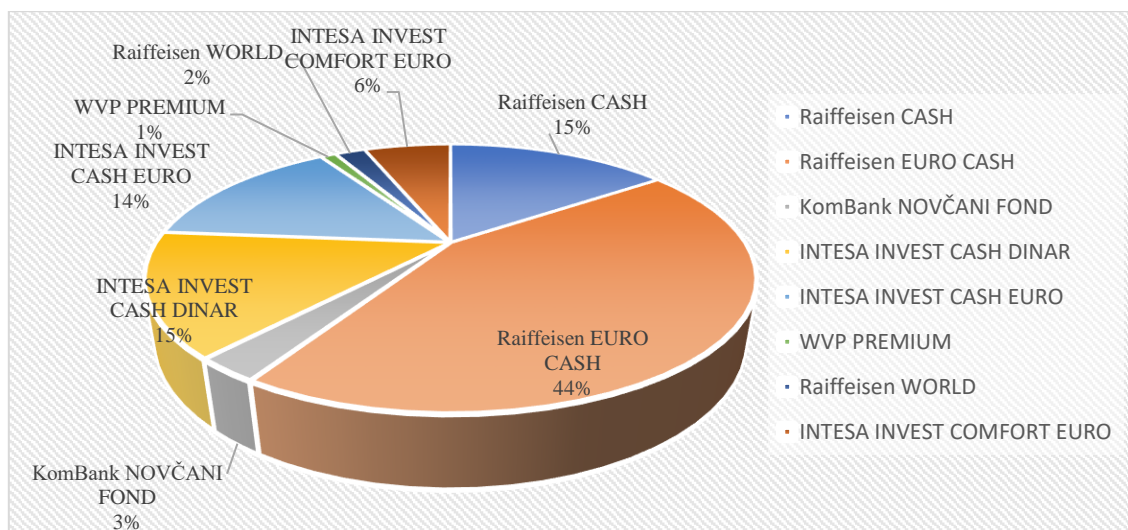
Table 2. Value of net assets of investment funds in Serbia in the period from 2019-2022.

Investment fund	Net asset value			
	2019	2020	2021	2022
ILIRIKA CASH DINAR	300.133.906	157.882.666	108.727.966	41.260.211
ILIRIKA CASH EURO	9.090.559	9.105.491	/	/
Raiffeisen CASH	16.286.800.779	16.184.362.366	20.108.783.999	9.043.628.722
Raiffeisen EURO CASH	14.437.831.241	17.971.891.356	32.123.965.898	26.087.473.215
KomBank NOVČANI FOND	2.770.804.851	2.328.666.311	2.836.860.308	1.704.900.290
KomBank DEVIZNI FOND	15.602.298	14.478.219	43.337.361	81.171.212
WVP CASH	125.481.342	201.557.768	258.859.449	284.988.682
INTESA INVEST CASH DINAR	4.558.202.862	8.365.430.174	9.362.122.883	8.798.015.174
INTESA INVEST CASH EURO	/	/	3.537.046.050	8.730.713.797
ILIRIKA DYNAMIC	21.058.528	19.364.554	28.757.179	26.018.666
TRIUMPH	5.775.624	6.740.314	/	/
ILIRIKA PROACTIVE	87.362.218	76.768.770	102.977.535	90.087.295
WVP PREMIUM	145.282.525	262.580.878	483.167.877	639.624.614
WVP DYNAMIC	125.680.081	197.408.211	299.605.192	289.087.274
MERKUR SUSTAINABLE FUND DYNAMIC	/	/	/	105.607.473
ILIRIKA BALANCED	101.452.988	98.465.336	111.933.059	104.633.941
KomBank IN FOND	50.808.411	45.146.847	45.896.201	40.009.303
Raiffeisen WORLD	1.380.287.480	1.292.857.872	1.454.770.628	1.239.879.155
WVP BALANCED	122.515.353	198.620.509	274.175.361	279.947.523
INTESA INVEST FLEXIBILE EURO	/	/	150.609.853	151.449.777
INTESA INVEST COMFORT EURO	3.841.223.146	4.279.422.369	5.668.449.154	3.543.180.102
Raiffeisen BOND	/	/	476.388.335	512.969.140
MERKUR SUSTAINABLE FUND SOLID	/	/	/	104.200.065
MERKUR SUSTAINABLE FUND BALANCED	/	/	/	109.803.726
WVP BOND	/	/	/	600.721.430
Raiffeisen GREEN	/	/	/	34.068.619
<b>Ukupno</b>	<b>44.385.394.192</b>	<b>51.710.750.011</b>	<b>77.476.434.288</b>	<b>62.643.439.406</b>

Source: Securities Commission in Serbia, Annual report on the Commission's work and market trends, in the period from 2019-2022

The total value of net assets of all open investment funds at the end of 2022 amounted to 62.6 billion dinars or 534 million euros and is constantly increasing until the end of 2021. In 2022, compared to 2021, it is about 19% lower. The total value of net assets of all UCITS funds at the end of 2020 was 51.7 billion

dinars or about 440 million euros, which is about 16.5% more than at the end of 2019. The total value of net assets of all open investment funds at the end of 2019 was 44.4 billion dinars or about 376 million euros, which is about 60% more than at the end of 2018.



*Graph 1. Structure of the participation of open investment funds in the total value of net assets of all open investment funds in Serbia in 2022*

*Source: Author based on data from the Securities Commission in Serbia, Annual report on the Commission's work and market trends in 2022*

Chart 1 shows IFs with a share of over 1% in the total value of net assets. The largest in terms of asset value at the end of 2022 was the Raiffeisen Euro Cash open investment fund, whose net asset value was 26 billion dinars with a share of 44% in the structure of the total net asset value of all funds. The smallest in terms of asset value at the end of 2022 was the ILIRIKA DYNAMIC open investment fund, whose asset value was only 26.018 million dinars, with a share in the net asset value structure of all open investment funds with only 0.04%.

## CONCLUSION

In the end, we can say that the funds significantly support the growth and development of the economy, they connect the surplus and deficit sectors, and especially because at the same time they exert pressure on commercial banks, given that they are some forms of competition: when we talk about depositors who are offered significantly higher earnings compared to annual interest in banks. Furthermore, funds are also institutions of financial democracy because they offer investment choices to all interested legal and natural persons to be fair players in the market game.

Based on all the relevant data on the movements and operations of the funds, the question of the future is certainly very important for both investors and managers. Recent technological disruptions, the COVID-19 epidemic and the armed conflict in Ukraine have shown that the mutual fund industry is highly adaptable and resilient.

It can be observed from several aspects and trends. The first is that funds will respond to demand from investors and policy makers to include sustainability, climate change and social issues in their investment products. Another trend is that investment fund companies will increasingly use technology, such as machine learning, big data, and ultra-high frequency trading. Such technologies can reduce costs because technology is more efficient and cheaper than human employees.



## Book of Proceedings

Another possibility is that there may be a loosening of restrictions on who is allowed to invest in mutual funds. To date, most funds require a large amount of capital, higher initial investment and are often only accessible to accredited investors. However, lower barriers to entry are already on the horizon with publicly traded and retail funds having far lower minimums.

### **REFERENCES**

- Aggrawal, P.; Waggle, D.; Sandweiss, D.H. (2017). Suicides as a response to adverse market sentiment (1980–2016). *PLoS ONE*, 12, 1–10.
- Brcanski, B. (2011). Investment funds in the development of capital market. *Poslovna ekonomija*, 5(1), 23-39.
- Burkhanov, A. (2020). Practice of investment funds development in developed countries. *Arhiv naučnih issledovaniü*, 60 (4), 275-284.
- Dekić, M., Gavrilović, M., Roganović, M. (2017). The Role of Investment Funds in Countries with Transition Economies. *Economic Analysis*, 50(1-2), 1-12.
- Dekić, M., Jovančević, D. (2015). Performances of different investment policies of open-end investment funds: comparative analysis of Serbia and the countries of the region, 4<sup>th</sup> International Scientific Conference "Employment, Education and Entrepreneurship", Belgrade, Proceedings, 133-149.
- Korenak, B., Miletić, S., Ivaniš, I. (2013). Performances of different investment policies of open-end funds in Republic of Serbia. 2<sup>nd</sup> International Scientific Conference "Employment, Education and Entrepreneurship", Proceedings, 520-534.
- Leclair, A., Pardo, C. (2001). Investment funds: a growing role in financing European economies. *Revue d'Économie Financière*, 64(4), 173-193.
- Milojević, N., Joksimović, M. (2021). The importance of investment funds in the transition process. *Revizor*, 24(95-96), 91-98.
- Šoškić, D., Živković, B. (2006). *Finansijska tržišta i institucije*. Beograd: CID Ekonomski fakultet
- Securities Commission in Serbia, Annual report on the Commission's work and market trends, in the period from 2019-2022
- Spuchlakova, E., Michalikova, K. F., Misankova, M. (2015). Risk of the collective investment and investment portfolio. *Procedia Economics and Finance*, 26, 167-173.
- Swapnaja, G. P. (2021). Individual Investors Perception Towards Diversified Portfolio. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(12), 3599-3612.
- Vasiljević, B. (2002). *Osnovi finansijskog tržišta*. Zavet, Beograd.
- Zakon o otvorenim investicionim fondovima sa javnom ponudom. (Sl. glasnik RS, br. 73/2019, 2019).



Book of Proceedings

***CONTEMPORARY CONTROVERSIES ABOUT THE  
RELATIONSHIP BETWEEN INFLATION AND  
UNEMPLOYMENT – A COMPARATIVE ANALYSIS***

*Milan Radičević<sup>1</sup>*

**ABSTRACT**

*Dealing with the analysis of one of the most complex areas of economic theory and politics - the relationship between inflation and unemployment - there is a need to review the entire sequence of events throughout history, different scientific reflections on the problems of the real universe. The focus of the problem of this work will be presented by an attempt to point out major economic trends and schools and their interpretation of the relationship between inflation and unemployment. Originally, the relationship between nominal wages and employment was first presented by economist Alban Phillips in 1958. However, for the sake of a comprehensive approach, it is necessary to point out the period before that, as well as the analysis of this problem area by the leading economic schools, after that.*

**Key words:** *unemployment, inflation, macroeconomics*

**JEL Classification:** *E12, E13, E24,*

**INTRODUCTION**

Inflation and unemployment, as economic subjects, especially their mutual relation, are one of the most significant economic topics. This piece of work is supposed to establish the relation between inflation and unemployment, and to point at the relation of one economic component to the other. The point of view is the relation between the above mentioned economic categories, represented through various economic directions and schools. In conformity with the point of searching, the relation between the inflation and the unemployment before Keynes is shown, then the Keynesian case, the monetary interpretation, the analysis from the point of view of the neoclassical school, as well as the new Keynesian approach. The particular point of review will be on the analysis of the Philips' curve, and the interpretation of it by the above mentioned economic directions. Along with the analysis, the graphic representation of the Philips' curve will be shown. The Philips' curve, completed with the adaptive expectations, as well as the Philips' curve, completed with the rational expectations, will be shown.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milan.radicevic@vspep.edu.rs





## Book of Proceedings

### ANALYSIS OF UNEMPLOYMENT AND INFLATION BEFORE KEYNES–SAY'S LAW OF THE MARKET

Classical political economy finds its source in the developing flows of economic activity, which is characteristic of the period. Say's law of the market explains relevant economic variables and their behavior, and that was generally accepted concept until the thirties of the twentieth century. This conception of the principles of political economy, set forth by Jean-Baptiste Say, actually represents the transmitted teaching of the founder of classical political economy, Adam Smith. For the purpose of explaining the analysis, we start from the already well-laid foundations of classical political economy:

- acceptance of the concept of *laissez-faire* (free competition is necessary in order to achieve economic well-being, social cohesion and harmony between personal interest and the interest of society)<sup>1</sup>,
- established division of labor (the most significant factor in increasing labor productivity),
- theory of income distribution

Say's law of the market is at the core of the understanding of general economic equilibrium. Say systematized Smith's *Wealth of Nations*. The basic determinant of value is utility. There is no dividing line between productive and non-productive work. At the macro level there are:<sup>2</sup>

- full employment - there cannot be a surplus of labor force, because the surplus of unemployed can be employed at a lower wage and
- optimal allocation of all factors of production.

With the previous statement, Sey, in fact, has accepted, systematized and gave further support to the maxim of *laissez-faire* philosophy, dominate at that time, which would be the ruling paradigm until the thirties of the twentieth century.

### PIGOU'S APPROACH

In his book *The Theory of Unemployment*, Pigou views the existing unemployment either as frictional<sup>3</sup> unemployment or as voluntary unemployment resulting from workers' refusal to accept the value of their marginal product, i.e. imposition of higher than equilibrium wages. The existing unemployment is a consequence of the workers' refusal to accept a reduction in wages<sup>4</sup>.

Pigou argues that the flexibility of prices and wages leads to increase of demand in the goods market. The influence of price flexibility through changes in the real value of money (wealth) on changes in real consumer demand is called the Pigou's effect. Pigou pointed out that if prices and wages were to decrease, the real value of money would increase. As a result, the population would feel richer and would spend more, relative to their income. Therefore, consumption (C) would increase and along with it a total income would increase too. The Pigou's effect can be represented as follows:<sup>5</sup>

$U \uparrow - W \downarrow - P \downarrow - Ms / P \uparrow - C \uparrow - Y \uparrow$

---

<sup>1</sup> Stanković, K., (2009), *Ekonomске doktrine*, Ekonomski fakultet, Kragujevac, p. 21.

<sup>2</sup> Stanković, K., (2009), op.cit., p. 79.

<sup>3</sup> Frictional unemployment occurs because the workers' needs for employment and vacancies do not coincide in time. It stems from the fact that people are constantly moving between employment and entry and exit from the labor force. The good side of frictional unemployment is the fact that the job search period provides opportunities to find out which jobs are available, what skills are required and how much are they payed.

<sup>4</sup> Stanković, K., (2009), op.cit., p. 190.

<sup>5</sup> Jakšić, M., Prašević, A., (2006), *Makroekonomska analiza*, Ekonomski fakultet, Beograd, p. 52.



## Book of Proceedings

Pigou proved that in a situation of unemployment and declining economic activity, wages and prices fall, and because of that the real value of money increases, which further leads to an increase in consumption and aggregate demand and the establishment of full employment. Based on this, Pigou believed that there could not be a long-term equilibrium with incomplete employment, that there is, due to the flexibility of prices and wages, the only possible state of long-term equilibrium at the level of full employment.

### THE STANDARD PHILLIPS CURVE – THE KEYNESIAN CASE

The classic approach to the labor market implies a quick market clearing, i.e. a quick adjustment of the labor supply and demand for labor. Keynes rejects Pigou's approach. Keynes rejects this understanding and talks about the impossibility of reducing unemployment by reducing wages in conditions of depression. He bases his views on the state of the labor market in the United States of America in the 1930s. During that period, wages were reduced by more than 25%, but this did not lead to an increase in employment. In that period, Keynes talks about the existence of *involuntary unemployment*, which is a consequence of the inability of workers to find employment due to insufficient demand on the labor market. In Keynes' teaching, the rent is part of the effective demand and therefore its reduction also affects the drop in the effective demand, which also determines the level of employment.

The demand for labor, according to Keynes, is derived from labor productivity  $DN = MPN \cdot P_0$ , but the supply of labor does not depend on real, but on nominal wages. There are two reasons for this:

- workers exchange their work for money and
- they do not have the ability to influence prices, and therefore not even real wages.

Keynes also analyzed the labor market with flexible downward wages. In that case, employment growth is caused by changes in the propensity to spend, the investment demand function and the interest rate. A decrease in wages leads to worker dissatisfaction and a drop in aggregate demand, because wages are one of the most important factors in its formation. That is why Keynes believes that lowering wages in the case of depression is not desirable. The Keynesian effect is another way of proving underemployment in conditions of flexible wages and prices. It can be presented as:<sup>1</sup>

$U \uparrow \rightarrow W \downarrow \rightarrow P \downarrow \rightarrow Ms/P \uparrow \rightarrow r \downarrow \rightarrow I \uparrow \rightarrow Y \uparrow$

where U is unemployment, W-wages, P-prices, Ms/P-real money supply, r-interest (returns), I-investment and Y-income<sup>2</sup>. The Keynesian effect says that when unemployment increases, wages and prices fall, thus increasing the real money supply (in the case of a constant money supply or a fall in the money supply smaller than the fall in prices), which lowers the interest rate, leads to an increase in investments and income. Whether this effect will occur, ie. whether investments will be realized, depends a lot on factors related to uncertainty and expectations.

### PHILLIPS' CURVE

The Phillips' curve, as an inverse relationship between unemployment and the level of nominal wages, found its application in the Keynesian school. The emergence of this analytical apparatus gave empirical confirmation of the Keynesian labor market, which can achieve equilibrium below the level of full employment. The Phillips' curve provided the Keynesians with a good instrument for defining economic policy, in which a choice between inflation and unemployment could be made. The initial concept of this curve was related to the Keynesian understanding of the labor market where it is possible to influence unemployment by changing nominal wages by increasing the price level in the economy. An expansive

<sup>1</sup> Stanković, K., (2009), op.cit., p. 206

<sup>2</sup> Op.cit., p. 206.

monetary policy could influence the growth of nominal wages, which simultaneously affected the growth of demand and supply of labor and the growth of inflation. One of the first stages in the development of the Phillips curve is the Phillips-Lipsi's concept. It can be represented by the formula:<sup>1</sup>

$$W=f(U), f'(U)<0$$

The Phillips' curve shows the inverse relationship between unemployment and nominal wages (diagram 1. Phillips-Lipsej's concept of the Phillips' curve). The analysis does not include inflationary expectations, and confirms the existence of the Keynesian effect.

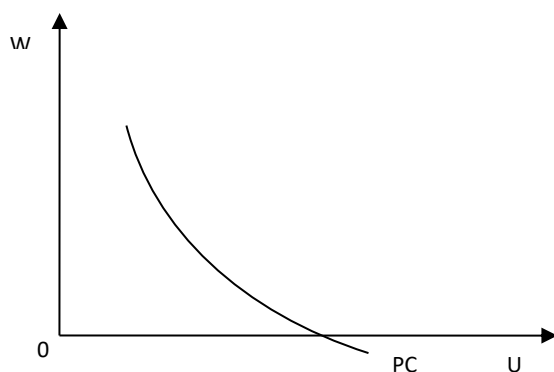
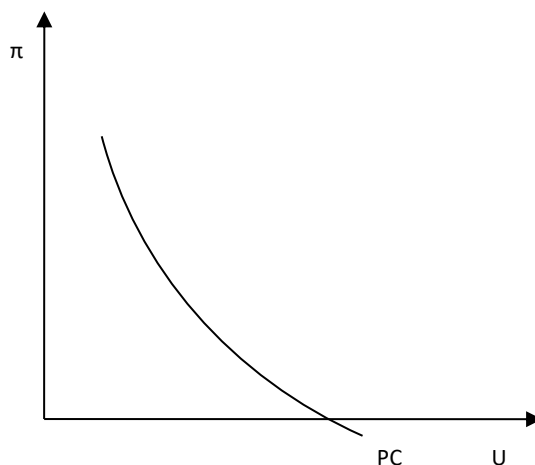


Diagram 1. Phillips-Lipsej's concept of the Phillips' curve  
Source: Marjanović, G. (2009, p. 106)

Samuelson and Solow, in 1960, modify the Phillips' curve by replacing nominal wages with inflation (diagram 2. Samuelson-Solov's concept of the Phillips' curve). Its functional form is:<sup>2</sup>

$$\pi=f(U,\sigma), f'<0$$



where  $\sigma$  is the growth rate of labor productivity as the difference between nominal wages and inflation. It can be represented graphically:

Diagram 2. Samuelson-Solov's concept of the Phillips' curve  
Source: Marjanović, G. (2009, p. 103)

<sup>1</sup> Dimitrijević, B., Prašćević, A., (2001), *Savremene kontroverze makroekonomske teorije u razvoju Filipsove krive*, Ekonomska misao, broj 3-4, p. 2.

<sup>2</sup> Op.cit., p. 3.

This Keynesian model of the Phillips' curve implies that an increase in demand will lead to a change in employment and inflation. Faster growth in aggregate demand will lead to an increase in prices, nominal wages and inflation and, therefore, a decrease in unemployment. The slow growth of aggregate demand will lead to a fall in inflation and an increase in unemployment in the economy. This indicates the existence of a *trade-off* between unemployment and inflation.

## A MONETARIST APPROACH TO THE PHILLIPS' CURVE

The standard Phillips' curve in the Keynesian model comes under the scrutiny of monetarist criticism, a new direction in economic theory and politics at the time. The dominance of the Keynesian Phillips' curve was ended by the action of two factors - practical and theoretical. What disproved the Keynesian form of the Phillips curve was the simultaneous appearance of inflation and unemployment in the late sixties and early seventies, the appearance of the so-called phenomenon of stagflation in the economy. The content of this conception goes back to some original postulates of classical political economy, first of all the belief in the inherent stability of market economies and, what is the basis of this conception – the quantitative theory of money in a modified form.

Significant features of the Friedman-Phelps' concept are:<sup>1</sup>

- it starts from real, not nominal wages,
- the natural unemployment rate is introduced, for which the labor market is in equilibrium, and the inflation rate is stable,
- adaptive inflation expectations are introduced, which implies a difference between the long-term and short-term Phillips' curve.

## ADAPTIVE EXPECTATIONS

The concept of adaptive expectations refers to the formation of endogenous expectations based on rules by which individuals revise their expectations in the light of new information. Therefore, adaptive expectations implicitly represent an extrapolation of an infinite number of previously observed values of a variable (the past trend of the variable is taken and that trend is assumed to continue).

In this sense, the expected rate of inflation, based on the concept of adaptive expectations, can be expressed in such a way as to describe the learning process itself. Namely, inflation in the period  $t$  is equal to the expected inflation in the period  $t-1$ , which is corrected for the prediction error (the adaptation coefficient  $\Theta$  shows the speed by which the expected inflation adapts to the actual one):<sup>2</sup>

$$\pi_t^e - \pi_{t-1}^e = \Theta(\pi_{t-1} - \pi_{t-1}^e) \quad \text{pri } 0 < \Theta < 1$$

$$\pi_t^e = \Theta\pi_{t-1} + (1-\Theta)\pi_{t-1}^e$$

$$\pi_t^e = \Theta\pi_{t-1} + (1-\Theta)\pi_{t-1}^e + \dots + \Theta(1-\Theta)^{n-1}\pi_{t-n} + (1-\Theta)^n\pi_{t-n}^e$$

By transforming the last equation, the expected inflation rate can be expressed as:

$$\pi_t^e = \Theta \sum_{i=1}^{\infty} (1-\Theta)^{i-1} \pi_{t-i},$$

$$\text{za } n \rightarrow \infty \quad \sum_{i=1}^{\infty} (1-\Theta)^{i-1} = \frac{1}{1-(1-\Theta)} = \frac{1}{\Theta}$$

<sup>1</sup> Marjanović, G., (2009), *Ekonomске teorije o tržištu rada*, Kragujevac, Ekonomski fakultet Kragujevac, 121-122.

<sup>2</sup> Dimitrijević, B., Praščević, A., op.cit., p. 5.

which leads to the expression:

$$\pi_t^e = \theta \sum_{i=1}^{\infty} (1 - \theta)^{i-1} \pi_{t-i} = \sum_{i=1}^{\infty} w_i \pi_{t-i}$$

where:  $\sum_{i=1}^{\infty} w_i = 1$ .

The model that fits the expected inflation rate based on adaptive expectations is fully backward-looking, therefore the inflation rate that is more distant in time affects the expected inflation rate to a lesser extent, and there is also a systematic error in expectations.

## PHILLIPS' CURVE WITH ADAPTIVE EXPECTATIONS

The Phillips' curve completed with adaptive expectations can be expressed as:<sup>1</sup>

$$\pi = \pi^* - b(u - u^*)$$

where  $\pi$ -actual inflation,  $\pi^*$ -expected inflation rate,  $u$ -actual unemployment,  $u^*$ -natural unemployment rate. Expected inflation shows for how much people expect the general price level to change. Defining adaptive inflation expectations is crucial for understanding the Friedman-Phillips' curve. Looking at the short-term, the concept of the Keynesian form of the Phillips' curve is accepted, in which the actual inflation ( $\pi \neq \pi^*$ ) does not correspond to the expected one, so a short-term *trade-off* between inflation and unemployment is possible.

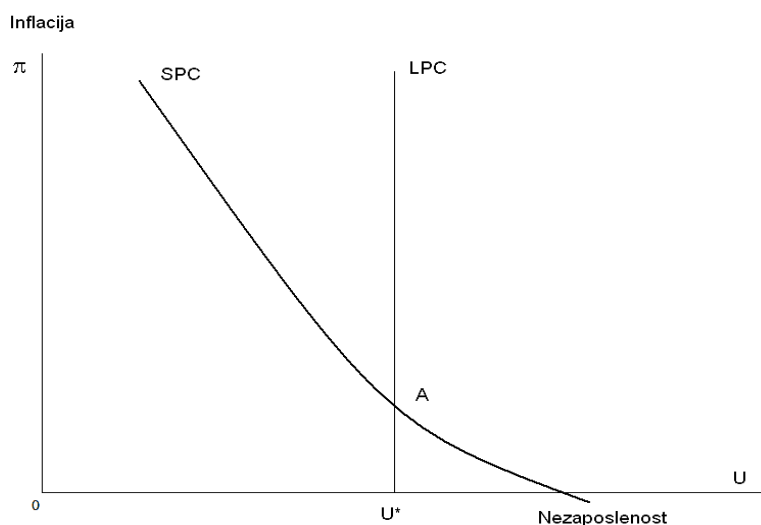


Diagram 3. Monetarist short-term and long-term Phillips' curve  
Source: Marjanović, G., (2009, p. 126)

The monetarist short-term Phillips' curve is represented in the diagram 3. by the SPC curve, which corresponds to the Keynesian form of the Phillips' curve and implies the existence of a *trade-off* between inflation and unemployment. If we recall the already stated statement that workers form their expectations depending on the quantity and quality of information and that, if the source of information (quality and quantity) is better, the probability of making a mistake is lower, then the existence of a short-term *trade-off* between inflation and unemployment is a result of adaptive expectations and monetary illusion, because workers have temporarily underestimated the level of inflation and offered a greater amount of labor.

However, after a certain period of time, in long-term equilibrium, the economy is at the level of both potential output and the equilibrium of employment. Since people are interested in real and not nominal

<sup>1</sup> Marjanović, G., op.cit., p. 126.

variables, when alignment is completely over they will try to make all nominal variables to follow inflation - they will reject the money illusion.

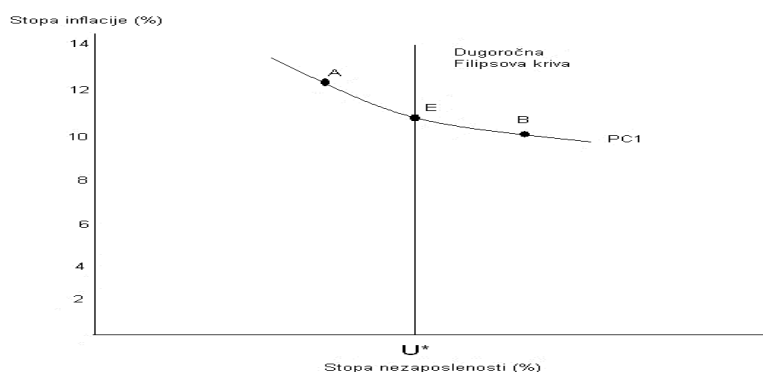


Diagram 4. Long-run Phillips' curve

Source: Begg, D., Fischer, S., (2010, p. 452)

In long-run equilibrium, inflation is constant. People correctly predict inflation and adjust nominal wage growth to keep real wages constant, that is, at the level required for the long-run equilibrium. Consequently, nominal interest rates are high enough to neutralize inflation and maintain real interest rates at their equilibrium level. Everyone adapts to inflation, because it can be completely defeated. A vertical Phillips' curve shows that the economy eventually returns to the natural rate of unemployment  $U^*$ .

## ANALYSIS OF THE PHILLIPS' CURVE FROM THE PERSPECTIVE OF THE NEOCLASSICAL SCHOOL – THE HYPOTHESIS OF RATIONAL EXPECTATIONS

The hypothesis of rational expectations is based on the assumption that economic subjects are not just passive observers, but active participants in economic reality. Economic entities make their decisions based on all available information. This information includes all three dimensions of time (past, present and future). This conception of expectation is future-oriented.

It is assumed that all economic subjects are equally well informed and the only circumstance under which a prediction error could occur is the manifestation of unanticipated shocks, especially on the side of monetary policy. Rational expectation can be represented by the formula:

$$X_t^e = E(X_t / I_{t-1})$$

where  $X_t^e$  is the expected variable  $X$  in period  $t$ ,  $X_t$  is the actual value of variable  $X$  in period  $t$  and  $I_{t-1}$  is all available information from the previous period. Analogous to this, the expected inflation rate can be presented:

$$\pi_t^e = E(\pi_t / I_{t-1})$$

Based on this, we can derive formulas about the expected value of inflation and wages in the following period.

$$\pi_{t+1}^e = E(\pi_{t+1} / I_t)$$

$$W_{t+1}^e = E(W_{t+1} / I_t)$$

With anticipated monetary growth, based on rational expectations of changes in wages and prices, there will only be an increase of inflation. Since expected inflation is equal to actual inflation, there will be no



shift in the labor supply curve and unemployment will remain at the natural rate of unemployment. Since this is true for all future moments, it can be said that the rational expectations hypothesis does not distinguish between the long run and the short run.

The concept of the Phillips' curve complemented by rational expectations is based on the existence of the Lucas' supply curve. The Lucas' supply curve represents the sudden supply curve. It got this name because its level depends on the expected price level.

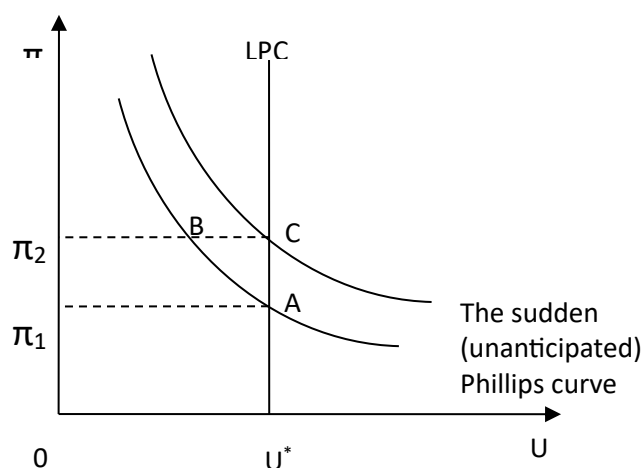


Diagram 5. The new classic Phillips' curve

Source: Marjanović, G., (2009, p. 153)

According to the rational expectations hypothesis, those who offer labor cannot be deceived by anticipated changes in aggregate demand. This applies both in the short and long term. The initial equilibrium is at point A, where the level of unemployment equals the natural rate of unemployment and actual inflation equals expected inflation. Deviations from the long-term Phillips' curve are possible only due to the occurrence of unanticipated shocks. In the event of an unanticipated shock (eg an increase in the money supply), the equilibrium shifts to point B, where a short-term *trade-off* between unemployment and inflation occurs. Sooner or later, the negotiators accept the fact of the change in inflation, which now becomes anticipated, and there is a new adjustment and rebalancing at point C. This adjustment is done very quickly, almost instantly, because the economic subjects quickly understand the unexpected changes. Due to this, the Phillips' curve completed with rational expectations has a vertical shape.<sup>1</sup>

## NEW-KEYNESIAN ANALYSIS OF THE PHILLIPS' CURVE

The emergence of the New-Keynesian school is conditioned by the failures in explaining economic reality by the new classical economy. Like many schools before them, New-Keynesians fully accept some concepts of their predecessors, modify some and include them in their theories, and completely reject some. They have quickly rejected clearing of market, accepted the thesis of rational expectations and included involuntary unemployment in their theories, explaining it by the existence of rational expectations under conditions of uncertainty.

New Keynesians, unlike the old ones, in addition to accepting the existence of wage and price rigidity, define the sources of their inflexibility. Prices may be rigid due to the existence of:

- oligopolies and monopolies in the market and
- menu costs.

<sup>1</sup> Marjanović, G., (2009), op.cit., p. 153.



## Book of Proceedings

In the conditions of limited competition in the market, there are no forces that lead to a quick adjustment of prices. Due to the uncertainty of customers' reactions to price changes, monopolists choose to maintain prices at a certain level.

Monetary neutrality in the long run leads to the existence of a vertical long-run Phillips' curve (LPC). This means that changes in the price level, in the long term, do not change employment, which remains at the level of natural unemployment. In the short term, due to the influence of monetary variables on real ones, the existence of a Phillips' curve of negative slope (SPC) is possible. Empirical studies have shown a small slope of the short-term Phillips' curve in countries with low average inflation. This means that, in those countries, a change in monetary variables has a significant impact on real variables. Countries with a high average inflation rate have a big slope Phillips' curve. In these countries, there are small changes in real aggregates when monetary supply and prices change.<sup>1</sup>

## CONCLUSION

The standard Phillips' curve has undergone significant modifications within theories that can be characterized as *mainstream* of economic science. Its course of development flowed in accordance with the facts that defined the given moment of economic reality. Within Keynesian theory, the Phillips' curve has a negative slope. It shows an inverse relationship between unemployment and nominal wages. The characteristics of the period, among which the occurrence of some shocks in the 70s, caused a critical attitude towards the existing Phillips' curve. A new concept enters the scene - the Friedman-Phelps' curve. It is a modification of the standard Phillips' curve, based on the hypothesis of the natural rate of unemployment and the concept of adaptive expectations. New classical macroeconomics arose as a response to the manifestation of stagflation, which the prevailing Keynesian theory could not explain. They introduce the hypothesis of rational expectations and the theory of general equilibrium in this analysis, which leads to the creation of a Phillips' curve completed with rational expectations, which has a vertical shape. The theory of the New-Keynesians represents a return to the postulates of the Keynesian theory. This return should not be understood as a complete rewriting of the theory, but as the acceptance of certain assumptions and their adaptation to the newly created economic conditions.

## REFERENCES

- Ball, L., Mankiw, G. et al. (1988). The New Keynesian Economics and the Output-Inflation Trade-off. *Brooking Papers on Economic Activity*, No. 1.
- Begg, D., Fischer, S. (2010). *Ekonomija*. Data Status, Beograd.
- Dimitrijević, B., Prašćević, A. (2001). Savremene kontroverze makroekonomske teorije u razvoju Filipsove krive. *Ekonomika misao*, 34(1-2), 119-136.
- Jakšić, M., Prašćević, A. (2006). *Makroekonomska analiza*. Ekonomski fakultet, Beograd.
- Marjanović, G. (2009). *Ekonomске teorije o tržištu rada*. Ekonomski fakultet, Kragujevac.
- Stanković, K. (2009). *Ekonomске doktrine*. Ekonomski fakultet, Kragujevac.

---

<sup>1</sup> Ball, L., Mankiw, G. et al. (1988), The New Keynesian Economics and the Output-Inflation Trade-off, *Brooking Papers on Economic Activity*, No. 1, p. 59.



Book of Proceedings

***RESEARCH ON THE INNOVATIVE CAPACITY OF SMEs IN SERBIA, CONCERNING THE PROTECTION OF INTELLECTUAL PROPERTY***

*Nenad Ravić<sup>1</sup>  
Djordje Spasojević<sup>2</sup>  
Tamara Vesić<sup>3</sup>*

***ABSTRACT***

*Small and medium enterprises are the drivers of the economic development of the country, because they increase the degree and scope of the utilization of economic resources, with a high degree of flexibility and adaptability to new market conditions. Innovations represent one of the key factors in the competitiveness of small and medium-sized enterprises in modern economic conditions. For this paper, empirical research was conducted with the help of a questionnaire. The research was conducted in Serbia in the period from March 2023 to May 2023 on a sample of 54 small and medium enterprises from various industries. The goals of the research are to examine whether and to what extent SMEs in Serbia are innovative, what type of innovations they most often introduce, what are their biggest obstacles in innovating, what are the biggest expenses in innovating, whether they cooperate with partners in the process of innovation development, etc. The paper will also briefly review the protection of intellectual property because when talking about innovations and the development of new technologies, a very important topic is the protection of intellectual property.*

***Key words:*** *Small and medium enterprises, innovations, intellectual property protection*

***JEL Classification:***

***INTRODUCTION***

The SME sector consists of micro, small, and medium enterprises and entrepreneurs. Small and medium enterprises represent the engine of the country's economic development because they employ the majority of the working-age population, and increase the degree and extent of the utilization of economic resources, with a high degree of flexibility and adaptability to changes (Ravić et al., 2021).

In the Republic of Serbia, the sector of small and medium enterprises constitutes 99.9% of the economy, employs almost 2/3 of employees in the non-financial sector, and participates with 33.6% in the GDP of Serbia (Ministry of Economy, Sector for the Development of Small and Medium Enterprises, 2017). These statistical data indicate the importance of the SME sector for the economy of the Republic of Serbia. Also, small and medium enterprises have an important social function, which is reflected in the fact that they absorb the surplus labor force created in the processes of transition and ownership transformation of state and social enterprises (Ravić, Obradović, 2017).

Innovations represent one of the key factors in the competitiveness of small and medium enterprises in modern economic conditions. The subject of research in this paper is the innovative capacity of small and

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, nenad.ravic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, djordje.spasojevic@vspep.edu.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, tamara.vesic@vspep.edu.rs



## Book of Proceedings

medium enterprises in Serbia, concerning the protection of intellectual property. In the first part of the paper, an overview of the literature on the selected topic is given, while in the second part of the paper, there are the results of the empirical research with discussion and comments.

### ***INNOVATIONS AS THE FUNCTION OF COMPETITIVENESS***

One of the biggest challenges in modern business is how to gain and maintain a competitive advantage. It can be defined as the ability of a company to make its offer more attractive in the eyes of consumers than the offer of competitors (Group of authors, 2006). In other words, competitive advantage means that an organization has something that its competitors do not have, that it is better at something than other organizations, or that it does something that others cannot. After all, competition is what brings the desired profit.

Competitive advantage can be gained in various ways, but innovation is one of the most dominant. The development of innovations is necessary for the economic progress of the country. Therefore, for a country to improve its competitiveness, it must develop innovations as the most important long-term strategy instrument (Ivanovic et al., 2022). The advantage of innovation is multifold – it is not only a path to better business, but also a path to better social relations, richer companies, and society. If we remember that innovation is the introduction of new, profitable concepts, applied in Serbia, it means a better life for every individual (Belic et al., 2006). The authors (Stojanovic et al., 2013) promote a similar attitude, stating that organizations “not only create the goods and services we use every day but also, more than any other institution, business organizations influence the quality of our environment, where and how we live.”

Innovations are the main source of growth and development of small and medium enterprises and the knowledge-based economy (Ravic, Gavric, 2016). Knowledge, technology, and innovation play a key role in increasing productivity and developing new products, as well as in creating an organization's competitive advantage (Ravic, Radic, 2015, p. 357). The success of innovation, as a driver of long-term growth and development of the company, has become extremely uncertain due to very strong pressures from the environment, especially in the case of high-risk projects that are based on new technologies and/or implemented in new, unknown markets (Stankovic et al., 2011).

Small and medium enterprises in Serbia that intend to be innovative face numerous barriers and problems such as lack of financial resources, lack of professional staff, insufficiently developed innovation ecosystem that would provide partner support in the process of innovation development, as well as the lack of a stimulating economic environment. To solve these problems, the state must create a development policy and a program to help small and medium enterprises in Serbia use their innovation potential (Nikolic, 2014).

By introducing new or modifying existing products, services, and processes that arise as an output of the research and development process, existing market needs are met, future ones predicted or new ones created (Janosevic, Dzenopoljac, 2011).

Protection of intellectual property In modern business conditions, many companies invest significant funds in research and development. These investments allow them to create new products, develop, and become leaders in the field in which they operate. Thanks to patented innovations, some companies have become industrial giants and pillars of the economy. Intellectual capital is one of the key factors in building the competitive advantage of companies because a competitive advantage based on intellectual capital enables the creation of greater added value to products and services, and thus the long-term development and growth of that company (Miletić, Ristić, Lutovac, 2014).

The field of intellectual property is important for Serbia because it is a signatory to agreements with the most important international institutions of this kind, primarily the World Intellectual Property Organization (WIPO) and the European Patent Office (EPO). It can be said that awareness of the importance of intellectual property protection is still not sufficiently developed in Serbia. For some very



## Book of Proceedings

simple products, a single patent may be sufficient to provide adequate protection. But many products in modern business are too complex to be adequately protected by a single patent. In such cases, the company should approach the creation of a patent strategy that describes the plan for the use of a large number of patents with strategic value in business (Miletić, Ristić, Lutovac, 2014).

A patent is a right recognized for an invention from any technical field, which is new, has an inventive level, and is industrially applicable (Law on Patents, Official Gazette of RS). Patent law protects an invention in the form of a product or process. They are not considered inventions of discovery, scientific theory, mathematical theory, aesthetic creation, and the like, because they have general social significance, benefit, and value (Čović, Nikolić, Čović Ilić, 2019).

When talking about innovations and the development of new technologies, a very important topic is the protection of intellectual property. One of the basic characteristics of intellectual property rights is the rapid development. The protection of intellectual property rights is realized by civil law protection and criminal law protection (Simic, 2015). Criminal-law protection is provided by the Criminal Code of the Republic of Serbia (Službeni glasnik Republike Srbije) and the Law on Organization and Competence of State Authorities to Suppress High-Tech Crime (Službeni glasnik Republike Srbije), and is sanctioned by criminal acts, economic offenses, and misdemeanours.

Innovation is increasingly difficult to protect in the market. The modern patent system plays an important role in this process. The classic role of the patent by which the organization destroys its competition is being lost. The patent becomes a motive for cooperation between companies, all in the common interest – to achieve the defined goals. The approach to the modern market should be holistic. In this sense, the patent is becoming one of the pillars of business cooperation. A patent has a much bigger mission than providing “exclusive rights” to the patent holder, which is to enable further economic and social development. Many companies around the world have already realized this and are adjusting their business strategy (Cvijanovic, Turanjanin, 2020).

### ***EMPIRICAL RESEARCH ON THE INNOVATIVE CAPACITY OF SMEs IN SERBIA***

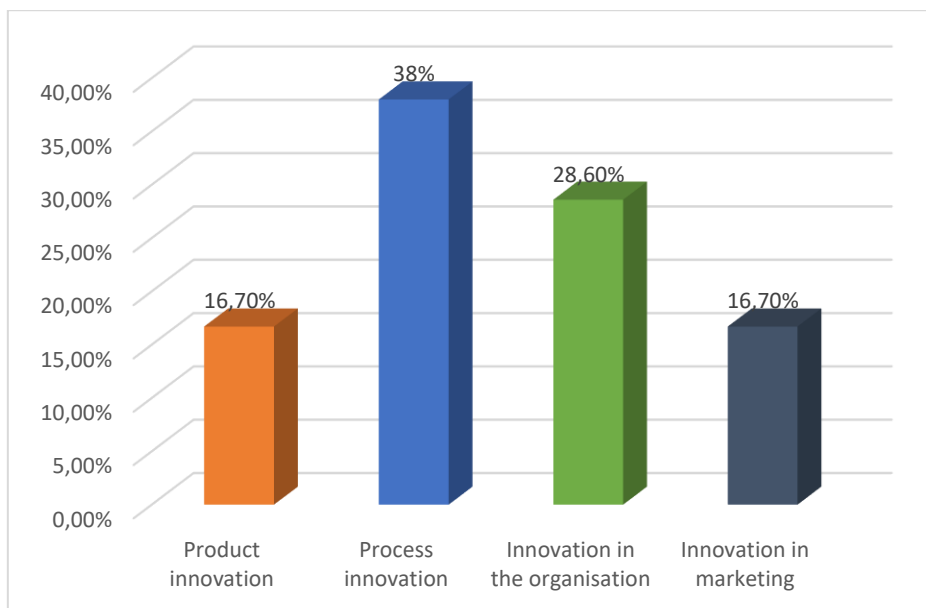
The research was conducted through a survey in the period March-May 2023 on a sample of 54 small and medium enterprises from various industries in Serbia. The questionnaire was distributed to the respondents electronically. Below is a description of the sample and a presentation of the questions and the answers received.

In the structure of respondents, there are 40.7% entrepreneurs, the same number of employees (40.7%), and 18.5% managers. Women make up 59.3% of the sample, while men represent 40.7%. Regarding the age structure of the respondents, the most represented respondents are 35-44 years old, who make up 40.7% of the sample; 22.2% of respondents are under the age of 24; 18.5% of respondents are 25-34 years old; There are 14.8% of respondents aged 45-54, while respondents aged 55 and over makeup 3.7% of the sample.

To the question “Has the business entity where you work introduced at least one innovation in its operations since its foundation until today?” all respondents answered in the affirmative.

To the question “On which markets do you sell your products and services?” 61.8% of respondents indicated that the business entity they work for sells its products and services on the national market; 26.5% of respondents stated that they sell their products and services on the local market; 8.8% of respondents highlighted the regional market, while 2.9% of respondents highlighted the EU market.

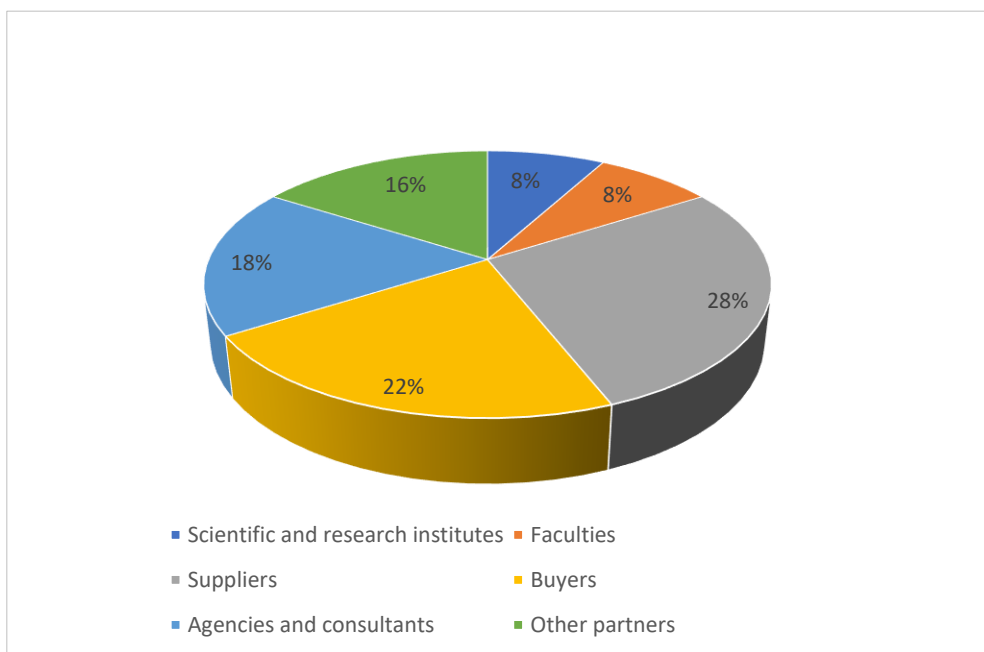
To the question “What kinds of innovations have you implemented in your business obtained data are shown in Graph 1.



Graph 1. Implemented innovations by type

Source: Authors

The issue related to the existence of partners in the innovation development process is very important because the support and cooperation of various entities are necessary prerequisites for a successful innovation process. The answers to this question are presented in Graph 2.



Graph 2. Partners in the field of innovation development

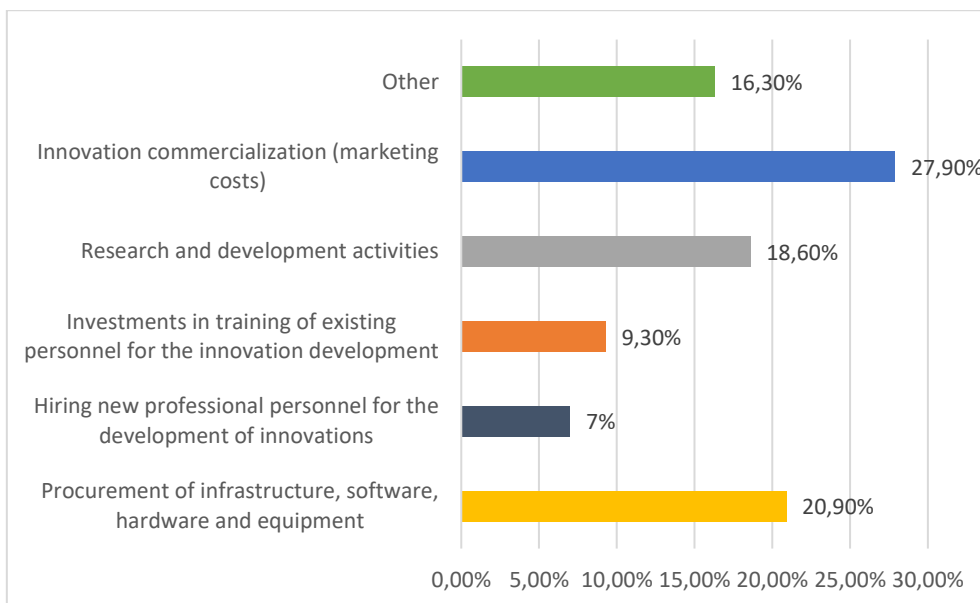
Source: Authors

To the question "What are your biggest expenses in the process of innovation development?" the given answers are shown in Graph 3.





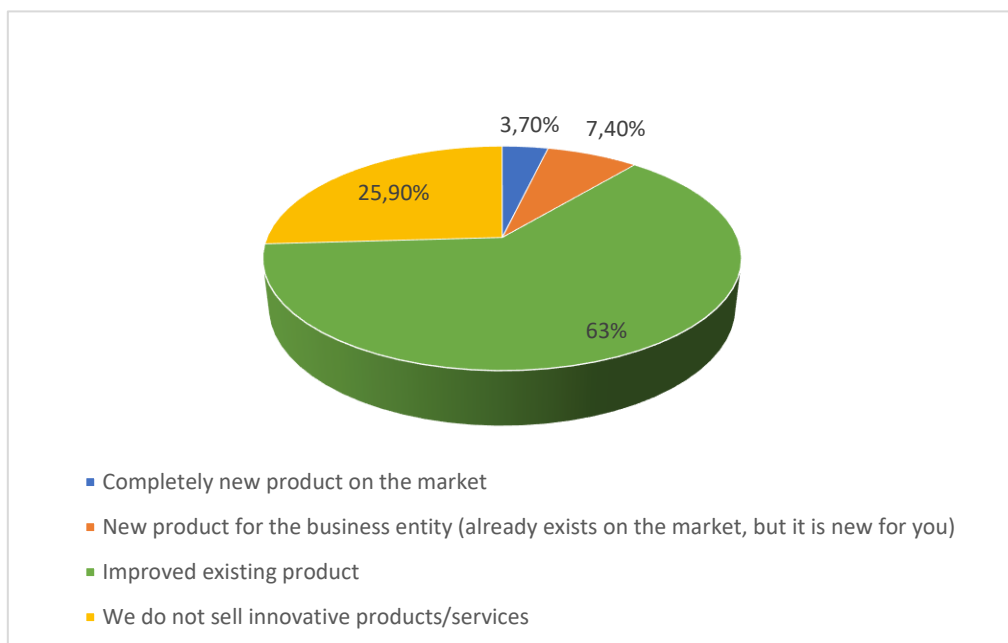
Book of Proceedings



Graph 3. Costs in the process of innovation

Source: Authors

To the question “What kind of innovative product/service brings you the most profit?” obtained data are shown in Graph 4.



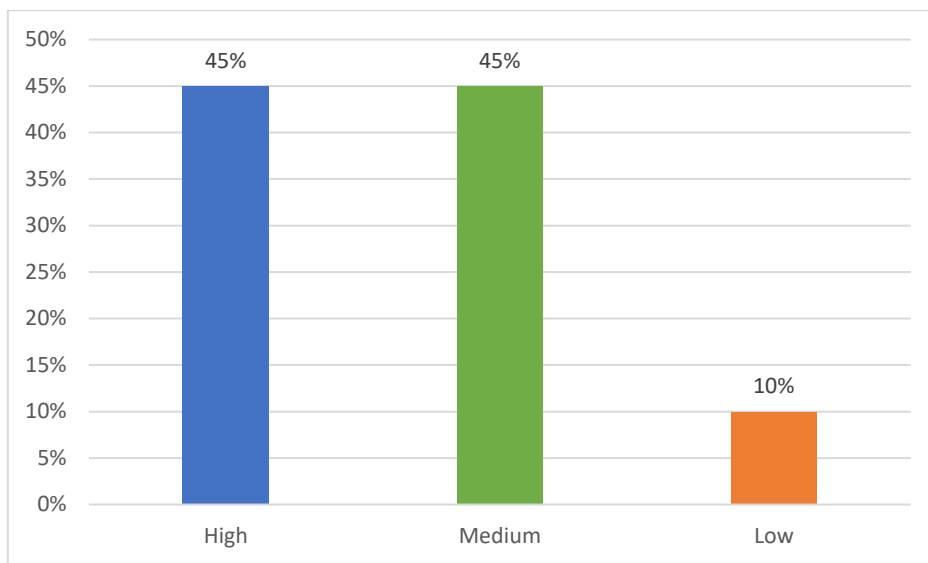
Graph 4. The most profitable innovative products

Source: Authors

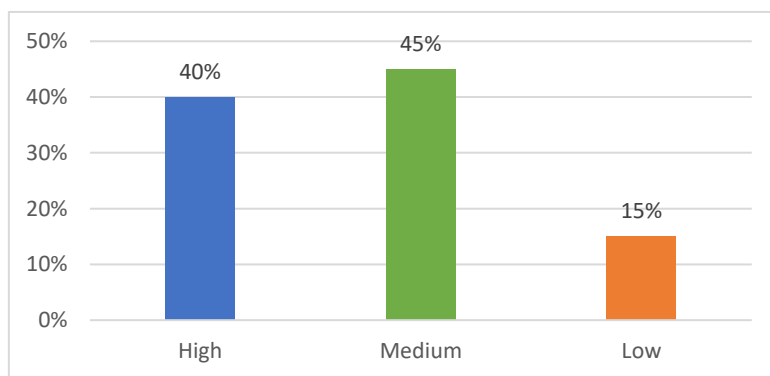
In the final part of the questionnaire, respondents were asked to list the biggest obstacles to the development of innovations and to rate their importance (choosing the options of high, medium, and low importance). The interviewees highlighted the following as the biggest obstacles to the development of innovations: lack of funds, lack of staff with expertise, and lack of partners in the process of innovation development. Graphs 5, 6, and 7 show the importance ratings of the mentioned obstacles.



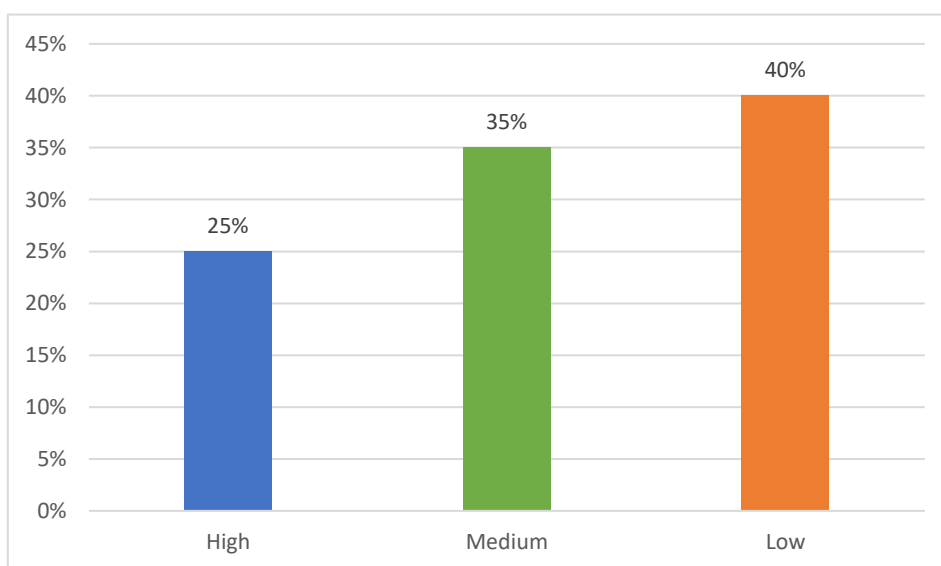
Book of Proceedings



Graph 5. Importance of the obstacle to the development of innovations – lack of funds  
Source: Authors



Graph 6. Importance of the obstacle to the development of innovations – lack of staff with expertise  
Source: Authors



Graph 7. Importance of the obstacle to the development of innovations – lack of partners in the process of innovation development  
Source: Authors



## Book of Proceedings

### *CONCLUSION*

Based on the conducted empirical research and the review of the literature, certain conclusions can be drawn: innovations have an undeniable importance for the competitiveness of small and medium enterprises; SMEs in Serbia strive to be innovative; Among the implemented innovations, the most represented are process innovations; SMEs in Serbia manage to establish a certain cooperation with partners for the development of innovations (among which the most prominent are suppliers, buyers, and agencies and consultants), although this cooperation could be significantly more widespread and developed; The biggest costs in the innovation development process are: the commercialization of the innovation (marketing costs), the costs of procuring infrastructure, software, hardware, and equipment, as well as costs related to research and development activities. The biggest obstacles to the development of innovations are lack of funds, lack of staff with expertise, and lack of partners in the process of innovation development. SMEs working on innovation development should inform themselves about the protection of intellectual property and keep in mind that the modern patent system plays an important role in innovative business.

When talking about innovations and the development of new technologies, a very important topic is the protection of intellectual property. Intellectual capital is very important for building the competitive advantage of companies because a competitive advantage based on intellectual capital enables the creation of greater added value to products and services, and thus the long-term development and growth of that company. Intellectual property is protected by patenting. For complex products, one patent is often not enough to provide adequate protection, but rather it is necessary to develop a patent strategy.

### *REFERENCES*

- Belic, D. et al. (2006). Znanje za uspesno poslovanje III; oružje za poslovne bitke, izabrani tekstovi iz e-magazina – godina III, Beograd: GSM Public Beograd.
- Čović, A., Nikolić, O., Čović Ilić A. (2019). Zaštita intelektualne svojine kao preduslov za unapređenje kvaliteta usluga na tržištu. In: Zbornik radova „Sloboda pružanja usluga i pravna sigurnost“, Kragujevac, 567-586.
- Grupa autora, (2006). Ekonomski rečnik. Beograd: Ekonomski fakultet
- Ivanović, S., Momčilović, O., Fuchs, S. (2022). Impact analysis of human resources and leadership on innovation in small and medium enterprises. *International Review*, 3-4, 67-75.
- Janošević, S., Dženopoljac, V. (2011). Formulisanje strategije istraživanja i razvoja preduzeća pomoću usklađene liste. *Ekonomске teme* (2), 193-217.
- Miletić, A., Ristić, M., Lutovac, M. (2014). Patent kao instrument zaštite inovacija u cilju dugoročnog rasta organizacije. *Tehnika (menadžment)*, 64, 2.
- Ministarstvo privrede, sektor za razvoj malih i srednjih preduzeća (2017). Izveštaj o malim i srednjim preduzećima i preduzetništvu. Beograd
- Nikolic, M. (2014). Inovativnost malih i srednjih preduzeća kao faktor privrednog razvoja Srbije, doctoral thesis, Nis: Faculty of Economics.
- Ravić, N., Đekić, M., Radić, N. (2021). Professionalization of managerial functions in SMEs in Serbia with a special emphasis on the financial function. *Megatrend revija*, 18(3), 71-88.
- Ravić, N., Gavrić, G. (2016). Uloga i značaj inovacija za razvoj malih i srednjih preduzeća u Republici Srbiji. *Ekonomija teorija i praksa*, 8 (4), 47-63.
- Ravić, N., Obradović, I. (2017). Programi finansijske podrške malim i srednjim preduzećima u Republici Srbiji od strane nebankarskih institucija, *Trendovi u poslovanju*, 25-32.



**Book of Proceedings**

Ravić, N., Radić, V. (2015). Značaj inovacija za ostvarivanje održive konkurentske prednosti organizacija. 4th International Scientific Conference "Employment, Education and Entrepreneurship", Book: Challenges of promoting entrepreneurship, leadership and competitiveness, 355-378. Belgrade, Faculty of Business Economics and Entrepreneurship.

Simić, S. (2015). Sudska zaštita prava intelektualne svojine u Republici Srbiji. *Pravo-teorija i praksa*, 32, (1-3), 47-60.

Stanković, Lj., Đukić, S., Mladenović, I., Popović, A. (2011). Unapređenje poslovne konkurentnosti preduzeća zasnovano na inovacijama. *Ekonomске teme*, 4, 559-580.

Stojanovic, T., Djokic, A., Djokic, S. (2013). Organizational behavior- a creative tool for creating value, *International Review*, No.1-2, 74-87.

Cvetanović, S., Turanjanin, D. (2020). Inkrementalne inovacije, prava intelektualne svojine i endogeni ekonomski rast. Knowledge: *International Journal*, 43(1), 76-80.

Sl. glasnik RS, br. 85/05, 88/05, 107/05, 72/09, 111/09, 121/12 i 104/13.

Sl. glasnik RS, br. 61/05 i 104/09.

Law on Patents, Službeni glasnik RS, br. 99/2011.



Book of Proceedings

***ENTREPRENEURSHIP IS THE BACKBONE OF THE  
ECONOMIC GROWTH OF THE NATIONAL ECONOMY***

*Milica Cvetković<sup>1</sup>  
Vladimir Đorđević<sup>2</sup>  
Aleksandar Momčilović<sup>3</sup>*

***ABSTRACT***

*Economic development in economies under the pressure of globalization and transition has led to the restructuring of state and social enterprises, a drop in production, and the dismissal of a large number of workers. Entrepreneurship represents a chance for such economies to develop their economic systems through fast-growing enterprises. The inventiveness of entrepreneurship changes the structure of the economy, and the organization of production, ensuring a better competitive position for the entire economy. The paper aims to draw attention to the importance of this topic in conditions when the whole world is facing a "crisis" of society in material, financial, social, and cultural terms. Every change starts with an individual, and that is exactly entrepreneurship in the economic sense.*

***Key words:*** entrepreneurship, economic growth, production, competitiveness, enterprise.

***JEL Classification:*** O1, L26

***INTRODUCTION***

The modern global society in which we live and do business is characterized by dynamism, and strong competition, but also a high unemployment rate. Despite the large number of unemployed, there is a small number of those who will be encouraged and start their own business. Although many ideas and innovations offer a chance to start and create new jobs, the lack of a positive climate in the form of state incentives has a disincentive effect on the establishment and development of small and medium-sized enterprises.

Entrepreneurship represents a chance for the development of both individual regions and the entire national economy. For it to trace its development path, the support of the entire economy is very important. A prerequisite for the development of entrepreneurship is the development of the economic system of the national economy. The developed institutional infrastructure and stimulating measures that encourage the affirmation of entrepreneurship, as well as the increasing engagement of the state towards the development of dynamic and fast-growing companies, represent significant factors in the development of the entrepreneurial spirit. Dynamic fast-growing companies use their resources most optimally, directing their activities towards a constant trend of employment growth, improving the balance sheet position through quick response to market demands. The essence of entrepreneurship consists in accepting risks and introducing innovative changes.

Entrepreneurship through the sector of small and medium enterprises in developed national economies represents a significant segment of growth, innovation, and employment. Bearing in mind this fact, developed economies systematically approached the encouragement and stimulation of the business

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milica.cvetkovic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, vladimir.djordjevic@vspep.edu.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, 28@gmail.com



## Book of Proceedings

environment with the clear goal of more dynamic growth. The measures taken are aimed at stimulating the inflow of foreign direct investments, and reducing business risks and investment costs, all to revive economic activity.

Numerous studies conducted on the development of entrepreneurship indicate a high interdependence of growth factors and overall economic growth. Dynamic entrepreneurship supplemented the classic division of growth factors into external and internal with additional factors, such as the increase in motivation, abilities, and opportunities. Entrepreneurship is closely related to knowledge and flexibility, as factors that are gaining importance because they represent a source of competitive advantage in an increasingly globalized world. economy, representing the basic asset of the market economy.

### ***CHRONOLOGY OF ENTREPRENEURSHIP***

Historically speaking, after a long period of domination of agriculture and trade, in economic activities, the strengthening of manufacturing production prepares the way for the industrial revolution. Entrepreneurial inventiveness transformed into innovation is rapidly changing the structure of the economy. organized production, in newly opened factories, ensures significantly higher productivity. The development of machine-powered transport (steam engine) accelerates transport and increases the market. The flywheel provided by the industrial revolution in the 19th century changes the economic structure of developed economies. At the same time, the increase in the number of employees in emerging industries has a positive effect on the increase in users of the services of those industries. A significant benefit of traffic development and market expansion is the fluctuation of knowledge and the creation of innovations. Entrepreneurship is becoming more and more present. innovations spread by geometric progression. business allocation brings an even faster capital increase.

Entrepreneurship is the creation of an innovative economic organization (or network of organizations) for profit or growth in conditions of risk and uncertainty. The main characteristics of entrepreneurship are uncertainty, financial risk, experimentation, search, and research. [1] Chronologically, the first signs of entrepreneurship appeared in the 12th century, while theoretical entrepreneurship began to be studied in the 18th century through the teachings of the economist Cantalion. [2] According to Cantolion, the exchange of food and goods, as well as their production in Europe, is run by entrepreneurs at their own risk. There are many different types of entrepreneurs: land tenants, master craftsmen, transporters, wholesalers and retailers, manufacturers of various products, freelancers, and others.

A comprehensive definition of entrepreneurship was given by Schumpeter in 1934, emphasizing innovation and creativity as the backbone of entrepreneurship. According to Schumpeter, entrepreneurs are the backbone of economic development, because they establish new ways of production and a new economic order through new forms of organization and exploitation. An entrepreneur is a dynamic force whose role is to disrupt the economic balance with his innovative behavior. An entrepreneur is an innovator and the main initiator of economic changes, and his main task is creative destruction, while the starting point of entrepreneurship itself is the creation of business innovations. Schumpeter points to the process of separating the function of management from the function of ownership, thereby losing the initiative and interest of the entrepreneur who is the driving force of the economy.

The importance of dynamic entrepreneurship was first analyzed by E.T. Penrose, through the growth theory of the firm which was later transformed into the resource theory. [3]The point of this theory is that competitive advantage is gained through the use of direct resources, which have no substitutes. "As management tries to make the best use of the resources it has at its disposal, a real dynamic and interactive process takes place encouraging continuous growth, but which is limited." Adam Smith ignores the entrepreneurial aspect, pointing out that people are not entrepreneurs. This view of the classical economists continued with the neoclassical ones, in whose models of perfect competition, the concept of entrepreneurship based on risk-taking and innovation did not play a significant role.





## Book of Proceedings

In the XXI century, entrepreneurship implies a creative continuous process, the task of which is to realize successful business through the implementation of innovations and meet the needs of individuals and the entire society. Despite the risk it carries with it in the form of uncertain earnings, entrepreneurship is always aimed at starting business ventures and is always forward-looking.

The change in the industrial structure towards less concentration, greater decentralization, and a more dispersive structure, which the countries of the Organization for Economic Co-operation and Development (OECD) experienced in the period from the mid-70s to the beginning of the 90s of the 20th century, is just one of the indicators of the development and importance of entrepreneurship. Namely, it seems that technological changes, globalization, deregulation, liberalization, changes in labor supply, growth of market fragmentation, diversity of demand, and consequently higher levels of uncertainty have reversed the industrial structure from greater concentration and centralization to less concentration and decentralization.

Today, entrepreneurship is faced with a great challenge, because the environment in which it operates is increasingly complex and turbulent. Technology advances so quickly that it is very difficult to follow its development. A big obstacle for the company to make a profit is the great competition. When a source of profit is discovered, everyone strives to capture that source and exploit it to the maximum. Rivalry is becoming more and more intense because the global goal of every economy is to develop a free market where all business entities, provided they meet the conditions required by the environment, will be able to operate. A business must find ways to deal with all these obstacles. It must develop unique strategies and tactics that will enable it to survive in a dynamic environment.

### ***THE ECONOMIC IMPORTANCE OF ENTREPRENEURSHIP***

National economies that have managed to develop entrepreneurship have high growth rates of gross domestic product. At the regional and local levels, entrepreneurship contributes to the growth of employment, income per capita, and the competitiveness of the local economy. Regions with a high volume of human capital are also characterized by a high volume of entrepreneurial capital, most often measured by the share of the number of newly founded companies in the total number of companies or the total number of employees.

The importance of entrepreneurship for economic growth and development can be seen through the analysis of entrepreneurs and factors that determine an individual to become an entrepreneur. An individual's decision to become an entrepreneur also depends on the earnings that he can make. In addition to the salary, an individual's decision to become an entrepreneur is influenced by education, radon experience, family, and business environment.

The development of entrepreneurship can contribute to the economic progress of the community in the following ways:

- Introduces new products and creates new jobs;
- Initiates and changes the business structure;
- Commercializes innovations;
- Stimulates economic growth;
- Enables distribution of greater wealth to a greater number of participants;
- Contributions to the progress of society;
- Contributes to the development of the area. [4]

As a parameter connecting capital and economic growth, the concept of "entrepreneurial human capital" is represented in economic theory, which includes knowledge, abilities, and skills, but also the ability of entrepreneurs to commercialize their idea through the recognition of market opportunities. Economic growth models define innovation, new technologies, and entrepreneurial capital as keys factors in improving economic performance at the national, regional, and local levels. The explanation for connecting



## Book of Proceedings

entrepreneurship with economic growth is reflected in the recognition of entrepreneurship as an instrument for transforming the knowledge, skills, and creativity of individuals into economic knowledge that can be commercialized within economic entities.

In addition to influencing the development of the economy, entrepreneurship also carries with it social responsibility. Socially responsible business brings with it positive results not only in terms of financial benefit, but its integral part is the donation of funds for humanitarian purposes and the development of the local community. The success of every entrepreneurial idea is the success of society as a whole. Employee safety, consumer satisfaction, as well as a favorable economic environment are related factors in the development of the economy of each country.

### ***ENTREPRENEURSHIP IN THE REPUBLIC OF SERBIA***

The economic environment of the Republic of Serbia is strongly influenced by the period before the beginning of the process of transition, neoliberalism, and world crises. Despite the impact of negative factors, the Republic of Serbia managed to increase GDP per capita, observing from 2000 onwards. What represents a stumbling block is the unfavorable economic environment. The environment that will stimulate the development of entrepreneurship is influenced by all elements of the entrepreneurial system, starting from state policy, regulatory framework, institutions, finance, culture, education, human capital, and local and global markets.

A homogenous entrepreneurial class has not developed in the domestic economic environment, but entrepreneurs represent disparate social groups that have different, even opposing economic, ownership, political, and other interests. Starting from the fact that the basic characteristics of entrepreneurship are the entrepreneurial spirit, entrepreneurial organizational culture, and creativity, it is of fundamental importance how successful Serbia has been in creating an appropriate climate that supports entrepreneurial values. [5]

*Table . 1: Entrepreneurs in the Republic of Serbia 2018-2020*

Year	Entrepreneurs	Number of employees	GDP per employee (in thousand RSD)
2018	272.969	271.721	674
2019	288.308	276.529	740
2020	298.279	272.446	730

*Source: <https://publikacije.stat.gov.rs/G2022/Pdf/G20226002.pdf>*

Small business is a development opportunity for the Republic of Serbia because it implies a high degree of adaptation to changing environmental factors, a high level of dynamism in growth, as well as the possibility of faster and better identification of the target market.

The report of the European Commission for the Republic of Serbia indicates that access to finance, together with high parafiscal charges, is the biggest obstacle to the development of entrepreneurship. It is suggested to improve the predictability of the business environment, including the continuation of the so-called "guillotines of regulations" as well as continuing to provide support programs for small and medium-sized enterprises, with an emphasis on the necessity of reducing the costs of access to finance. An important factor in the development of entrepreneurship is the younger population, who with the necessary qualifications and skills can stimulate economic growth and reduce unemployment.

Entrepreneurs are the driving force behind the revitalization, transformation, and development of business activity in the world, because they ensure the constant birth and development of new business ventures, thereby enabling the vitality of the market economy. The method of achieving positive results for entrepreneurs in modern business has not changed significantly. Innovation, acquisition of new technologies, development, and allocation of organizational resources are still paradigms of successful



## Book of Proceedings

business today. Today, technology is a resource of the greatest importance for many organizations. The successful business of an entrepreneur is unachievable without adequate competitiveness in the market. Modern technological shifts require entrepreneurs to constantly monitor and apply new technologies. Firms have a successful competitive profile only if they offer new, better products and services at a lower price, which is exactly what the market and consumers are looking for. [6] It is important to note that in modern business, the importance of human capital is more important than ever. "Human capital is the most important factor in the adoption or creation of one's ideas and knowledge, and the basic form of its formation is education, developed countries of the modern world allocate significant funds for this purpose, and the share of expenditure on education in the structure of the gross domestic product of these countries is very high. What value individual components of human capital will have in a certain country is largely determined by the level of its economic and social development." [7]

The development of the tertiary sector and a lot of emerging industries in its content could not happen without trained and educated human capital. So we are no longer talking about the labor force but about human capital. An entrepreneur who operates in the IT industry, marketing, consulting, banking, stock exchange, and design industry is certainly not a labor force but human capital. A huge number of entrepreneurs achieve a greater financial effect with their clever work than some production facilities.

In the process of developing entrepreneurial behavior in the Republic of Serbia, it is necessary to go in several directions to improve the business environment to make it easier for existing and future entrepreneurs to do business, which includes several elements, namely:

- Creating a legal framework for a faster and easier business process for entrepreneurs, as well as for young entrepreneurs,
- The existence of a strategy for the development of the concept of youth education among young people,
- Credit support for starting your own business,
- Stimulative measures for the implementation of the quality management system,
- A more active role of universities in helping entrepreneurs,
- Launching more business incubators and business centers,
- Promoting the entrepreneurial concept as a way of overcoming problems in the transitional recession. [8]

The Republic of Serbia cannot rely on foreign direct investments as a generator of economic growth, which is what happened to transitory economies upon joining the EU. Slovenia, the Czech Republic, Slovakia, and Romania made a significant amount of foreign investments in the form of greenfield and brownfield investments, but in addition, they withdrew, and continue to withdraw, a large amount of money from EU funds to stimulate entrepreneurial projects. At the moment, Serbia cannot count on EU funds intended for the development of entrepreneurship. Therefore, the task of the state today should be directed towards creating the necessary conditions for economic activity - predictable rules of the game, educated people and the necessary infrastructure, because it only operates in strategic or socially sensitive areas. sectors. The Republic of Serbia must work on measures to achieve economic development. When we talk about entrepreneurship, in addition to human capital, we must emphasize the need for two more state measures in the strategy of increasing economic development.

"Technological progress can have a significant impact on economic growth and development." Increasing investment in research and development leads to the creation of new technologies and products, which can increase efficiency and productivity. Improving the business environment: Improving the business environment, such as simplifying administrative procedures, reducing red tape, and fighting corruption, can attract more investment and bring more productivity." [7]

Human capital, technological progress, and a favorable business environment are the basis of developed modern economies. The interdependence of human capital and technological progress should not be emphasized because they do not work without each other. The business environment also significantly affects growth and development directly by stimulating entrepreneurs in developing their ideas or otherwise



## Book of Proceedings

discouraging them from doing business. As already mentioned, the European Commission suggested a problem in the business environment. The Government of the Republic of Serbia must recognize this as a priority. Modern business has changed significantly compared to that of a couple of centuries ago. Successful entrepreneurs from that time would not be nearly as successful today if they did business with the way of doing business at that time. Let's remember that back then, the focus was on accumulation and not on investment. Cost reduction, where the emphasis was on labor costs, and now investments are made in human capital.

„The goal of every economy is market growth, especially modern economies that are forced to rapidly deal with changes, either due to the development of science, or due to hyperproduction and the rapid growth of the number of entrepreneurs, and therefore competitors. Competition encourages innovation and creativity, it does not allow respite and lag, as this can lead to disastrous consequences for entrepreneurs.” [9]

The high unemployment rate, which is characteristic of the economy of the Republic of Serbia, represents a chance for the development of entrepreneurship and economic prosperity. Small and medium-sized enterprises are precisely the generator of the development of the national economy, and as such they can be the main carriers of innovation, a source of employment, and a direction towards inclusion in international trade flows.

## CONCLUSION

The Government itself and a large number of State institutions have many answers to the further development of entrepreneurship in Serbia. It is necessary to move from the declarative attitude of support to the practical implementation of support for the development of entrepreneurship. Certainly, we do not propose to give up on private housing investments, but on the contrary, we support their presence. But we must note that favoring the "big" entrepreneurship considers it to be an auxiliary or "second-class" business entity. Because of the above, we are proposing an increase in the assistance program for domestic entrepreneurs. As the very concept of entrepreneurship is related to risk, the Government must find a way to mitigate it or, strange as it sounds, not to increase it. Let the "guillotine of regulations" be implemented once and part of the parafiscal levy is abolished. It is also necessary to stop as soon as possible the negative practice from the past, which is present at all levels of government, where the state administration has no understanding of the entrepreneur. An entrepreneur, unlike a civil servant, achieves his existence with his inventiveness, knowledge, own capital, real information, and on the open market. It is the entrepreneur who creates new jobs and influences economic growth. The latter is still quite modest, but it can only increase by increasing the number of entrepreneurs.

## REFERENCES

- Cantillon, R. (2010). *Essay on Economic theory*. Ludwig von Mises institute, Alabama.
- Đorđević, D., Čočkalović, D., Bogetić, S. (2010). Preduzetničko ponašanje kod mladih. *Economic Themes*, 68(3), 467-479.
- Hisrich, D. R., Peters, P. M., Shepherd, A. D. (2011). *Preduzetništvo*. sedmo izdanje, prevod. Mate Zagreb.
- Ilić, Đ. (2018). Razvoj i mesto preduzetništva u privredi Republike Srbije. *Trendovi u poslovanju*, 6(1), 1-10.
- Momirović, D., Cvetković, M., Đorđević, V. (2023). *Privredni sistemi i ekonomska politika*. Visoka škola za poslovnu ekonomiju i preduzetništvo, Beograd.
- Penrose, E. T. (1959). *The Theory of the Growth of the Firm*. Oxford University Press, Oxford.
- Pokrajac, S., Tomić, D. (2008). *Preduzetništvo*. Alfa-graf NS, Novi Sad.



**Book of Proceedings**

Radosavac, A. (2013). *Preduzetništvo kao faktor razvoja agroprivrede Republike Srpske*. Poljoprivredni fakultet, Univerzitet, Novi Sad, 2013.

Republički zavod za statistiku Republike Srbije. (2022). Available at: <https://publikacije.stat.gov.rs/G2022/Pdf/G20226002.pdf>

Šormaz, G. (2021). Značaj preduzetništva i inovativnosti za ekonomski razvoj Republike Srbije, *Trendovi u poslovanju*, 18(2), 30-39.



Book of Proceedings

***CODEPENDENCE OF THE DEVELOPMENT OF SELECTIVE TOURISM, ORGANIC PRODUCTION, AND THEIR FINANCING***

*Milan Beslać<sup>1</sup>  
Vladan Cogoljević<sup>2</sup>  
Slavoljub Vujović<sup>3</sup>*

***ABSTRACT***

*Tourism represents one of the fastest-growing economic branches. Selective tourism has developed in recent decades as part of tourism as a financial branch. Particular tourism has many forms, among which the most important are rural tourism, city tourism, congress tourism, ethnic, eco-tourism, educational, sports, health, recreational, spa, nautical, adventure, hunting, cycling, and biker; archaeological, research, heritage tourism, and urban tourism. The fundamental human right is a healthy living environment and safe and healthy food. These rights can be secured by balancing the need for healthy and safe food for all of humanity (about 8 billion people) and maintaining a healthy environment. One way to achieve this balance is to produce organic food. Despite adopting valid regulations in the Republic of Serbia, the financing of ethnic and eco-tourism and the production of healthy and safety-correct food is not adequately financed; these activities will not achieve this despite the potential high growth.*

***Key words:*** *sustainable agriculture, production organic food, ethno-tourism,eco-tourism.*

***JEL Classification:*** *O13, Q00, Q19, Z39*

***INTRODUCTION***

The movement of people, i.e., traveling from one place to another, is a phenomenon that is related to the oldest epochs of human development. This movement through different eras had different goals, such as providing food and other existential needs to trade (silk road), research (sailors), then sports, diplomatic, health, cognition, etc. (Vujovic et al., 2012). However, until the industrial revolution, these movements could not be considered tourism as we understand it today. Today, tourism as a branch of economic activity is indisputably a crucial element of the economic development of any country since it influences from an economic, sociological, and ecological point of view. It contributes to substantial changes, both in domicile and foreign countries, but also has a significant positive impact on local economic development, education, employment, and the development of agricultural and, more recently, organic production. Tourism represents a service economic activity that is not independent but consists of several activities, among which the most important are: tourist (travel) agencies, traffic, trade, catering (accommodation and food), handicrafts, and agricultural, i.e., organic production.

Most often, tourism is understood as a trip with the aim of rest, recreation, getting to know unknown destinations, cultural-historical monuments, natural beauties, customs, and ways of life of other peoples, other cultures, as well as other ways and types of food and similar things, but always of limited duration. This trip can be within the domicile country and to other destinations in foreign countries. The World Tourism Organization (UNWTO) defines the term tourist as people who travel and stay in places outside

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milan.beslac@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, vladan.cogoljevic@vspep.edu.rs

<sup>3</sup> The Institute of Social Sciences, kelovic1967@yahoo.com





## Book of Proceedings

their place of residence for at least eighty kilometers for a certain period, but not longer than a year, for entertainment, business, or other reasons. The League of Nations also dealt with the issue of tourists in 1936., which defined a foreign tourist as someone who travels abroad for a minimum of 24 hours, and in 1945. the United Nations added to this definition that such travel abroad could last a maximum of 6 months.

In 1941., Hunziker and Krapf viewed the phenomenon of tourism and tourists as people moving from a permanent residence to a specific place where they neither live nor work. The International Association of Scientific Experts Tourism (AIEST) defines tourism as special activities chosen by the personal choice of specific people or groups outside their domicile. The phenomenon of tourism was dealt with by the United Nations in 1994. Thus, they divided tourism into three forms or three classifications. The first form is Domestic tourism, which implies that residents of a country travel to destinations only within their own country. Another form is inbound tourism, which involves non-residents traveling to a particular country. The third form is outbound tourism, which means residents travel to other countries. From such classifications, i.e., forms, it is evident that outbound and inbound tourism means residents who travel to other destinations outside their home country; the only difference is from which point of view the movements of residents are observed - whether it is about residents who come to another country or residents who they go from one country to another. The United Nations has modified the International Association of Scientific Experts classification so that under internal tourism, it means domestic and inbound tourism, then under national tourism, which means inbound and outbound tourism; and under international tourism, it means inbound and outbound tourism. William F. Theobald (2004.) states that the term tourism comes from the Latin word "tornarer" and the Greek word "tornos", which are interpreted as movement around an axis or movement in a circle. Thus, tourist movement represents movement in a loop where tourists leave from one point of departure (place) and return to that same point, i.e., the home of release, after a certain period. According to Unkovic, the word tourist comes from the English word tour," which means the pleasure of traveling with a stay in different places" (Unkovic, Zecevic, 2019.).

All the above explanations have distinct differences, but what is common to all causes is that tourism refers to the movement of people from their place of residence to another destination (domestic or foreign) for various reasons, to stay in that destination for a certain period where they do not perform a specific activity and to return to their place of residence after spending time in one or more goals.

Since tourism represents a stay outside the residence, it can be internal (within the country of residence) or international (in other countries). In current conditions, tourism is given a lot of attention. In many countries, it is a significant economic branch that generates a substantial part of GDP and foreign exchange reserves. For many countries in the world, tourism is the most fundamental source of income. However, tourism is not only important as a source of income for individual countries, but it has an impact on the social, cultural, educational, and economic sectors within a country, but it is also a significant factor in international relations and cooperation between different countries. The impact of tourism on local economies is multiple positive, which is reflected in the sale of goods and services at the "threshold." Still, at the same time, it also affects employment, increasing economic growth and development, the resident population's education, and the production of agricultural products - organic food, souvenirs, presentation service of domicile cultural and other sights, historical monuments, and other natural beauties. The main goal of this work is to perceive and gain the importance of tourism as the fastest growing economic branch, but also to pay attention to selective forms of tourism such as ethnic and eco-tourism and their mutual relationship with organic products from the point of view of growth, development, and financing.

### ***HISTORICAL DEVELOPMENT OF TOURISM***

According to some data, leisure and tourist travel started three hundred years ago in England. They were young rich Englishmen with noble pedigrees who traveled through France and Italy. Since they owned huge funds during the so-called "Wanderings" in France and Italy and bought valuable works of art, but at the same time, they appropriated local customs and habits. Leisure travel began with the industrial



## Book of Proceedings

revolution in Great Britain, and the owners of manufacturing plants, wealthy merchants, and owners of factories and other industrial facilities traveled. Their most frequent tourist destinations were France and Italy. Tourists of that time traveled to acquire new knowledge and get to know different cultures, which is why the most frequent destinations were cities such as Paris, Rome, London, London, Venice, Florence, then the Cote d'Azur, the Alps, and other exciting places. Such trips were, as a rule, obligatory for the wealthy classes of the inhabitants of Europe, and these trips raised their reputation. These trips were talked about, written about, and often kept in diaries and other notes (Vujovic et al., 2012.). These documents are essential today as historical material for researchers investigating tourism development, types, and characteristics. The first excursion was organized by Thomas Cook in 1841 by railway with 540 activists. Later he organized a tour to France, Switzerland, Italy, Egypt, USA. Cook achieved enormous success with these excursions. Interestingly, these tourist trips were one-time and one-year.

However, the last quarter of the previous century led to significant changes in tourism development, which is still developing in the first quarter of the XXI century. Therefore, tourists no longer use one or two longer passive vacations (3S-Sun, Sand & Sea). Still, they are interested in and use several shorter leaves in different destinations, and on that occasion, they express and practice many various activities. Such interests of tourists and their demands contribute to the emergence and development of many selective forms of tourism. "The basis of modern tourism is a rich, diverse and differentiated offer of various selective forms of tourism that meets increasingly discerning and complex tourist needs" (Hrabovski - Tomic E. 2010.). Tourists in current conditions want to satisfy an increasing number of their needs and interests. Tourism is an economically very important branch at the global and local level that is constantly evolving (Baltezarevic et al., 2022).As a result of the new tourist requirements, needs, and interests, the segmentation of the tourist markets inevitably occurs, which further leads to the creation of specialized "market niches." Specialized "market niches" create selective forms of tourism, i.e., tourism of unique purposes and interests. Therefore, modern tourism is no longer dominated by 3S tourism but by those attractions that were secondary or tertiary in this form of tourism. So, Jenkins (1992.) states that 3S mass tourism providers are increasingly devoting themselves to creating and developing a smaller but special tourist offer while developing their brand, image, and identity. Thus, tourism of small niches becomes the introductory offer of very different tourist destinations according to the wishes and interests of tourists.

Depending on the types of interests and attractions tourists want to use, theory and practice have developed many selective or thematic types of tourism. The group of particular, i.e., thematic, includes, among others: ethnic, eco, and rural tourism, then educational, sports, health, recreational, spa, nautical, adventure, hunting, congress, cycling and biker, archaeological, research, heritage tourism, urban and date tourism, etc. It should be noted that with the development of new interests and the increase in the purchasing power of tourists, the number and selective or thematic types of tourism increase yearly. In the professional literature, there are different names for the same or similar forms of particular tourism. Regardless of their content, other authors define them differently, and it will probably not be easy in the professional and scientific sphere to reach a consensus on how certain forms of selective or purposeful tourism are accurately named.

### ***SELECTIVE TYPES OF TOURISM***

Constant changes in tourist demand cause changes on the side of tourist offers on such a scale that completely new forms of tourist offers appear. In the literature, most tourism theorists consider new forms of tourism as new forms of tourism. As exciting selective forms of tourism compatible with the principles of sustainable development, tourism of special interests and organic productions are ethno, eco, and rural tourism. Special Interest Tourism is a form of tourism in which the focus is on activities attractive to smaller groups of tourists (most often families) who want to visit new tourist locations and authentic places and achieve a unique experience. These are tourist trips whose primary motive is the realization of a particular interest and enjoyment of it, which can be a hobby, an activity, a topic, or a destination; that is,



## Book of Proceedings

a form of tourism that includes consumers whose choice of a tourist trip is prompted by a specific motivation, and the level of satisfaction determines the realized experience. Special interest tourism occurs when tourism is divided according to the specifics of the stay into smaller segments of the tourist market (so-called market niches) within a particular theme, i.e., specific, particular, selective or alternative forms of tourism, which are marked by their primary tourist motive (specific tourist interest). Tourists of specific interests demonstrate a desire for authenticity and an experience that differentiates them from mass tourism proponents. These tourists are motivated by the desire to pursue a particular interest, hobby, or other activities, which is supported by the fact that 77% of tourists believe that their vacations include visits to learn about local culture, traditions, and gastronomy. Gastronomy is based on local and traditional food products prepared from organic products. Special interest tourism focuses on the sustainability of the tourist destination and maximum satisfaction of the needs and wishes of tourists.

### ***ETHNO TOURISM***

The development of tourism, for different many other economic activities, is conditioned by the quality of the environment (Milicevic et al., 2022). It is a well-known fact that the culture of a region is one of the basic resources which acts as an attractive factor in tourism (Curuvija et al., 2021). Ethno tourism emphasizes preserving national identity, folklore heritage, nurturing local crafts, local old-time gastronomy, traditions, customs, etc. Through animation programs, as an integral part of the tourist offer, a more meaningful tourist stay in a particular destination is realized. The preparation and implementation of thematic events promoted cultural heritage (heritage, cultural-historical monuments), folklore characteristics (music, costume, customs, games), gastronomic aspects (traditional culinary specialties produced from organic products and standard drinks), traditions and customs (old crafts), and other cultural-ethnological specifics. The authentic traditional ambiance of the ethnic village, modern facilities, and numerous accompanying activities and services represent unique and unique tourist complexes intended for relaxation where you can feel the spirit of the past. Ethnic tourism tourists can pick medicinal, organic, and spicy herbs, organic fruits, and vegetables, taste freshly prepared food, and participate in its preparation. Also, it is significant for this type of tourism that tourists can decide what food they will consume and at what time without time limits, as in hotels or other mass tourism.

### ***ECO TOURISM***

It is undeniable that tourism as an economic branch has significant positive effects that are reflected in financial results, employment, education, production and use of agricultural products, production and consumption of organic products, traffic, services of tourist organizations, etc. Along with all these positive effects, tourism also has opposing sides, primarily reflected in the environmental threat. It is believed that every day an average tourist leaves behind 1 kg of solid waste, which means that all tourists leave behind about 200 million tons of solid waste every year (how much waste is left in Hyde Park and Ada Ciganlija in Belgrade during the May Day holidays). This amount of waste represents an excellent danger for plant and animal life and through the food chain for humans. The environmental threat increases since tourists often use more resources than they need (Hrabovski-Tomic, Katic, 2010).

To neutralize the harmful effects of tourism in nature, eco-tourism as a particular form of selective tourism has recently been increasingly strengthened. The importance of eco-tourism was noticed by Miller as early as 1978 (Miller, 1978). He used this term as part of the activities related to the infection of national parks. Eco-tourism, i.e., ecological tourism, means a responsible tourist trip to new natural resources to enjoy them and all other natural, national, and cultural features that result in socio-economic benefits for the local population (Ceballos-Lascurain, 1996). This form of tourism promotes the protection of the environment, and as a result, there is an insignificant negative impact of visitors on the environment and enables the



## Book of Proceedings

valuable and active socio-economic involvement of the local population, i.e., it respects the protection of the environment, ethics, sustainability, education and substantial benefits for the local population. It is a form of tourism in which ecologically conscious individuals and smaller tourist groups (eco-tourists) participate, whose actions reduce the adverse effects on the environment created by the so-called mass tourism. In principle, eco-tourism means traveling to natural destinations. Still, at the same time, it builds environmental awareness, respects and respects local cultures and sights, contributes to strengthening economic development and provides financial support to the local population, encourages employment, and, most significantly, contributes to the preservation of the environment. Eco-tourists are usually small groups of tourists who aim to enjoy a healthy living environment, local landmarks, and traditional local gastronomy on their vacation but gain experience and knowledge about all local peculiarities. Eco-tourism represents a destination that must be a protected or monitored territory. This territory must contain heritage subjects that can be both natural and cultural. It should be pointed out that cultural tourism is directly related to eco-tourism because ecological trips that involve visiting certain cultural zones or particular communities that live and survive in harmony with nature do not aim only at passive acquaintance but active participation in those zones and districts. A specific link between eco-tourism and cultural tourism is the simultaneous interest of tourists in the natural environment and its specificities, the cultural values of those destinations, and traditional gastronomy and organic food. Although eco-tourism and cultural tourism are directly related, they still represent two types of tourism. The main difference between these two types of tourism is the motive of the tourists that leads them to a specific destination. Is the reason for visiting and traveling to a natural, healthy living environment with all its peculiarities, or is the motive of traveling visiting and touring cultural, historical, and other sights?

### ***DEVELOPMENT OF SELECTIVE TOURISM, ORGAN PRODUCTION, AND THEIR FINANCING***

It is known that the number of people in the world is constantly growing. According to the data of the United Nations, about 8 billion people [ <https://www.worldometers.info/world-population/>] live in the world today. Due to the excessive use of pesticides and herbicides (Tasic, 2018), there needs to be more nourishment in the country, but also problems related to preserving a healthy environment and producing healthy food certificates. The fundamental human right is the right to a healthy environment, which implies that the same person does not damage it, does not pollute it, and does not do anything that makes it unsuitable for his life, but also for the life of plants and animals. Everything that connects man with his production and life activity represents the environment (Hamidovic, 2012). As a conscious being, man is responsible for protecting the environment, but this is where the problem of balancing economic needs and ecological requirements arises. (Jović et al., 2019) points out that this balance is achieved by applying the concept of sustainable development. This concept implies necessary and acceptable economic activities and desirable and necessary environmental practices.

The main goal of this paper is to point out the connection between the development and financing of ethno- and eco-tourism and organic production as production that does not endanger the environment. Human survival without food, that is, agricultural production, as one of the existential needs, is not possible (Subić J et al. 2010). That is why agricultural production is viewed through the prism of sustainable agriculture, and its content depends on whether ecological, economic, or profitability aspects are the focus of observation (Jankovic et al., 2022). Nevertheless, it should be borne in mind that these aspects should not be considered individually and separately because they are interconnected and intertwined. Therefore, sustainable agriculture has the fundamental goal of providing enough correct and health-safe food for all of humanity while protecting the environment and the entire ecosystem from adverse impacts.

Today, the need for health-safe food for humans and animals is growing globally. Such food is undeniably provided by organic production. Organic food production applies such methods and procedures that protect the environment, i.e., all existing resources are socially acceptable, and what is very important is





## Book of Proceedings

economically sustainable, and most importantly, provides healthy and safe food for human and animal consumption. During the production of organic food, the best ecological practices are applied, all natural resources are preserved and protected, which are limited and which are not limitless, and natural biodegradable substances are used that are not dangerous for the health of animals and people and that cannot be damaged or damaged through food chains—people's health. Organic products are produced in volume and types according to the wishes of consumers, which is directly related to ethnic and eco-tourism. It has already been pointed out that ethnic and eco-tourists travel to desired destinations, among other things, for traditional gastronomy, which implies using healthy organic food according to their wishes and needs. It is vital that "organic production excludes the possibility of using genetically modified organisms in crop or livestock production and thus excludes the possibility of reaching products for human consumption via the food chain (Beslac et al., 2022). It should be emphasized that the organic production system seeks to establish a closed circle of plant and livestock production and products for human consumption. Conventional production implies high yield and profit, and organic production balances several elements, such as land, plants, animals, and people. The balance between the earth, plants, animals, and people ensures preserving a healthy environment. Various pesticides and herbicides do not contaminate these plants; finally, most importantly, healthy and health-safe food is produced. At the same time, the balance of the entire living world, natural cycles, and the ecological system is achieved, which man does not negatively affect with any of his activities. In terms of achieving the balance mentioned earlier, producing organic food that is healthy and safe for animals and people worldwide is gaining more and more importance. Organic food production is vital and ethno- and eco-tourists are interested in it.

It is undeniable that organic production, compared to conventional production, requires much more manual work, which results in higher product prices. However, if you consider the quality of organic products and their health and safety compared to conventional products, then that higher price is not a reason for not using organic products. Of course, here, you should always have the vision and payment possibilities of the consumer. It is also essential to keep in mind that the price of organic products will be higher as long as it is not produced in large areas where conventional production is grown today, which involves various pesticides and herbicides. Cleaning the soil from the long-term use of pesticides and herbicides requires a more extended period and a complete change in agricultural policies (Beslac, Ćorić, 2017). Tourism as an economic branch, especially eco and ethnic tourism, which have the most significant growth potential (Vujovic et al., 2018), encourages the development of organic production. The development of these types of particular forms of tourism creates the conditions for the return of people from urban areas to villages and, thus, the revival of villages and their further development (Vujko et al., 2012). Nickerson et al. (2001) indicate that ethnic- and eco-tourism rely on raising the awareness of residents from urban destinations and their needs for a variety of vacations, escaping to peace, a natural and healthy living environment, the need for gastronomic specialties prepared in a traditional way and very different possibilities for recreation without time limitation. It is essential for ethnic and eco-tourism that their development results in preserving family and family values. It is not unknown that the family, as the primary cell of society (Račić, Baltezarević, 2022), is becoming increasingly alienated after the arrival and use of new technologies, primarily the Internet and social networks. Traditional positive family values are being lost. However, since ethno and eco-tourism are, in fact, the most common type of family tourism, family values are renewed within one family, but also among different families that meet at eco and ethno destinations. In the same way, the providers of services to ethno- and eco-tourists are complete families, as well as other families that do not engage in tourism but produce organic food, renewing and developing traditional family values, thus eliminating alienation. The mutual interaction of hosts and guests humanizes relations between families. These types of tourism showed all their positive effects and contents during the Covid-19 pandemic (Vesic, 2021) and the complete closure. In the eco and ethnic destinations, there was no mass illness and infection with the Coronavirus, but only individual cases, so there was no need for any isolation and restriction of movement. After that, all resources were available. The importance of ethnic- and eco-tourism is multifaceted because it employs the local population, provides guests with correct and health-safe food, has no negative impact on the environment, and provides tourists with an active vacation. For this reason, it is viewed as an "experience economy" (Stojanovic, 2016).



## **Book of Proceedings**

The Republic of Serbia has very favorable conditions for the development of ethnic- and eco-tourism as well as for the development of the production of organic products because it has vast rural areas that are not polluted by any industrial waste or pesticides and herbicides used in conventional production. Small agricultural farms in rural areas are increasingly opting for selective tourism but also for producing organic products to meet their guests' wishes and needs. However, the financing of these activities is at a different level than the required for accelerated growth and development of these activities.

### ***MATERIALS AND METODS***

Considering this work's primary goal, standard research methods such as analysis and synthesis, induction, and deduction as description methods were used when processing this topic. These methods are utterly relevant since the paper's content is based on the relevant available literature and official documents. A selection and analysis of available literature and specific previous research on this topic were conducted during this research. In addition to the analysis, synthesis, deduction, induction, and description of the available literature, the authors additionally carried out field research. The lack of field research is an insufficiently large sample and the need for more willingness of respondents to answer the questions. In addition, field research has shown a cause-and-effect relationship between the development and financing of organic production and the development of ethnic- and eco-tourism.

The Republic of Serbia adopted the tourism development strategy of the Republic of Serbia for the period from 2016 to 2025[ "Official Gazette of the RS" No 98, 8th Decembre 2016.], which defined four primary goals (sustainable economic, ecological, and social development in tourism in the Republic of Serbia, strengthening the competitiveness of the tourism industry and its related activities on the domestic and international markets, increasing the direct and total share of the tourism sector in the gross domestic product, as well as increasing the direct and total number of employees in the tourism sector and its share in the structure of the total number of employees into the Republic of Serbia and improving the overall image of the Republic of Serbia in the Region, Europe, and the world. Likewise, the Republic of Serbia adopted the Law on Organic Production[ Official Gazette of the RS" No 30/2010 and 17/2019 and other Law] and regulated many measures for promoting and developing organic production.

### ***FIELD RESEARCH***

#### ***Basic information***

It is known that eco and ethnic tourism in Serbia is not at the level of development according to the total existing resources. The authors of this paper believe that there are several reasons for this fact, and two are the most significant. One is contained in insufficient support for the village and its collapse decades ago. Another less significant reason is insufficient information about the possibilities and advantages of ethnic and eco-tourism. The pandemic of COVID-19 during 2020, 2021, and 2022 (Cogoljevic, Beslac, 2022) pointed out the importance of these types of selective tourism. However, it is always necessary to remember that the material basis of tourism (Vujovic, 2005) is of fundamental importance for developing sustainable tourism and, thus, ethno- and eco-tourism.

#### ***Sample description***

- 1) Sample: 168 tourists and 123 agricultural farms.
- 2) Geographical position of the respondents: The entire territory of the Republic of Serbia, except for the territory of the Autonomous Province of Kosovo and Metohija.
- 3) Type of farms: Ethno and eco-villages, farms, and small producers of healthy food



4) Form and method of the survey: a direct telephone conversation

### ***Research results***

*Table 1. Sources of funds when starting a business*

Types of funds	Sources of funds				
	Own sources	Personal loans	State subsidies	State loans (Development Fund) or commercial loans from banks	Incentives from European funds
Amount in %	69	11	7	9	4

*Source: Authors*

Although the sample of 168 tourists and 123 agricultural farms seems insufficient to draw definitive conclusions, the data obtained through a telephone survey clearly show the importance of ethnic- and eco-tourism and organic production. However, financing these activities is not of interest to the banking sector either (R. Serbia has a bank-centric commercial banking system), nor is the R. Serbia sufficiently committed to financing this type of selective tourism and the production of organic products, despite the adopted legal regulations. European funds were only available after all because of the highly complex procedure, on the one hand, and the insufficient knowledge of those processes by the interested subjects. The sources of financing for organic production and ethnic- and eco-tourism are their funds, which means there will be no accelerated development of these areas.

*Table 2. Provision of means for feeding tourists*

Method of providing gastronomic products in %			Type of market in %	
Own organic production	Provision of gastronomic products from producers of organic products	Provision of agricultural products from conventional production	Local market	Shopping centers and markets
48	34	18	86	14

*Source: Research results of the co-authors*

The previous table encourages devotees of ethno and eco-tourism since hosts predominantly offer them organic products from their production or other producers of this food. However, since the quantity of organic products from their production and producers of organic food is insufficient for the needs of ethnic and eco-tourists, products from conventional production are also used to a lesser extent. Interestingly, gastronomic products are predominantly provided from local markets, which gives particular importance to the development of ethnic and eco-tourism.

## ***RESULTS AND DISCUSSION***

Ethno and eco-tourism imply going and staying for a specific time in a healthy environment and using natural, unpolluted, and untouched resources. Through these types of tourism, one gets to know traditional cultures and ways of life in specific destinations. In contrast to urban and mass tourism, ethnic and eco-tourism implies a dominant diet of organic products according to the wishes of the tourists and at the time when they want it, which means that they are not tied to the dates set for individual meals. Organic



## Book of Proceedings

production means plant production without pesticides and herbicides, but biodegradable substances are harmless to animals and people, and thus a healthy living environment can be found. Even though both theory and practice have shown that this type of selective tourism has a positive effect on the psychophysical condition of people, that it affects the increase in self-employment, that it provides healthy and safe gastronomic products, that it protects a healthy living environment, that it encourages the development of villages and other rural areas, the financing of this type of tourist offer, as well as the financing of organic products, is done from own sources, which will not contribute to the accelerated development of these activities.

## CONCLUSION

Rest is a necessity for all people. Rest can be passive and active. In contrast to mass and traditional tourism, Ethno and eco-tourism represent an active vacation in rural communities, untouched nature, and a healthy living environment. These types of "on foot" tourism provide all the needs of tourists per their needs and according to their dynamics. Eto and eco-tourism imply the use of healthy organic food prepared traditionally. The users of ethnic and eco-tourism services often take part in food preparation. Organic production provides healthy and safe food, and its production does not threaten a healthy environment because natural biodegradable natural materials are used during production, not chemical pesticides and herbicides.

The Republic of Serbia took away strategic documents related to the development of rural, and therefore also eco-tourism, and a document related to the production of organic food. However, there remains the problem of financing these activities, which are primarily financed from their products, and other sources of financing are less available for them, as shown by the research of the author of this paper.

## REFERENCES

- Baltezarevic, R., Baltezarevic, D., Baltezarevic, V. (2022). The role of travel influencers in sustainable tourism development. *International Review*, 3-4, 125-129.
- Beslac, M., Janjusic, D., Cogoljevic, V. (2022). Economic aspects of genetically modified organisms and their impact on food safety, human health and the environment. *Ecologica*, 29(108), 485-491.
- Beslac, M., Coric, G. (2017). Financial and production aspects of genetically modified organisms. *Economics of Agriculture*, 1583-1595.
- Ceballos-Lascurain, H. (1996). *Tourism, ecotourism and protected areas*. Gland: IUCN-World Conservation Union.
- Cogoljevic, V., Beslac, M., Janjusic, D. (2022). The crash of globalization as a consequence of migration and the covid-19 pandemic. *International review*, No. 1-2, 71-76.
- Curuvija, I., Curuvija, M., Pavlović, N. (2021). Application of the destination multiculturalism in tourism promotion on the example of Vojvodina. *Trendovi u poslovanju*, 9(2), 9-19.
- Hamidovic, Dz. (2012). Criminal protection of the environment and sustainable development of our country. *Socioekonomica*, 235-245.
- Hrabovski-Tomic, E. (2010). Conceptualization of products of selective forms of tourism. Educons University, Faculty of Business Economics, Sremska Kamenica.
- Hrabovski-Tomic, E., Katic, A. (2010). The offer of adventure tourism in the tourism development strategy of Serbia, Educons University, Faculty of Business and Economics, Sremska Kamenica.



**Book of Proceedings**

- Jankovic, M., Jovic-Bogdanovic, A., Gajdobranski, A., Miljkovic, Lj. (2022). Organic agriculture and climate change. *Ecologica*, 106, 193-200.
- Jenkins, J. M. (1992). Special interest tourism, University of New England, Armidale, New South Wales, Australia.
- Jovic-Bogdanovic, A., Jankovic, M. (2019). Ensuring the safety and sustainability of the environment in cities and settlements. *Ecologica*, 96, 449-454.
- Milicevic, R., Momirovic, D, Vujcic, S.(2022). Tourist potentials in the function of economic development Rasina district. *International Review*, 3-4, 130-135.
- Miller, K. (1978). Planning national park for eco-development: Methodos and Cases from Latin America. Michigan: University of Michigan, Centre for Strategic Wildland Management Studies.
- Nikerson, N.P., Black, R. J., McCool, S.F. (2001). Agrotourism: Motivations behind farm/ranch business diversification. *Journal of Travel Research*, 40 (1), 19-26.
- Racic, A., Baltezarevic, B. (2022). Ecotourism: Synergy of family and cultural values. *Ecologica*, 29(108), 509-515.
- Stojanovic, R. (2016). Introduction to Tourism, Higher Business School of Vocational Studies, Užice.
- Tasic, J. (2018). Geographical and economic performance of organic agriculture and its impact on the stability of gastronomy tourism in Serbia. *Oditor*, 4(1), 38-51.
- Tourism development strategy of the Republic of Serbia for the period from 2016 to 2025, "Official Gazette of the RS", No 98, 2016.
- Subic, J., Bekic, B., Jelocnik, M. (2010). Importance of organic agriculture in environmental protection and modern food production. *School of Business*, 3, 50-56.
- Vesic, M., Bolovic, J., Todorovic, N., Pavlovic, S. (2019). The impact of the COVID-19 pandemic on the sustainable development of rural tourism in the tourist region of Western Serbia. *Ecologica*, 28(103), 451-458.
- Vujko, A., Gajic, T., Kovacevic, B. (2012). Tourism in protected natural areas – ecotourism of Fruška Gora. *School of Business*, 4, 8-16.
- Vujovic, S, Premovic, J, Spajic, J. (2018). Aspects of sustainability management of the process of creating the material basis of tourism. Proceedings of the Faculty of Philosophy of the University of Pristina, 48 (4), 297-310.
- Vujovic, S., Cvijanovic, D., Stetic, S. (2012). Destination concept of tourism development. Institute for Agricultural Economics, Belgrade.
- Vujovic, S. (2005). Creating the material basis of a new tourist destination. PMF, Novi Sad
21. Law on Organic Production. "Official Gazette of RS" No 30 from 7th May 2010, No17, 2019.
- Unkovic, S., Zecevic, B. (2019). Economics of tourism. Faculty of Economics in Belgrade, Center for Publishing Activity.
- William, F. T. (2004). Global Tourism. 3rd Edition, Routledge, London.
- <https://www.worldometers.info/world-population/>
- The International Ecotourism Society. Available at: <https://ecotourism.org/ties-overview/>
- <http://www.bsaae.bg.ac>
- <https://www.google.com/search?q=World+Tourism+Organisation&oq=World+Tourism+Organisation&aqs=chrome..69i57j0i10i22i30j0i22i30i8.1568j0j15&sourceid=chrome&ie=U> (United Nations World Tourism Organisation-UNWTO. [05.06.2023.]



Book of Proceedings

***FUNCTIONALITY OF KNOWLEDGE ACQUIRED DURING  
FORMAL EDUCATION***

Gordana Gavrić<sup>1</sup>  
Marija Čukanovic Karavidić<sup>2</sup>  
Fadil Mušinović<sup>3</sup>

***ABSTRACT***

*The young generation, which is acquiring knowledge today, is entering the world that is facing changes in all spheres – economy, culture, politics, technical sciences, technology and social relations. In times of change, education gains one of the most crucial roles – it becomes a factor of social development. Good quality education is essential for the development of national economies, but also for the creation of a skilful workforce that would have better employment opportunities. Globalisation is putting a serious pressure on the education systems all over the world. The kind of knowledge and skill sets that individuals and nations should have in order to survive and retain competitiveness is becoming increasingly complex. Moreover, the entire world is facing the challenge of knowledge obsolescence. One of the basic issues of the education system in Serbia is inadequate programs and education profiles that are not in accordance with the market needs. This paper shows the results of a research about the knowledge acquired during formal education and its usability and usefulness in business organisations. Given that the goal of every economy that strives for development is the creation of a workforce that could support that development, the topic and results of this research are considered very useful and significant.*

**Key words:** formal education, personnel development, knowledge, globalisation, changes

**JEL Classification:** D83, I20, I21, I28

***INTRODUCTION***

Complex reality calls for a dynamic education system that can be easily adjusted to new circumstances. New tasks set before the educational institutions refer to the demands of the society to prepare young people for the world of frequent changes and enable them to find their place in such a society.

Knowledge has to be at the service of the society, regional development and economic development, thus enabling a common synergistic effect. A French economist and politician Delors said back in 1996: "Education in the 21<sup>st</sup> century is not just one of the many instruments of development, but it is also one of its integral parts and one of its most essential goals."

The above implies constant adaptation of the educational system to the permanent diversification of the needs of the economy and society. The high speed of obsolescence of once-acquired knowledge is an important problem in education. The education system should, in fact, produce useful knowledge for the future, because only with the human factor is there a relatively significant time span between the acquisition of knowledge and the later use of that knowledge. Considering the rate of knowledge obsolescence, the professional qualifications of employees must be "changed" during their working life.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, gordana.gavric@vspep.edu.rs

<sup>2</sup> Ministry of Education, Belgrade, Serbia, cukanovickaravidićmarija@gmail.com

<sup>3</sup> B2 Higher Vocational College, Ljubljana, Slovenia, fadil.musinovic@siol.net



## Book of Proceedings

The price of knowledge everywhere in the world increases in proportion to its use value. The development of technology, organisations and managerial methods emphasises the role of the people, their capabilities and creativity. Therefore, a famous commentator for The Financial Post, Bruce Gates, was right when he stated that the key resources in the 21<sup>st</sup> century would not be coal, wood or crops, but young men and women graduating from higher education institutions.

Therefore, we can define education as an agent of social development, which includes the building of the societal attitudes and values, the acquisition of theoretical and practical knowledge of individuals, which enable them to nurture these values and change their own lives and the environment in which they live, both locally and on a general social plan.

### *EDUCATION AND SOCIETY*

Education is one of the most important factors of the effectiveness and speed of economic development. As such, education is a common good in itself. Perfecting one's knowledge and changing social relations depend, to a great extent, on people's knowledge. Education, therefore, has its important social goals; it increases social mobility, enables and facilitates the adjustment of individuals to constant social changes that go hand in hand with the ever increasing scientific development. Education enables a person to be an active bearer of those changes, striving for a more humane application of science and technology.

In almost all countries of the world, the very organization and functioning of the education system is the subject of discussions and comprehensive analyses by experts in this field (Vujicic et al., 2022, p. 80). The identified challenges of formal education are that the involvement in the educational process does not have to imply that the individual has actually acquired knowledge, or that formal education will, just by existing, give them the power they believe it will (Maric, Jeraj, 2014).

The education system needs to be designed in such a way that its participants acquire knowledge and know how to apply it. In that sense, all European countries have abandoned the classical model of education and turned to a new type of education which they want to use as means of developing new abilities in individuals, concrete knowledge and general efficiency. What is being developed is the so-called dual education that, apart from official schooling, includes the alternative acquisition of knowledge and experience. Alternative education, like home schooling, apprenticeships (as a form of work education) are emerging, e.g. the West German "on-the-job training", the Japanese model of "vocational training" and the American "vocational school", while Great Britain has established a fund to finance transfers of scientific knowledge from the university to the small and medium businesses (Karavidic, Cukanovic-Karavidic, 2008).

The population's level of education is an unavoidable indicator of the achieved level of social and economic development in every social community. A higher level of education implies a higher level of ability to perform complex and responsible jobs in society and it affects all areas of social life – economy, politics, culture, health culture and social security. In this sense, Radovanovic (2021) states that "knowledge is in every way connected with the social and economic progress, thus one cannot imagine a society open to the world and the future without technological, informational, economic and other types of knowledge, and above all of scientific knowledge".

Educating and enabling adults, promoting their knowledge, skill sets and professional mobility is the basic instrument of socio-economic transformation, i.e. of accepting technological nuances, increasing employees' competencies and competitiveness, promoting employment, social cohesion and developing individual needs and abilities and promoting the quality of life as a whole. Education is supposed to:

- 1) Meet the needs of the labour market and the needs of individuals for knowledge and skills,
- 2) Increase the value of human capital and create basic support for the country's socio-economic development and its integration into the global, especially European, economy,
- 3) Enable individuals to have full social participation and improve their employability and ability



## Book of Proceedings

- to be active and competitive in the labour market,
- 4) Increase the professional mobility and flexibility of the working population (movements through the world of work, professions and qualifications),
  - 5) Prevent social exclusion and marginalization, strengthen social cohesion and the sense of belonging and identity,
  - 6) Support individual development and self-fulfilment.

Changes dictated by scientific and technical progress have led to the concept of lifelong learning. The modern world is such that the acquired knowledge quickly becomes obsolete, i.e. every few years. This means that the acquired knowledge must be constantly improved, upgraded and expanded. The body of human knowledge doubles every two or three years. In order to successfully keep up with all the changes, the acquired formal education must be constantly updated and supplemented with personal activities, informal education, seminars, courses, trainings, etc. This should be the goal of every society but also of the individual who strives to be successful and competitive because "highly-educated people have more advantages than people with low education" (Pavlovic et al., 2018).

It is more than clear that education is one of the most decisive factors, first in personal, but also in social development. It is essentially a fundamental social process of shaping humanity, on which the continuity of culture and the fate of humanity and each individual depend (Milosevic, 2007).

### ***EDUCATION AS THE SERVICE OF BUSINESS SUCCESS***

Modern education lies on the foundation of three driving forces: They are:

- knowledge,
- changes,
- innovative and creative technics.

Knowledge represents intellectual capital, which is today a strategic factor and whose exploitation should lead to profit and growth. This is also confirmed by Radovanovic (2021), who points out that "every social and economic progress requires the provision of appropriate conditions, and among them the central place is occupied by work and, consequently, knowledge and education" (p. 211).

Changes shape our society. The changes taking place are constant, frequent, rapid and complex. The consequence of today's changes and their attributes is that events in the near future cannot be predicted. All this increases uncertainty in business and leads to increased risks. Changes in technology shorten the lifecycle of products, and constant innovations decisively affect market trends, supply and demand.

Globalisation is both a chance and a threat for every organisation. In order to get involved in the global streams, organisations need to implement a new paradigm that would guide them to success and progress.

According to Tisen et al. (2006), there are three important rules for success:

1. the smartest company wins,
2. to be the smartest company, you need to have the smartest people, and
3. to have the smartest people, you must never stop learning.

Due to fierce competition, organisations need to use their employees' knowledge more efficiently. Masic et al. (2014) compare knowledge-based organisations to the symphonic orchestra in which thirty, or more, instruments all work together and play the same melody. According to them, "great orchestras are not made up of great instruments, but of the adequate and high-achieving ones".





**Book of Proceedings**

***CREATING THE APPROPRIATE AMBIENCE***

In modern business conditions, the precondition for business success is found in the synergy of three agents. They are:

- the state,
- the industry, and
- the education system.

The state is the one that needs to create the right conditions for the market game to be played out in the right way. It should not drown entrepreneurship and entrepreneurial initiatives in its politics and regulations.

The industry suggests that organisations be in contact with the market and communicate with it, which means they need to keep pace with the changes and requests made by the customers and adjust to them.

It is the educational system that is the source of human resources and that is able to follow changes in the economy and the need for personnel and respond to those needs by producing adequate personnel. Research and development should also be closely related to the economy and its needs. However, it seems that, according to Manic et al. (2018), quantity (embodied in the increasing access and availability of higher education, and its massification) still wins over quality – providing knowledge, skills and competencies that are adaptable in their very nature (adaptable to increasingly rapid changes and demands of the labour market).

Creating an appropriate environment for the improvement of education, as a basic lever for the development of society and economy should be a strategic goal of every country, because investing in education may not be something that will bring improvement overnight, but it certainly represents a smart long-term investment.

***PROBLEM OF EDUCATING PERSONNEL IN THE REPUBLIC OF SERBIA***

The educational system in the Republic of Serbia is characterized by:

- Inadequate programs and profiles,
- Slow implementation of new programs and profiles,
- Inadequate applicability of wanted profiles (Cukanovic-Karavidic, 2018).

In a well-designed economic system, formal education should keep track of the needs of the economy. In this way, human capital is ready to be involved in the production process. If this is not respected, unnecessary personnel are created, i.e. personnel for the labour market instead of the production process.

Authors Stevanovic et al. (2022) agree that the educational system of Serbia faces certain challenges, the most significant of which are the discrepancy between the needs of the economy and the offer on the labour market, as well as the departure of young people abroad. In order to improve the situation, it becomes clear that the educational system now, at least for the youth, must become a way to the labour market (Pavlovic et al., 2018).

The economic crisis has shown that the economy needs competencies, i.e. skills and knowledge that can be applied in different areas:

- Transferable skills and knowledge,
- New visions of multidisciplinary,
- Trans-disciplinary competencies.

Knowledge is power. An important fact is that today knowledge lasts less than ever and in order to survive, the concept of lifelong learning must be accepted. The body of professional knowledge is being lost at a



## Book of Proceedings

high rate, i.e. it is becoming obsolete (after 10 years from graduation, effective knowledge does not represent more than 40% of acquired knowledge) (Ristic et al., 2006). According to Sormaz (2020), formal education in the Republic of Serbia "does not meet all the needs of the jobs that the graduates go to after graduating from college or some high school, and most of them lack practical experience and additional knowledge and skills, which are acquired through informal education". This points to the fact that basic and formalized knowledge does not represent a complete system, but a roadmap for acquiring new knowledge. Competencies must be maintained, enriched and improved through continuous informal learning.

The research conducted in 2017 (Cukanovic-Karavidic, 2018) on a sample of 716 employees from different working environments in Serbia, and which involved managers, experts, direct managers, engineers, administrative staff and scientific workers of all educational levels, from uncompleted elementary school to PhDs, also speaks about the problems in the functional non-usability of formal education in our country. The results showed the following:

- *The employees' attitude about the usability of the knowledge acquired during schooling in the work they perform.* The respondents declared that they use the knowledge acquired from school at work: 8.2% said sufficiently, 33.7% a little, and 58.1% not at all.
- *Employees' attitude about the contribution of knowledge and education to the economic success of their organization.* The results showed that employees highly value the contribution of knowledge and education to the economic success of the organization: 20.5% said a lot, 40.8% enough, 34.7% a little, 2% insufficient and 2% not at all.
- *Assessment of the functionality of the knowledge acquired during schooling.* Direct implementers rather negatively evaluate the usability of the knowledge acquired at school: 1% – very functional, 23.7% – a little, 33% – not enough and 42.3% – not at all, which is correlated with their level of education and the content of their work. However, there are significant differences depending on the content of the employees' work, i.e. between professional categories. The most positive attitude towards the functionality of the knowledge acquired through education was expressed by researchers (71.4%), while in a relatively modest percentage this opinion was held by direct managers and engineering-technical staff (9.9%), senior managers and experts (15.2%) and administrative staff (5.1%), etc.
- *The readiness of the organization to use the knowledge and abilities of its employees.* Based on the established statistical indicators, we can state that the subjective assessment of the respondents about the readiness of the organization to use the knowledge and abilities of the employees depends significantly on the content of the employees' work. Almost two-thirds of the results are grouped around the middle value of the variable – a little (67.7%), and towards the negative value of the variable – not at all (15.6%), and 16.7% of respondents – enough. Direct implementers (28.9%) and direct managers and engineering and technical staff (25.8%) were the most critical of the organization's readiness to use the knowledge and abilities of its employees.
- *Respondents' assessment of the extent to which educational knowledge is at the service of technical-technological development.* Remarks that the educational system does not respond sufficiently to the demands of scientific-technical changes are not unfounded because, when asked to what extent is knowledge acquired during formal education a function of technical-technological changes, a large number of respondents stated it is insufficiently so, 62.4%, a little 29%, and only 8.6% said that it is sufficiently so. The most criticism about this was expressed by the immediate implementers, who have the least knowledge in that area, which was certainly reflected in their assessments, while researchers, technical staff and senior managers and experts, believe that the educational knowledge is at the service of technical-technological changes.



## Book of Proceedings

The results also indicated that the employees did not acquire enough knowledge for technical-technological changes, i.e. after completing formal education they did not supplement and refresh their professional knowledge, especially knowledge at the service of the technical-technological development.

Observing the obtained results in relation to the topic of the paper, we can conclude that in Serbia the employees' attitudes about the usefulness of knowledge acquired during formal education later in organizations is as follows:

- knowledge gained from school is not very useful in practice, especially in the technical and technological development;
- the contribution of knowledge and education to the economic success of the organization is large.

## CONCLUSION

The gap between the "world of work" and the "world of education" is large. A high degree of criticism has been expressed towards the current concept of education, i.e. educational institutions are not sufficiently functional.

Things need to change because the source of social wealth is no longer in any kind of work, at least not in physical and low-accumulative, but in scientific and technological breakthroughs, innovations and intellectual capital that is based on the responsible and creative engagement of educational staff. Economic changes, rapid technological development, problems of a political, social and economic nature have caused adult education and permanent education to become one of the most current topics, because adult education is seen as the basic way to solve them.

Given that the number of employees who require a broader and more diverse education is growing and that employees are aware of the importance of education for the development of organizations, general recommendations for further improvement of education that would contribute to the development of every society, as well as of Serbia, would refer to:

- when determining the area and content of education, the requirements of time and constant changes should be taken into account, i.e. it is important to find new and modern educational contents in accordance with the needs of the employees, organizations and society in general;
- it is particularly important to encourage and nurture informal forms of education and skills acquisition.

## REFERENCES

Čukanović Karavidić, M. (2018). *Savremene menadžment formule uspeha, Upravljanje promenama usvajanjem novih znanja i veština, novih inovativnih i kreativnih tehnika, upravljanje vremenom, stresom i komunikacijom*. Doktorska disertacija, Univerzitet za Poslovni inženjering i menadžment, Ekonomski fakultet, Banja Luka

Karavidić, S., Čukanović-Karavidić, M. (2008). *Ekonomika i finansijski menadžment*. Beograd: Fakultet organizacionih nauka

Manić, S., Zarić, S., Joksimović, Lj. (2018). Quality assurance in higher education - a case study. *Annals of the Faculty of Economics in Subotica*, 39, 271-289.

Marić, M., Jeraj, M. (2014). Educational Achievements as a Determinant of an Individual's Formal Power. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies*, 19(72), 45-52.



**Book of Proceedings**

Mašić, B., Džunić, M., Nešić, S. (2014). Savremena teorija menadžmenta, škole i novi pristupi. Beograd: Data Status

Milošević, B. (2007). Globalizacija i obrazovanje. *Political review : časopis za politikologiju, političku sociologiju, komunikologiju i primenjenu politiku*, 6(1), 217-225.

Pavlović, D., Obradović, T., Bjelica D. (2018). Does competitiveness have anything to do with people?. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies*, 23(3), 33-46.

Radovanović, S. (2021). Znanje i prirodna prava. *Megatrend revija*, 18(4), 205-214.

Ristić, Ž., Klincov, R., Karavidić, S., Marković, J. (2006). Menadžment ljudskih resursa. Banja Luka: Univerzitet za poslovne studije

Šormaz, G. (2020). Značaj neformalnog obrazovanja za privredu Srbije. *Trendovi u poslovanju*, 8(2), 39-48.

Tisen, R., Andriesen, D., Lekan Depre, F. (2006). Dividenda znanja: stvaranje kompanije sa visokim učinkom kroz upravljanje znanjem kao vrednošću. Novi Sad: Adižes

Stevanović, M., Staletović, M., Bačevac S. (2022). Factors that in the modern environment determine the development of Serbian economy. *International Review*, (3-4), 84-88.

Vujičić, S., Momčilović O., Ravić N. (2022). Education and competencies as employment factors in the Republic of Serbia. 11th *International Scientific Conference "Employment, Education and Entrepreneurship"*. Faculty of Business Economics and Entrepreneurship, Proceedings, 79- 94.



Book of Proceedings

***DIGITALIZATION AND ECONOMIC GROWTH OF SMALL COUNTRIES IN THE AGE OF GLOBALIZATION***

*Mirjana Radović-Marković<sup>1</sup>*

*Dušan Marković<sup>2</sup>*

*Vera Karadjova<sup>3</sup>*

***ABSTRACT***

*Globalization has opened up new markets and opportunities for small countries to participate in the global economy. They can attract foreign direct investment, access international trade networks, and benefit from technology transfer. This can lead to economic growth, job creation, and increased income levels. The interconnectedness of the global economy through technology and communication has enabled small countries to access information, knowledge, and ideas from around the world. This can facilitate innovation, research collaboration, and the adoption of best practices in various fields. In order to more objectively evaluate the progress of small countries and their inclusion in global business flows, some of the basic indicators of development were analyzed. In terms of methodology, in addition to using the literature and our previous research, our analysis of the impact of globalization on economic development was measured by the globalization index (KOF) of small countries. In our research, we compared two small countries - Montenegro and Luxembourg, which have the same size but differ a lot in economic terms. The main result of the research showed that it is necessary to effectively solve the issues of transition to a changing global trade regime, strengthening innovation capacities and constantly meeting the key challenges arising from global process. This is especially important for those small countries as Montenegro that are lagging in their economic development.*

***Key words:*** Digitalization, economic growth, small countries, innovation, globalization.

***JEL Classifications:*** F01, F21, F43

***INTRODUCTION***

Small countries refer to nations that have relatively small land areas, populations, or both. The exact definition of a small country can vary depending on the context and perspective. Generally, small countries are characterized by their limited geographical size, which may result in certain unique challenges and opportunities (Radović Marković, Tomaš, 2019). Population size is another factor used to classify countries as small (Table 1). Small countries may have fewer inhabitants compared to larger nations. The population size can range from a few thousand to several million people. Additionally, the term "small country" does not imply any inferiority or lack of importance; it simply denotes the relatively modest size of the nation in terms of land area or population.

A technology revolution has been established by introducing digital technologies like online trading, blockchain, internet of things (IoT), 5G, digital currencies, cloud computing, artificial intelligence (AI), machine learning, natural language processing, large data analysis, robotics, virtual reality, text mining and data coding (Lee and Trimi, 2020; Vučeković, Medić, Marković, 2020). The digital infrastructure has

---

<sup>1</sup> University of Business Academy, Novi Sad, Serbia, mradovic@gmail.com

<sup>2</sup> Belgrade Business and Arts Academy of Applied Studies, Belgrade, Serbia, dusanbps@gmail.com

<sup>3</sup> Faculty of Tourism and Hospitality, Ohrid, North Macedonia, verakaradzo@yahoo.com



## Book of Proceedings

facilitated cross-border transactions, reduced barriers to entry, and enabled businesses to scale up their operations globally. Globalization has, therefore, fueled the growth of the digital economy by creating a larger market for digital products and services.

*Table 1. Small countries by population (300.000 – 2,100.000)*

Country	Population number
Latvia	1,886,198
Estonia	1,326,535
Iceland	341,243
Cyprus	1,207,359
Northern Macedonia	2.083.000
Montenegro	628,066
Slovenia	2,078,938
Luxembourg	625,978
Malta	441,543

*Source: World Population Review, 2020.*

## ***THEORETICAL OVERVIEW***

Globalization has facilitated the spread of digital technologies and the expansion of internet connectivity worldwide. This connectivity theory emphasizes that globalization has created an environment where information, ideas, and innovations can easily flow across borders, facilitating the diffusion of digital technologies and accelerating the process of digitalization. In addition, researchers suggest that globalization is a powerful force for shaping large-scale cooperation in today's societies (Buchan et.al., 2009). As more countries have become interconnected through trade and communication, access to digital infrastructure and technologies has increased, fostering the growth of digitalization. Digitalization can stimulate economic growth by fostering innovation, increasing productivity, and creating new business opportunities (Hasan, 2019). Small countries can leverage digital technologies to develop niche industries, attract foreign investment, and expand their export capabilities (Robinson, 2018).

Businesses increasingly use online opportunities to trade digitally. The pandemic has especially emphasized the importance of digital technologies in supporting global trade (UNCTAD, 2022). In line with this, digitalization enables small countries to overcome geographical limitations and gain access to global markets. Through e-commerce platforms and digital marketing, businesses in small countries can reach customers worldwide, expanding their customer base and revenue streams. "Countries that harness the potential of e-commerce will be better placed to benefit from global markets for their goods and services in this digitalizing economy, while those that fail to do so risk falling behind even further" UNCTAD (2021, p.2).

According to technological convergence theory, globalization has played a crucial role in driving technological convergence, where different technologies, such as information and communication technologies (ICT), have merged into a unified digital infrastructure. The convergence of technologies has been facilitated by global collaboration and knowledge sharing, allowing for the integration of diverse technological capabilities into digital platforms and systems. Globalization has fostered the exchange of technological expertise and resources, leading to the development and adoption of digital technologies worldwide.

One number of scholars pointed out that digitalization can improve the efficiency and effectiveness of public services in small countries. Online government portals, digital identification systems, and e-





## Book of Proceedings

governance initiatives streamline administrative processes, reduce bureaucracy, and enhance citizen engagement. This leads to improved public service delivery and increased transparency. Namely, e-Government has become a global trend. But how it will be implemented in a small country depends on a few numbers of factors, such as the infrastructure facilities and technological innovations for effective knowledge management and communication, political and legal frameworks and others. Namely, they are key factors that influence the level of e-government adoption (Glyptis, 2020).

The scientific literature has been discussing the opportunities of digital technologies and innovation by enabling the development of new products, services, and business models (Paunov et al., 2019; Radović-Marković, 2023a).

Companies that embrace digital transformation can gain a competitive edge in the global market. They can leverage data-driven insights, create personalized customer experiences, and adapt quickly to changing market demands. This fosters innovation-driven growth, job creation, and economic resilience. However, in contrast to “companies with less tech-enabled innovation had smaller market-value gains from 2015 through 2020” (Crupi et al., 2021, p.1).

In addition, it's important to note that small countries may face unique challenges in implementing digitalization, such as limited resources, skills gaps, and cybersecurity risks. Overcoming these challenges requires strategic planning, investment in digital infrastructure, and policies that foster digital innovation and entrepreneurship. In addition, the identified challenges for smart nation building were categorized as follows: people and society, technology and innovation, digital infrastructure, politics, governance, economics and business and sustainability.

## RESEARCH METHODOLOGY

Our intention was to see using comparative methods, what has changed in this domain in recent years. The analysis of the impact of globalization on economic development will be measured by the globalization index (KOF).

*Table 2 GDP per capita, 2020*

Country	GDP per capita
Luxembourg	\$117,725
Latvia	\$20,200
Estonia	\$25,054
Iceland	\$78,598
Cyprus	\$21,823
Northern Macedonia	\$6,576
Montenegro	\$9,139
Slovenia	\$28,001
Malta	\$37,002

*Source: World Population Review, 2020*

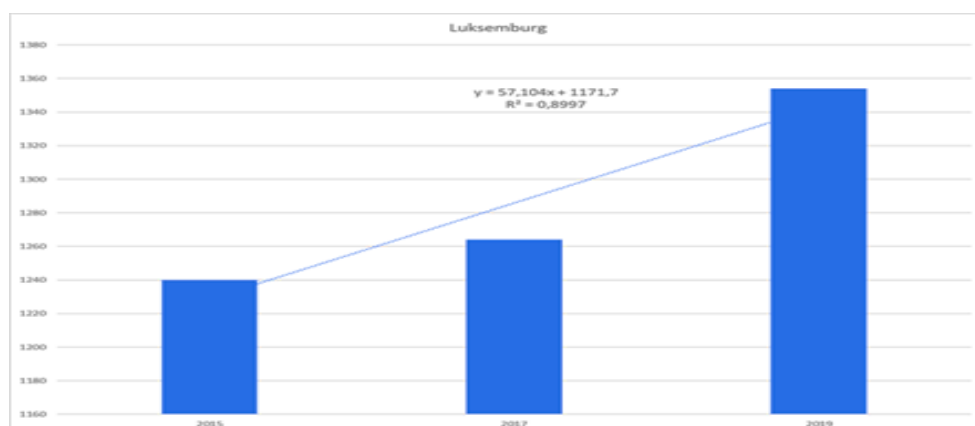


Figure 1. Impact of globalization on Luxembourg GDP growth, 2015-2019  
Source: Radović-Marković, 2023

By comparing Luxembourg to Montenegro (Fig.1 and Fig 2) as countries of the same size as other countries, we could see big differences. Although both countries are European, Montenegro is much poorer and less technologically advanced (Radović Marković, 2020). Also, its economy is less competitive (i.e., according to the global competitiveness index, Luxembourg ranked 18th in the world in the world. and Montenegro ranked 73rd. among 171 countries (WEF, 2019).

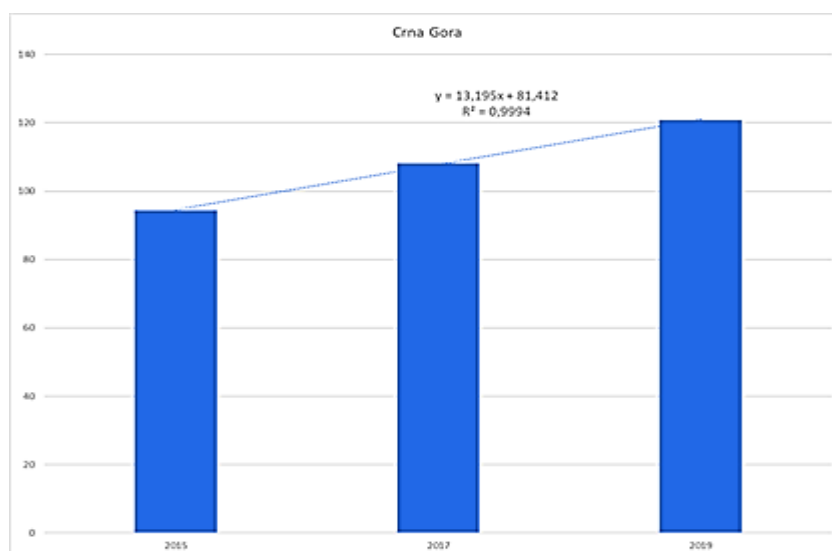


Figure 2. Impact of globalization on Montenegro GDP growth, 2015-2019  
Source: Radović-Marković, 2023

To reduce the inequalities that exist between Montenegro and Luxembourg, as well as other countries that are the same size but differ greatly by development level, we need to change our approach to regional co-operation and create new strategies related to the political and macroeconomic stability of western Balkan countries.

### ***NEW WAYS OF WORK IN SMALL COUNTRIES AFTER COVID 19***

The COVID-19 pandemic has significantly impacted the way people work all around the world, including small countries. Small countries often have unique characteristics that can influence their response to the



## Book of Proceedings

pandemic and the adoption of new ways of work. Here are some of the ways COVID-19 has influenced work in small countries and the new approaches that have emerged:

- *Remote work*: Small countries, like larger ones, have seen a significant increase in remote work or telecommuting. This shift allows employees to work from home or other remote locations, reducing the need for physical office spaces. Small countries with good internet infrastructure and a tech-savvy workforce have been able to adapt to remote work more easily (Radović Marković, 2020).
- *Flexible work arrangements*: The pandemic has forced many small countries to implement flexible work arrangements, such as staggered shifts or compressed workweeks. These measures help reduce the number of employees present in the workplace at any given time, promoting physical distancing and minimizing the risk of COVID-19 transmission (Radović Marković, et.al., 2021).
- *Digital transformation*: Small countries have had to accelerate their digital transformation efforts to support remote work and ensure business continuity. This includes adopting collaboration tools, cloud-based systems, and online communication platforms to facilitate remote work and maintain productivity.
- *Localized economies*: These countries have faced challenges due to disruptions in global supply chains. As a result, some have shifted their focus toward building more self-reliant and localized economies. This could involve promoting local industries, supporting small businesses, and fostering entrepreneurship to reduce dependence on imports and enhance economic resilience.
- *Health and safety measures*: Small countries have implemented various health and safety measures to protect workers from COVID-19. This includes providing personal protective equipment (PPE), implementing strict hygiene protocols in workplaces, and enforcing social distancing measures.
- *Digital skills development*: These countries have recognized the need to enhance digital skills among their workforce to adapt to the changing work landscape (Radović -Marković, Vučeković, Marković, 2021). This could involve offering training programs, upskilling initiatives, and educational campaigns to empower individuals with the necessary skills to thrive in remote work environments.
- *Support for small businesses*: Many small countries have implemented financial assistance programs and support schemes to help small businesses navigate the challenges posed by the pandemic. This includes grants, loans, tax incentives, and other forms of financial aid to ensure the survival and continuity of local businesses.

## CONCLUSION

In today's rapidly evolving world, technological advancements, globalization, and demographic shifts have significantly impacted the nature of work, requiring workers to acquire new skills and knowledge throughout their careers. The COVID-19 pandemic has accelerated the adoption of new ways of work in small countries. Remote work, flexible arrangements, digital transformation, and localized economies have become increasingly relevant in the context of the pandemic, enabling small countries to adapt and build more resilient work environments (Radović-Marković, 2019). It's important to note that the specific impacts of COVID-19 can vary depending on factors such as the country's location, healthcare system, government response, and the effectiveness of public health measures implemented. Additionally, the progress of vaccination campaigns and the emergence of new variants can also influence the impact of COVID-19 on small countries.



## Book of Proceedings

While globalization offers opportunities, it also exposes small countries to external risks and vulnerabilities. Small economies heavily reliant on exports or imports may be more susceptible to fluctuations in global markets, trade disruptions, or supply chain disruptions. Economic crises or recessions in major global economies can quickly transmit shocks to small countries, affecting their resilience. Therefore, managing interdependencies and diversifying trade relations become crucial for small countries to build resilience in the face of global economic uncertainties. In addition, it is supported by the main result of our research. It showed that it is necessary to effectively solve the issues of transition to a changing global trade regime, strengthening innovation capacities and constantly meeting the key challenges arising from global process.

## REFERENCES

- Glyptis, L., Christofi, M., Demetri, V., Del Giudice, M., Dimitriou, S., Panayiota, M. (2020). E-Government implementation challenges in small countries: The project manager's perspective. *Technological Forecasting and Social Change*, Volume 152.
- Hasan, M. A. (2019). Does globalization accelerate economic growth? South Asian experience using panel data. *Journal of Economic Structure*, 8(26). <https://doi.org/10.1186/s40008-019-0159-x>
- Johson, C., Crawford, D. (2021). Tech-tonic Shifts: Technology Is Reshaping the Global Economy. Available at: Tech-tonic Shifts: Technology Is Reshaping the Global Economy | Bain & Company
- Lee, S. M., Trimi, S. (2020). Convergence innovation in the digital age and in the COVID-19 pandemic crisis. *Journal of Business Research*, 123, 14-22.
- Paunov, C., Planes-Satorra, S. (2019). How are digital technologies changing innovation?: Evidence from agriculture, the automotive industry and retail". *OECD Science, Technology and Industry Policy Papers*, No. 74, OECD Publishing, Paris. <https://doi.org/10.1787/67bbcafe-en>.
- Penmetsa, M.K., Bruque-Camara, S. (2023). Challenges in smart nation building: a solution-oriented framework based on a systematic literature review. *Digital Policy, Regulation and Governance*, 25(4), 368-384.
- Radović Marković, M. (2023). Digitalization, Workforce Transformation and Education in the Global Economy. Eliva Press.
- Radović Marković, M., Tomaš, R. (2019). Globalization and Entrepreneurship in Small Countries> New York: Routledge, 174 pp. ISBN 9780367250751
- Radović-Marković, M. (2019). Impact of globalization on competitiveness in Western Balkans. *Journal of Entrepreneurship and Business Resilience*, 3(1), 7-11.
- Radović Marković, M. (2023a). Principles of Management and Leadership in a Global World. Silver & Smith, Birmingham.
- Radović Marković, M. (2020). Resilience And Enterprise Recovery In Response To Covid 19 Crisis. *Journal of Entrepreneurship and Business Resilience*, 3-4, 7-13.
- Radović-Marković, M., Vučeković, M., Marković, D. (2021). Flexible working in the digital economy. *Trendovi u poslovanju*, 25-31. ISSN 2334-816X
- Radović Marković, M., Djukanović, B., Marković, D., Dragojević, A. (2021). Entrepreneurship and Work in the Gig Economy -The Case of the Western Balkans. Routledge, London.
- Robinson, E. (2018). Globalization in a small open economy: the Singapore experience. BIS Papers No 100.



**Book of Proceedings**

Vučeković, M., Medić, Z. Marković, D. (2020). E-learning for entrepreneurial skills in a digital business environment. *International Review*, 1-2, 27-33. ISSN 2217-9739.

Vučeković, M., Radović-Marković, M., Djukanović, B., Duković, S., Dragojević, A. (2021). Gender Aspects of Working from Home in Serbia. *Journal of Women's Entrepreneurship and Education*, 1-2, 18-36. ISSN 1821-1283

WEF (2019). The Global Competitiveness Index 2019. [http://www3.weforum.org/docs/WEF\\_TheGlobalCompetitivenessReport2019.pdf](http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf) (12.03.2023).

UNCTAD (2022). Digital trade: Opportunities and actions for developing countries. Available at: Digital trade: Opportunities and actions for developing countries - UNCTAD Policy Brief No. 91

UNCTAD (2021). How COVID-19 triggered the digital and e-commerce turning point. Available at: How COVID-19 triggered the digital and e-commerce turning point | UNCTAD

Ying, Y., Lee, C., CH-Hang, K. (2014). The Impact of Globalization on Economic Growth. *Romanian Journal of Economic Forecasting*, 17(2), 25-34. [http://www.ipe.ro/rjef/rjef2\\_14/rjef2\\_2014p25-34.pdf](http://www.ipe.ro/rjef/rjef2_14/rjef2_2014p25-34.pdf)



Book of Proceedings

***CONTRIBUTION OF INDUSTRY 5.0 IN PROMOTING  
SUSTAINABLE DEVELOPMENT***

*Vlado Radić<sup>1</sup>*

***ABSTRACT***

*The term fourth industrial revolution (Industry 4.0) was defined in 2011 from the project high-tech strategies of the German government. Globally, many countries have introduced similar strategic initiatives: Industrial Internet Consortium (USA), Industria 4.0 (Italy), Produktion 2030 (Sweden), Made in China 2025, Industrie du Future (France), or Society 5.0 (Japan). As you can see, the emphasis is on initiatives that are introduced and implemented at the state level. In July 2020, in the course of unprecedented health and economic events around the world due to the COVID-19 pandemic, the European Union (EU) is holding two virtual expert meetings and workshops with participants from research and technology organizations and funding agencies across Europe at the topic of technologies that enable Industry 5.0. Thus, the EU as a supranational political and economic union of 27 countries make a collective decision to introduce Industry 5.0. Simply put, Europe is starting a transition towards climate neutrality and digital leadership. For the EU industry to remain competitive and sustainable globally stage, it needs to be transformed. A vision of an innovative, resilient, and competitive industry that respects the planet's borders and minimizes the negative impact on the environment, it is labeled as Industry 5.0. While the nomenclature of the concept was discussed among the workshop participants, a consensus was reached that social and environmental needs must be better integrated into technology development. Also, the participants agreed that the complexity of the challenges cannot be solved by individual technologies, but a systemic approach is needed. Therefore Industry 5.0 is the next level of industrialization characterized by the return of labor to factories, distributed manufacturing, intelligent supply chains, and hyper-customization.*

***Keywords:*** *Industry 4.0, Industry 5.0, digitalization, humanization, cyber-physical systems, smart factory*

***JEL Classification:*** *O33*

***INTRODUCTION***

The concept of Industry 5.0 has recently emerged as a vision of the industry of the future that values the protection of the environment and society. Proponents of Industry 5.0 believe that Industry 4.0 is not the right framework for achieving sustainable development. The literature acknowledges that Industry 4.0 focuses on technology-driven productivity. Although the internal productivity mechanism of Industry 4.0 improves some micro-ecological sustainability metrics, such as production efficiency or reduction of harmful gas emissions, it cannot overcome the profit-centricity of modern economic models of production and consumption. Critics point out that Industry 4.0 is aligned with long-standing models of neoliberal capitalism that emphasize profitability and the primacy of shareholders, intensifying some of the prevailing socio-ecological problems, such as regional inequality, environmental degradation, and the fragility of the global economy.

Industry 5.0 is a transformative model that draws on the experience of Industry 4.0 and the disruption caused by the pandemic to develop a hyper-connected industrial ecosystem that values the Sustainable

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, vlado.radic@vspep.edu.rs





## Book of Proceedings

Development Goals. In line with the European Commission's Industry 5.0 agenda for 2022, the sustainable development goals of Industry 5.0 include the inclusive development of the economic, environmental, and social pillars of sustainability and their underlying micro-goals. Specifically, this phenomenon aims to promote resilience, socio-ecological sustainability, and human-centeredness within the sustainable development agenda. The human-centered micro-goals of Industry 5.0 relate to employment growth, workplace dignity, employee autonomy, and job satisfaction. Despite these contributions, the introduction of Industry 5.0 as a new paradigm for achieving competitive sustainability is associated with two significant controversies. First, the boundaries, basic principles, and functionality of Industry 5.0 are insufficiently studied. Second, it is practically unclear how Industry 5.0 can contribute to promoting sustainable development.

### ***DEFINITIONS OF INDUSTRY 5.0***

The first records about Industry 5.0 were mentioned as early as 2017, and in addition to the digital transition, the "green" component of the system plays an important role. The principles of Industry 5.0 do not have to affect only one organization, but the entire society. The European Union states that Industry 5.0 "puts the well-being of employees at the center of the production process and uses new technologies to ensure prosperity beyond the workplace". It therefore "complements the existing Industry 4.0 approach by putting research and innovation at the service of the transition towards a sustainable European industry that is resilient and people-centered". This concept benefits not only the industry but also the employees as individuals and the entire society. This creates a more resilient system to external changes and shocks with a "greener" approach as another characteristic.

Today, there is a consensus on the basic values of Industry 5.0 on three pillars: economic resilience, environmental sustainability, and human-centeredness (Akundi et al., 2022). However, scientists and industry experts offer different perspectives on the definition, functionality, and limits of this phenomenon. Longo and Lu believe that Industry 5.0 focuses on human-centered manufacturing, and technological progress should promote human well-being in socially smart factories (Longo et al., 2020; Lu et al., 2022). Viewed from the perspective of environmental sustainability, (Sindhvani et al., 2022) explain that Industry 5.0 represents a vision of human-robot collaboration for a smart business ecosystem that promotes resource efficiency and the bioeconomy. The scope of Industry 5.0 expands beyond the manufacturing industry, including other business sectors, such as agriculture or healthcare. Alternatively, the European Commission builds on the Japanese concept of Society 5.0 and considers Industry 5.0 as a socio-economic structural shift towards a sustainable industry of the future. The European Commission indicates that Industry 5.0 should not be a chronological continuation of Industry 4.0. Instead, Industry 5.0 complements and, in many cases, extends the previous one, adding socio-ecological dimensions to Industry 4.0 (Breque et al., 2021).

In addition to the ambiguity of the definition, functionality, and boundaries of Industry 5.0, the literature holistically lags in explaining how this phenomenon can deliver the values of sustainable development. Comparatively, Industry 4.0 is relatively well studied, and the literature provides insight into the underlying mechanism by which Industry 4.0 delivers its values, such as manufacturing productivity (Hughes et al., 2022), supply chain innovation (Hahn, 2020), and sustainable manufacturing (Ng et al., 2022). Although scholars have recently made important contributions to understanding the value of Industry 5.0, these early contributions addressed the micro implications of the phenomenon. Nevertheless, little has been done to understand how a transformative phenomenon such as Industry 5.0 and its sustainability functions can impact various micro and macroeconomic, environmental, and social sustainability goals.

Referring to the knowledge gaps discussed, the following research questions should be answered:

1. What are the basic components and sustainability values of Industry 5.0?
2. How can Industry 5.0 provide sustainable development values?



## Book of Proceedings

The concept of Industry 5.0 has caused many controversies among scientists and industrial communities. Researchers have offered various reasons for the prevalence of Industry 5.0. For example, Ozdemir and Hekim (2018) defined Industry 5.0 as an evolutionary but incremental upgrade of Industry 4.0. Conversely, Nahavandi (2019) and Kumar et al. (2021) criticized the productivity of Industry 4.0, suggesting that Industry 5.0 marks the emergence of industrial operations fueled by a new wave of disruptive technologies that promote synergistic integration of man and machine while improving working conditions, employment, and productivity. Although they provided different perspectives on this phenomenon, these studies agree on two fundamental characteristics of Industry 5.0.

- First, they unanimously recognized that Industry 4.0 and the underlying industrial transformation were associated with significant shortcomings, such as the digital divide or technology-centricity. Recent studies clearly outline such limitations or negative impacts of Industry 4.0 on sustainability.
- Second, scientists widely believe that while Industry 5.0 builds on the technological elements of Industry 4.0, it is associated with radical technological advances in cognitive artificial intelligence, energy transition technologies, and smart materials.

The development of the Industry 5.0 paradigm took a new turn when the European Commission published the perspective of European technological leaders on the plan of the future European industry under the label Industry 5.0. While discussing the challenges of the term "Industry 5.0", it is suggested that "Industry 5.0 should not be understood as a replacement or an alternative, but an evolution and logical continuation of the existing Industry 4.0 paradigm".

Although it is recognized that Industry 5.0 is centered on people and environmental values, it is suggested that this phenomenon should ensure that new technological innovations are shaped in support of socio-ecological development (Müller, 2020). In 2021, the European Commission announced its Industry 5.0 agenda for a resilient, sustainable, and human-centric European industry. According to this agenda, Industry 5.0 expands the paradigm of Industry 4.0 to prioritize emerging social-ecological needs (Breque et al., 2021). At the beginning of 2022, the European Commission took a stronger stance against Industry 4.0, arguing that this paradigm cannot be considered an appropriate framework for solving the prevailing climate crisis and social tensions (Renda et al., 2022). It proposes that Industry 5.0 represents a new vision of the industry, redefining the role and functionality of value chains, business models, and digital transformation in a hyper-connected business environment. According to this and new academic contributions, Industry 5.0 differs from Industry 4.0 in the following ways:

- Industry 5.0 values both productivity-driven competitiveness and sustainable development;
- Industry 5.0 empowers the human workforce by promoting a people-centered approach to technological development;
- Industry 5.0 promotes technological innovation in the field of environmental sustainability;
- Industry 5.0 promotes stakeholder primacy in technology management, innovation growth, and sustainability performance management;
- Industry 5.0 relies on certain technologies and functional principles to extend the scope of corporate responsibility to the entire value chain.

### ***EVOLUTION TOWARDS INDUSTRY 5.0***

The emergence of Industry 5.0 is driven by the positive influences and limitations of related concepts including Industry 4.0, Society 5.0, and Operator 5.0.

Industry 4.0 is characterized by technological advances that have a significant positive impact on profits while neglecting environmental and social aspects. Rapid industrialization also results in the degradation of workers' health and safety, which requires a sustainable Industry 4.0 framework. On the other hand, the

circular economy and sustainable business models are research trends in the implementation of Industry 4.0. Strategic, operational, environmental, and social opportunities are the drivers of the implementation of Industry 4.0, while the perception of the potential and challenges related to Industry 4.0 depends on the different characteristics industry and manufacturers.

Rapid progress in the field of smart sensors and portable devices is stimulating the formation of a smart operator workspace, identified as Operator 4.0. The vision of Operator 4.0 enables future workers to deal with complex production by improving their skills and skills. In the concept of Human-Cyber-Physical Systems (Human-Cyber-Physical Systems) and adaptive automation, Operator 4.0 excels in the tasks of using systems supported by automation, i.e. the symbiosis of man and automation in the human-centered smart factory.

Industry is an integral component of society. From a socio-technical systemic aspect, the transformation of industry promotes the evolution of society and vice versa. Society 5.0 is defined as "a high degree of cyber-physical space connectivity, balanced economic progress with solving social problems by providing goods and services to satisfy latent needs regardless of location, age, gender or language." Society 5.0 foresees a revolution not only in industry through IT integration but also in people's living spaces and habits. The vision of Society 5.0 is characterized by four parallel concepts (Figure 1).

- a human-centered society,
- connecting cyberspace with physical space,
- a society with intensive knowledge,
- data-driven society.

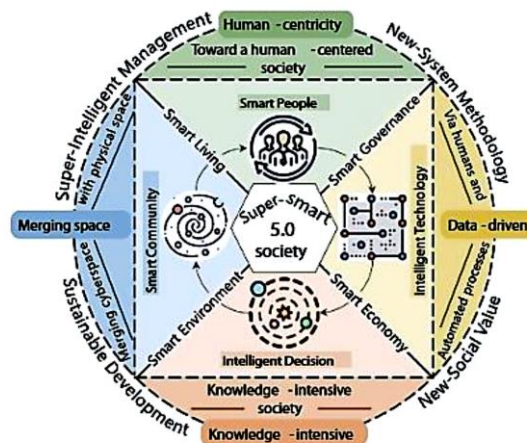


Figure 1. The concept of Society 5.0

Source: Leng et al., 2022

## ***FROM INDUSTRY 4.0, OPERATOR 5.0 AND SOCIETY 5.0 TO INDUSTRY 5.0***

In the past decade, the initial blueprint of Industry 4.0 has undergone a tremendous evolution. Advanced technologies such as artificial intelligence, robotics, blockchain, augmented reality, and data analytics are emerging as enablers to improve efficiency in manufacturing operations. A large number of technological manufacturing innovations have been put into practice, so it is speculated that by 2050 the technology will advance to the point of complete autonomy. Technologies that are brought about by Industry 4.0 have an impact on better productivity and product quality, which has a positive impact on society's infrastructure and industrialization. However, unlike technological innovation, Industries 4.0, Society 5.0, is conceived as a sustainable, inclusive socio-economic system that has far wider domains than Industry 4.0.

Society 5.0 incorporates the production-oriented innovations of Industry 4.0 (e.g. the Internet of Things, artificial intelligence, robots) into industry and social life, making humanity more adaptable. Society 5.0 goes beyond production and solves social problems by connecting cyberspace with physical space, thus revealing the full potential of people and the Internet.

Sustainable production systems stimulated by Industry 4.0 are useful for Society 5.0, which sees man as a source of innovation and technological transformation. Similarly, Industry 4.0 implements digital transformation in industries, while Society 5.0 encourages people to engage in digital reconstruction.

Currently, there is an urgent need to review the Sustainable Development Goals (SDGs) and the essential role of people in industrial development. By comparing the interrelationships between the goals of digitization and the SDGs, which are reflected in the concepts of Industry 4.0 and Society 5.0, a basis can be found for an integrated approach that combines the key provisions of business competitiveness, sustainable development, and the information society. In general, industrial revolutions and societies will complement each other and coevolve.

To facilitate the development of Industry 5.0 transformation, related concepts including Industry 4.0, Society 5.0, and Operator 5.0 can be summarized in a single system – "Industry 4.1" (Figure 2).

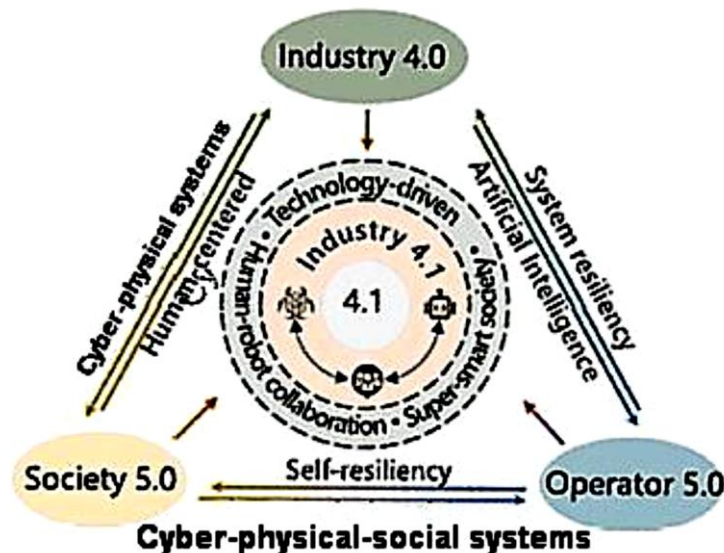


Figure 2. Unified system Industry 4.1

Source: Müller, 2020.

The new industrial revolution will take a long time, so it is necessary to establish a buffer period between Industry 4.0 and Industry 5.0. The human-centered super-smart society, Society 5.0, is well suited to this role and lays the social foundation for the transition to Industry 5.0. Around that, Operator 5.0 provides a reference point for the smart manufacturing paradigm of Human–Robot Collaboration, reflecting the importance of human-centered thinking. The concept of Industry 5.0 is certainly advanced and represents a starting point. However, the emergence of Industry 5.0 is not a coincidence, but a necessity in the process of industrial history when the world industrial level develops to a certain period, and people's living standards develop to a certain stage.

## **TECHNOLOGIES THAT ENABLE INDUSTRY 5.0**

Technological trends such as digital twins, blockchain, big data, metaverse and human factors engineering are combined into innovations with cognitive skills and development concepts, so enable the flow of



advanced knowledge through technologies and enable the Industry 5.0 model. Based on the literature review, typical technologies that enable the realization of Industry 5.0 are presented (Figure 3).

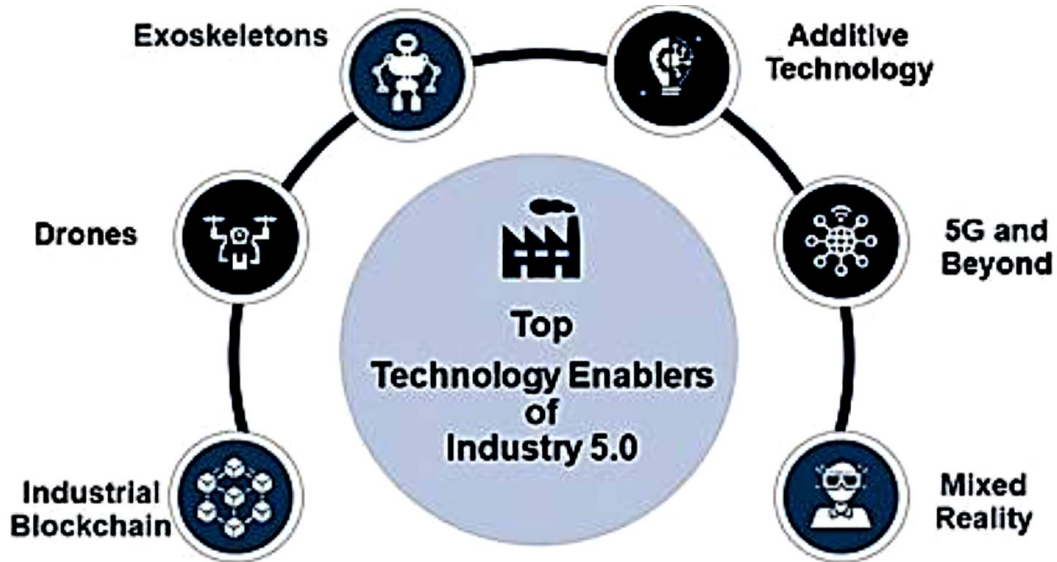


Figure 3. Technologies that enable Industry 5.0

Source: European Commission, 2020.

As can be seen, Industry 5.0 is not a technology-driven revolution, but a value-driven initiative that drives technological transformation with a purpose (Figure 3). Industry 5.0 presents some unique challenges, such as:

- social heterogeneity in terms of value and acceptance,
- measuring the generation of ecological and social values,
- customer integration through entire value chains up to small and medium enterprises,
- interdisciplinary research and system complexity,
- ecosystem-oriented innovation policy with agile outcome orientation,
- productivity is needed, but also large investments (Raj et al., 2020).

### **REFERENCE MODEL OF INDUSTRY 5.0**

Industry 5.0 is still understudied, and early studies offer different concepts of this phenomenon and its basic components. To respond to the ambiguity and complexity of this phenomenon, the Industry 5.0 reference model was developed and presented (Figure 4).

This model provides a holistic overview, describing the technological factors, principles, components, and goals of the core values of Industry 5.0. By the plan of the European Commission, Industry 5.0 is considered a socio-technological phenomenon. Industry 5.0 is a technological phenomenon, as it focuses on technological progress and the digitization of industrial value networks. Industry 5.0 is also a social (sociological) phenomenon because it is built on a culture of social dialogue between stakeholders to manage and direct technological innovations to promote basic sociocultural values, such as human dignity, equality, privacy, and autonomy (Renda et al., 2022).

Figure 4 shows that the enabling technologies of Industry 5.0 constitute the basic layer of the reference model. This layer consists of technologies that have emerged and matured since the third industrial revolution and which have become commercially accessible and applicable since the emergence of Industry 4.0. Smart computer tools for design and manufacturing (CADM), cloud computing, big data analytics,

and enterprise planning systems are examples of technologies that enable primary production and the goal of increasing the efficiency of digitized business ecosystems within Industry 5.0 (Xu et al., 2021).

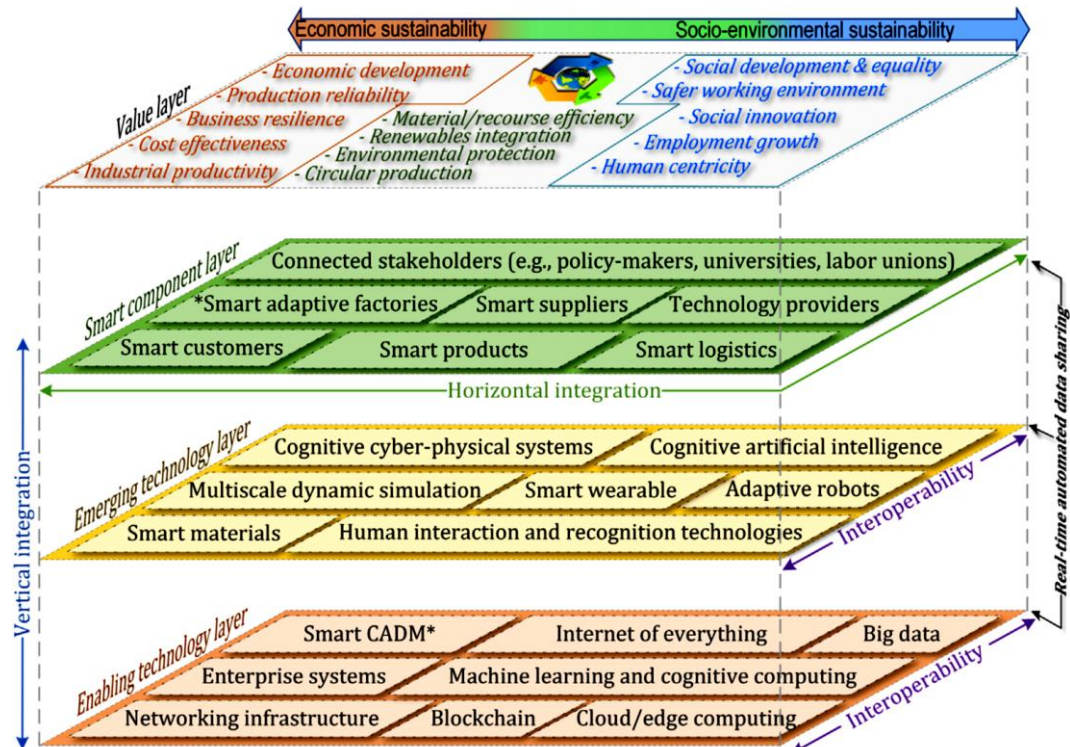


Figure 4. Reference model of Industry 5.0

Source: Renda et al., 2022.

Industry 5.0 also relies on technological innovations listed under emerging technologies in the reference model to achieve the basic goals of people-centeredness, resilience, and sustainability. Figure 1 shows that cognitive cyberphysical systems, cognitive artificial intelligence, and smart wearables are among the emerging technologies of this phenomenon. Considering a human-centric approach to the manufacturing environment, Industry 5.0 relies on adaptive robots, cognitive cyber-physical systems, and human interaction and recognition technology to develop a human-centered solution that prioritizes the basic needs of employees while maintaining or improving productivity (Naddikunta et al., 2022).

Regarding the resilience goal of Industry 5.0, enterprises can rely on dynamic simulation, cognitive artificial intelligence, and big data to develop a digital replica of supply chain operations and identify bottlenecks, weak links, risks, and imminent disruptions to improve the adaptability and responsiveness of networks supply. Alternatively, modern supply chains can use the Internet of Everything (IoE), blockchain, smart materials, and smart computer-aided design tools to increase operational agility and move toward new business models that support product personalization and servitization (Frederico, 2021).

The third layer of the reference model represents the smart components of this phenomenon. Like its predecessor, Industry 5.0 represents a paradigm shift that involves the digitalization of industrial value chains (Rupa et al., 2021). However, Industry 5.0 differs from Industry 4.0 because it takes a stakeholder-centric approach to defining the impact of this phenomenon and the combination of expected value (Madsen, Berg, 2021). The smart component layer of the reference model consists of smart buyers, suppliers, logistics, technology suppliers (suppliers), and adaptive factories, which together create a data-driven hyper-connected business ecosystem (Renda et al., 2022).

More importantly, connected stakeholders, such as policymakers, universities, and trade unions, are necessary components of Industry 5.0. The integration of related stakeholders is critical for Industry 5.0 because the phenomenon is primarily technology-based, and most socio-ecological values cannot be





## Book of Proceedings

delivered without the systemic management of technology imposed by stakeholders (Sanuik et al., 2022). The European Commission even believes that Industry 5.0 requires Government 5.0 to respond to the needs of policy, regulation, financing, and innovation management (Renda et al., 2022).

The presented reference model is primarily applicable to the manufacturing industry, but its components can be adapted to any industrial environment, given that the ripple effects of Industry 5.0 are spreading beyond the manufacturing sector. For example, Industry 5.0 can have important implications for healthcare, and its components can be adapted to the specifics of this sector (eg, by adding smart hospitals and adapting components of a smart adaptive factory to produce personalized healthcare products) (Naddikunta et al., 2022).

The two-way arrow at the top of the value layer in the reference model indicates that Industry 5.0 is not only economically driven because it systematically strives to balance economic and socio-ecological sustainability. The Industry 5.0 reference model indicates that different aspects of economic, environmental, and social sustainability within the value layer are interconnected, so synergistic complementarity between them requires stakeholders to simultaneously pursue different sustainable development goals.

Business, supply chain, and economic resilience are the most emphasized goals of the economic sustainability of Industry 5.0 (Akundi et al., 2022). Within environmental sustainability, values include preserving ecological and resource integrity by promoting a circular economy, carbon neutrality (net-zero), integration of renewable sources, and resource efficiency (Breque et al., 2021). The social sustainability values of Industry 5.0 include promoting a human-centric approach to place basic human needs and rights at the center of the industrial economy, promoting social development, employment, equality, and human agency (Carayannis et al., 2020).

In addition to enabling emerging technologies, Industry 5.0 relies on certain techno-functional principles to deliver the intended aspect of digital transformation. As shown in the reference model, vertical integration, horizontal integration, interoperability, and real-time data sharing are among the fundamental techno-functional principles of Industry 5.0. When properly developed, techno-functional principles facilitate the development of the sustainable development functions of Industry 5.0. For example, the principle of automated real-time data sharing allows smart objects and modules of Industry 5.0 components to communicate vertically or horizontally in real time when needed. These principles also represent the basic technical conditions that allow the components of Industry 5.0 to use the basic technologies and function properly according to the objectives of Industry 5.0.

### ***KEY FACTORS OF INDUSTRY 5.0***

In the relevant literature, several key points stand out and distinguish the transition from Industry 4.0 to Industry 5.0 and can be used as drivers for the implementation of Industry 5.0. They can be divided into two groups:

- human-centered approach,
- awareness of the impact on the environment.

These two groups have one thing in common – achieving a sustainable system. Each of the components brings many advantages to the production system but also generates certain barriers.

**A human-centered approach.** After Industry 4.0 initiated the complete digitization and automation of repetitive human work, it created one of the biggest barriers to its implementation. Many professions may indeed disappear due to the automation of work, but the need for human resources is one of the most important components of the industry. That's why Industry 5.0 puts people at the center of the system and understands human knowledge and skills as one of the most valuable resources and a source of competitive advantage. Local governments have recognized the need for new professional staff in digital technologies, which is why the education system is also facing numerous changes. Today, there are more and more examples of "learning factories" that are, most often, part of academic institutions, but are used not only



## Book of Proceedings

for the education of students but also for the education of working professionals who accept the concept of lifelong learning and improvement.

**Flexibility and modularity.** The unexpected global crisis and supply chain disruptions have made modularity and flexibility of systems become the most important goals of manufacturing companies. Another trend that emphasizes the need for flexibility is product customization, which leads to significant product variations with a shorter time for preparation and production planning. This can be achieved at the software level by advanced systems (digital twins) that control and adjust hardware (machines, robots, etc.), which is often called self-optimization. One of the hardware solutions that enable flexibility is collaborative robots that are cost-effective, safe, and flexible.

**Human factors, ergonomics, well-being, and ethical technology.** A special focus in Industry 5.0 is given to the interaction between man and machine, which can partly be understood as a continuation of the use of collaborative robots. Ergonomics and measurement standards can be implemented in digital twins, but there is also an increased need to use specialized ergonomic software, such as Siemens Jack, Ergo-Plus, VelocityEHS, or SHERPA Software. The motivation of workers is also one of the key components of Industry 5.0, which can be increased not only by the ergonomic design of the workplace but also by applying the principle of well-being in the working environment. Well-being principles can improve worker health and minimize the impact of stress-related psychosomatic illnesses that lead to worker absenteeism. With the increased use of artificial intelligence, certain ethical concerns have been raised. This includes the use and distribution of collected data, security issues related to cybercrime, and worker safety. Therefore, the issues of reliable and ethical technology cannot only be discussed at the industrial level but also at the level of legislative bodies.

**Innovation management.** Innovation is one of the leading advantages of any company that increases market competitiveness. The need for system flexibility and adaptation to market requirements and needs has placed innovation management as one of the most important organizational points of the Industry 5.0 concept. This includes the specific management of the organization's innovation process, in which people from every organizational level must be involved. A set of tools that allow employees to better understand processes and internal goals can be expanded as part of the R&D department, all to reduce production costs, increase product quality, and shorten time to market.

**Green and sustainable production.** With the preservation of the climate and the reduction of general pollution, green technologies have become the most important in every aspect of human life, including industry. Using sustainable energy sources and increasing energy efficiency is another point to be achieved with Industry 5.0, and the use of advanced technologies enables an adequate transition to green standards and their optimization in the exploitation phase. This is closely related to the concept of circular economy which encourages recycling and reuse of materials and products to reduce waste, maximize usability, and minimize harmful impact on the environment. This is necessary to ultimately achieve a sustainable system that will not be subject to unexpected changes or disruptions in the market and to enable the implementation of a flexible human-centered system.

## *CONCLUSION*

Industry 5.0 is a natural development and improvement of the previously presented concept of digital production Industry 4.0. A human-centered approach makes it possible to avoid job losses due to intensive digitalization, while the use of artificial intelligence enables flexible and modular production with the growing trend of personalized products and dynamic and unstable market demands. Industry 5.0 is "environmentally conscious" because the increase in energy efficiency and the use of renewable energy sources leads to a positive impact on global demands for the manufacturing industry. Industry 4.0 required a drastic digital transformation with very high investments and unclear future benefits. Therefore, its implementation is not always fully ensured. With the raised awareness of digital technologies and



## Book of Proceedings

unexpected global events that have caused supply chain disruptions, but also the impacts of climate change, man today is more determined to start a digital transformation while being sure that he is one of the most important resources in the value chain.

Industry 5.0 is a concept that is designed to match the workspace and the efficiency of people and machines in a consistent way. Enabled by a range of new applications and supporting technologies, Industry 5.0 is expected to increase production and customer satisfaction. There are many challenges and open questions on the way, such as security, privacy, human-robot collaboration in the factory, scalability, and skilled labor that should be addressed to better realize the concept of Industry 5.0 in the near future. Of course, the analysis of all building elements of Industry 5.0 has yet to be developed, and until then the concepts will coexist until the limit when they are not competitive with each other. If that happens, it is obvious that the Industry 5.0 initiative will prevail. So, it remains to be seen how it will happen in the coming period and how the implementation will take place.

## REFERENCES

- Akundi, A., Euresti, D., Luna, S., Ankobiah, W., Lopes, A., Edinbarough, I. (2022). State of Industry 5.0 – analysis and identification of current research trends. *Applied System Innovation*, 5(1), 2-14.
- Breque, M., Nul, L. D., Petridis, A. (2021). Industry 5.0: Towards a sustainable, humancentric and resilient European industry. European Commission, Brussels.
- Carayannis, E.G., Morawska-Jancelewicz, J. (2020). The futures of Europe: Society 5.0 and Industry 5.0 as driving forces of future universities. *Journal of Knowledge Economy*, 13, 3445–3471.
- Frederico, G. F. (2021). From supply chain 4.0 to supply chain 5.0: findings from a systematic literature review and research directions. *Logistics*, 5(3), 1-21.
- Hahn, G. J. (2020). Industry 4.0: a supply chain innovation perspective. *International Journal of Production Research*, 58(5), 1425–1441.
- Hughes, L., Dwivedi, Y.K., Rana, N. P., Williams, M. D., Raghavan, V. (2022). Perspectives on the future of manufacturing within the Industry 4.0 era. *Prod. Plann. Control*, 33(2–3), 138–158.
- Kumar, R., Gupta, P., Singh, S., Jain, D. (2021). Human Empowerment by Industry 5.0 in Digital Era: Analysis of Enablers. 2nd Int. Conf. on Future Learning Aspects of Mechanical Engineering, Springer Science and Business Media, Berlin, Proceedings, 401–410.
- Longo, F., Padovano, A., Umbrello, S. (2020). Value-oriented and ethical technology engineering in Industry 5.0: a human-centric perspective for the design of the factory of the future. *Applied Science*, 10(12), 1–25.
- Lu, Y., Zheng, H., Chand, S., Xia, W., Liu, Z., Xu, X., Bao, J. (2022). Outlook on human-centric manufacturing towards Industry 5.0. *Journal of Manufacturing Systems*, 62, 612–627.
- Maddikunta, P.K.R., Pham, Q.V., Deepa, N., Dev, K., Gadekallu, T.R., BP, Liyanage, M. (2022). Industry 5.0: a survey on enabling technologies and potential applications. *Journal of Industrial Information Integration*, 26, 1-19.
- Madsen, D.Ø., Berg, T. (2021). An exploratory bibliometric analysis of the birth and emergence of Industry 5.0. *Applied System of Innovation*, 4(4), 1-15.
- Müller, J. (2020). Enabling Technologies for Industry 5.0: Results of a Workshop With Europe's Technology Leaders, Brussels.
- Nahavandi, S. (2019). Industry 5.0-a human-centric solution. *Sustainability*, 11(16), 1-13.



**Book of Proceedings**

Ng, T. C., Ghobakhloo, M., Iranmanesh, M., Maroufkhani, P., Asadi, S. (2022). Industry 4.0 applications for sustainable manufacturing: a systematic literature review and a roadmap to sustainable development. *Journal of Cleaner Production*, 334, 2022, 130133.

Özdemir, V., Hekim, N. (2018). Birth of Industry 5.0: making sense of big data with artificial intelligence, "the internet of things" and next-generation technology policy. *OMICS*, 22(1), 65–76.

Raj, A., Dwivedi, G., Sharma, A., Jabbour, B., Rajak, S. (2020). Barriers to the adoption of Industry 4.0 technologies in the manufacturing sector: an inter-country comparative perspective. *International Journal of Production Economics*, 224, 107546.

Renda, A., Schwaag Serger, S., Tataj, D., Morlet, A., Isaksson, D., Martins, F., Giovannini, E. (2022). Industry 5.0, a transformative vision for Europe: governing systemic transformations towards a sustainable industry. European Commission, Brussels.

Rupa, C., Midhunchakkaravarthy, D., Hasan, M.K., Alhumyani, H., Saeed, R.A. (2021). Industry 5.0: ethereum blockchain technology based DApp smart contract. *Math. Biosci. Eng.*, 18(5), 7010–7027.

Saniuk, S., Grabowska, S., Straka, M. (2022). Identification of social and economic expectations: contextual reasons for the transformation process of Industry 4.0 into the Industry 5.0 concept. *Sustainability*, 14(3), 1-20.

Sindhvani, R., Afridi, S., Kumar, A., Banaitis, A., Luthra, S., Singh, P.L. (2022). Can Industry 5.0 revolutionize the wave of resilience and social value creation? A multi-criteria framework to analyze enablers. *Technology in Society*, 68.

Xu, X., Lu, Y., Vogel-Heuser, B., Wang, L. (2021). Industry 4.0 and Industry 5.0 – inception, conception and perception. *Journal of Manufacturing Systems*, 61, 530–535.



Book of Proceedings

***FACTORING FROM THE ASPECT OF NATIONAL AND INTERNATIONAL LAW***

*Milica Miloradović<sup>1</sup>  
Nevenka Vojvodić Miljković<sup>2</sup>*

***ABSTRACT***

*In today's business world, there are difficulties in the field of financing the lending of business entities. These difficulties are present in both national and international business frameworks, and they are being overcome by introducing specific methods and instruments. One of these methods is factoring business. The emergence of the factoring business is linked to the United States in the mid-fifties of the last century. The definition of factoring, in the most general terms, can be said to represent the redemption of receivables. In many countries, there is no precise definition regarding the conceptual and legal definition of factoring. This paper analyzes the concept of factoring as well as receivables as a subject of factoring. For a factoring business to be valid, it can only be performed based on a contract concluded in written or electronic form, therefore there is a factoring agreement. The ministry or a certain competent body appears as the supervisor over the performance of this work. This paper analyzes the existing regulations in the Republic of Serbia related to factoring, and aspect of international law. Like any contract or business, factoring has its advantages and disadvantages, which are pointed out in this paper. The role of this way of raising funds is to first help small and medium enterprises that have difficult access to bank loans.*

***Key words:*** *factoring, advantages, disadvantages, law, contract, risk.*

***JEL Classification:*** *K22, K42*

***INTRODUCTION***

Factoring is now universally accepted as vital to the financial needs of small and medium-sized businesses. As such it has the support of governments and central banks around the world. Factoring has a positive effect on the macroeconomic aspects of the national economy. These include the preservation of indicators of total employment, improvement of the exchange rate of the national currency, a better result of the country's balance of payments, growth of the gross domestic product, and others. Different types of factoring help not only small and large businesses but also large companies to overcome all the dangers that arise in international business.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milica.miloradovic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, nevenka.vojvodic@vspep.edu.rs



## Book of Proceedings

### ***RISKS IN FACTORING***

Risk in financial transactions is the probability that all or part of the funds will be lost. The factoring business, in which the factor buys the claim, is a business that carries with it certain risks. The basic risk is the risk of collecting receivables or the risk of collecting a smaller amount compared to the purchased amount.

The following risks are possible in factoring.<sup>1</sup>

The risk on the seller's side consists in improper delivery of goods where the buyer can refuse payment in whole or in part. The factor pays special attention to the type of goods and their production and delivery method. In this sense, the following are important: the nature of the goods, the contract with the customer, the method of production, and others. The factor must anticipate the possibility of a claim and its range to determine the amount of the advance and the type of factoring based on that.<sup>2</sup>

The risk on the buyer's side is in the form of less payment or complete non-payment by the buyer. The so-called risk of the insurance company exists in the case when the bank directly insures purchased claims, the insurance company is a client of the bank, and the insurance is the primary source of repayment (in the case when the policy is tied in favor of the bank, the primary source of repayment is the customer's creditworthiness and the secondary insurance as a security instrument).

Risk of misinterpretation of the contract based on which the receivables are redeemed.

Risk in case of bankruptcy or high supplier blockade, when the buyer often looks for excuses not to fulfill the payment obligation to the factor.

Factoring fraud is an ever-present risk in receivables financing. Frauds most often occur in the following cases:

- issuance of false and falsified invoices,
- purchase of receivables based on invoices assigned to other parties;
- if the seller collects money from the buyer that the buyer should have paid to the factor, it is not fraud, but it is a breach of contractual obligations and a sign that fraud may occur,
- falsified financial report.

It often happens that clients in certain cases try to obtain funds from the factor by issuing false invoices.

### ***WAYS TO MITIGATE RISK IN FACTORING***

Some actions can be taken to minimize the risk. These are the following activities:

- Analyzing the customer from a financial and market point of view.
- In the case of a limit with several customers, the percentage of exposure to each customer should be defined and the customers constantly analyzed.
- Analyze the historical cooperation to determine the level of historical complaints and possible delays in payment terms by the customer.
- Strive for confirmed factoring, as a prerequisite for implementation, define the mandatory delivery of a certified invoice.

---

<sup>2</sup> "Factoring", Pančevo Regional Chamber of Commerce, Board of Associations of Banks, Insurance Organizations and Other Financial Institutions.





## Book of Proceedings

- A thorough analysis of the modernity and adequacy of the capacity of the receivables seller should be carried out to establish whether it can satisfy the qualitative and quantitative types of orders of demanding clients.
- Compare data in the relationship between "seller" and "customer" through customer cards (receivables) and supplier cards (liabilities) and other documents.
- Monitor the flow of payments, and whether there are any deviations in the pace of payments.
- Perform an analysis of the basic contract to determine whether compensations or assignments are possible.

### ***ADVANTAGES OF FACTORING***

Factoring has become popular all over the world for the services it offers. Factors provide services from financing to credit sales management. The advantages of factoring for companies are multiple. Using factoring in business allows the company to keep up with all the changes occurring in the market, and to be able to react to them promptly both in the country and abroad. As well as to reduce costs, which would exist if it were to collect receivables on its own or based on proven loans.

The most significant advantages of factoring are the following.

#### ***1. Simple acquisition of funds, usually without additional insurance***

Factoring provides the necessary funds for the current business without providing any additional insurance. Efficient business financing is enabled, without engaging additional bank loans and without administrative procedures.

#### ***2. Greater business efficiency***

Factoring takes over all operational tasks related to assigned receivables, which contributes to the psychological and work relief of employees who are offered the possibility of more productive work and better use of working time.

#### ***3. Greater business security***

Checking the creditworthiness of customers in the country and abroad becomes the obligation of the factoring company. This gives a clearer picture of business partners and greater certainty in making business decisions regarding expanding the scope of cooperation with individual customers. In the case of export receivables, the factoring company assumes the payment risk of customers and thus fully protects against the risk of non-payment, and also provides business advice to improve contractual relations with customers.

#### ***4. Rational and efficient spending of funds***

Funds that enable factoring are withdrawn according to one's own needs. Premature or on-time payments to suppliers, as well as advance payments, are some examples of their possible use and the greater degree of efficiency that is achieved in this way. The permanent factoring option enables better planning of market growth in conditions of large market supply because companies can offer new customers favorable terms of deferred payment.

#### ***5. Extension of payment terms***

Factoring financing allows companies to approve deferred payment of invoices to their customers, that is, to additionally extend the agreed roll of deferred payment, and thus can contribute to a larger volume of orders or more favorable prices.

#### ***6. Easier cash flow planning***



## Book of Proceedings

Factoring enables monitoring of the cash flow and its simpler planning since the companies themselves influence the inflows.

### ***7. Establishing a better term structure***

The convenience of factoring is the possibility of establishing a better term structure of the balance sheet. The company must finance the revolving sphere, as well as investment activities by following the golden rules of financing. They indicate the obligation to finance short-term assets with short-term sources, and long-term assets with long-term sources. Factoring achieves the best term compliance. The term of the financing source is equal to the term of the claim.

### ***8. Asset-based financing***

In contrast to other ways of lending funds, where borrowing increases the borrower's liabilities, with factoring, financing is done based on assets. This increases indebtedness, preserves creditworthiness, and improves liquidity in the segment of small and medium-sized businesses.<sup>1</sup>

### ***9. Positive impact on working capital costs***

The impact of factoring on the costs of financing working capital is twofold because factoring affects both determinants of the costs in question, the number of required assets and the costs of financing them. If the cash cycle is shorter, the company manages working capital better, and if it is longer, the company manages working capital worse, that is, more money is needed in the process of procurement, production, delivery, and collection. This requires the need for additional funds and additional sources of financing.

### ***10. Some more advantages of factoring business are***

Better conditions for new clients; The company's growth is financed without new debt; There are no personal guarantees, unlike other credit programs; Easier financing of seasonal production; Less time and effort to collect claims because the factor specializes in those jobs.

## ***DISADVANTAGES OF FACTORING***

In addition to its advantages, the factoring business also has its disadvantages, which can be reduced to the following.

1. Businesses with too much reliance on factoring companies can result in too much trading volume and mismanagement.
2. Too much reliance on the factoring company may result in the loss of good business relations with clients, due to factoring companies taking over important functions.
3. Some types of companies are not attractive for factoring, they are:
  - small companies,
  - companies that have claims against a small number of small clients,
  - companies with many small clients,
  - companies with speculative business,
  - companies with a wide range of products that are sold mainly to individuals.
4. The costs of factoring are usually higher than the costs of bank loans, so the price of the final product is higher.

---

<sup>1</sup> Jović Z. (2010), Trendovi razvoja faktoring poslova u EU, 6. Naučni skup sa međunarodnim učešćem Sinergija, Bijeljina.



## Book of Proceedings

5. Some buyers do not want other parties involved, other than the seller.
6. Factoring is short-term financing and cannot meet all business needs.
7. The client may suffer a significant loss of income, taking into account all commissions and risk of loss involved.

### ***FACTORING IN INTERNATIONAL LAW***

In its country of origin, factoring was regulated by the US Uniform Commercial Code only after a long application and rich judicial practice<sup>1</sup> from 1962, in which factoring is defined as a contract, by which the factor transfers funds to the client and the claims are transferred to him by the client represent security for the cash loan received from the factor. In addition, the American system provides for a system of registration of transferred claims. A different conception of this contract is evident in the American legal system, where transferred claims have the character of a real asset that secures a given loan. In addition to rich judicial practice, which is a source of law in the Anglo-Saxon legal system, a special law called the Factors Act was passed in Great Britain as early as 1889, which, however, refers more to the general institution of representation (agency), which is the forerunner of factoring. In the continental civil law legislation, this institution of Anglo-American law had a different treatment. While in Germany, the general provisions of the cession contract are applied to factoring, on the other hand, in France, the institute of personal subrogation has been adopted as the basis of factoring. The factoring contract in France is regulated by a special law from 1981 called Loi Dailly.

After many years of applying the general rules of civil law to factoring contracts, Italy passed a special law in 1991, which regulates the problem of transferring future claims in factoring contracts. The importance of factoring and its development at the global level is visible in the comparison of world factoring turnover in the period 1980-2000. Of the continents, Europe has the largest share in the world factoring at 60%. Great Britain achieved a turnover of 268 billion euros in 2011, but in the same year, it lost its primacy as the world leader. That is, in seven years, China increased its turnover from 5.8 billion euros to 274 billion euros in 2011 and became the leader at the world level, in terms of realized turnover.

Currently, the largest and most important factoring organization at the world level is FCI (factors chain international), and it includes 265 factors in 73 countries. The constant growth of factoring turnover is stimulated by the systematic growth of turnover in developed and developing countries. Growth is driven by the activities of special factoring companies owned by banks and is fueled by a greater understanding of the factoring business and a better perception of risk.

### ***UNIDROIT CONVENTION ON INTERNATIONAL FACTORING***

Until 1988, the factoring contract was regulated on the international level only by the rules of common law as well as by some general business conditions of banks and specialized factoring companies. That year saw the end of several years of work within the International Institute for the Unification of Private Law in Rome on the creation of unique rules that will unify the rules governing this contract at the international level. The Convention on International Factoring was adopted on May 28, 1988, at a diplomatic conference held in Ottawa, and entered into force in 1995 after three ratifications. As a result, the Convention had to reconcile the different concepts by which factoring was concluded in common law and civil law countries.

---

<sup>1</sup> Uniform Commercial Code (UCC)



## Book of Proceedings

### ***FACTORING IN NATIONAL LAW***

In Serbia, factoring has long been regulated by the following regulations: the Law on Obligations, and the Law on Foreign Exchange Operations. The Law on Banks stipulated that a bank may, by the law, carry out purchases and sales and collection of receivables.

By introducing solutions from the Convention through ratification into national legislation or through the incorporation of its solutions into national laws, the harmonization of national rules on factoring is achieved. Therefore, the signing of this Convention and its ratification will be important for the development of international factoring in Serbia.

In Serbia, the factoring business is regulated by the Factoring Act.<sup>1</sup> The factoring law regulates the concept and subject of factoring. The concept of participants (subjects in factoring), terms and methods of performing factoring, types of factoring, rights, and obligations of participants in factoring, factoring contract, reverse factoring, and supervision of factoring are regulated.

Some of the companies that have permission to perform factoring work in Serbia:

- Factoring company Profinance doo Belgrade,
- ABL factor doo Belgrade,
- Centar Faktor doo Belgrade,
- Alchemist Faktor doo Belgrade,
- Ideal Finance doo Belgrade,
- Emelion Faktoring doo Belgrade.

### ***CONCLUSION***

In a dynamic and developed economic environment, a company can gain a competitive advantage by effectively managing sources of financing. One of how a company can quickly obtain liquid assets and without personal borrowing is through factoring - by selling claims it has to third parties.

Factoring business is a financial instrument by which the factor finances companies based on future (non-due) claims arising from the sale of goods or services on the domestic or foreign market.

What is an advantage for small companies with weaker creditworthiness and borrowing capacity is that the factor will be very happy to purchase receivables from creditworthy customers on more favorable terms. Companies can contract limits with the factor, which defines the conditions under which two or more invoices from the business in question will be purchased. Banks also offer short-term limits for the approval of all types of short-term products that provide the client with much-needed liquidity within 24 hours.

The main risk of factoring lies in the collection of receivables from the customer, and the aim is to ensure that the certainty of the collection is not called into question. Depending on the dominant elements, there are various types of factoring. Factoring business has its advantages for both the client and the buyer. Factoring is an effective way to obtain funds for the development of companies. The factoring service should be considered in your business as a way for the development of the company and its progress.

Factoring has advantages because it is short-term financing of companies based on the purchase of future unpaid receivables. It is also a flexible source of funds that grows in line with sales growth. Funds are available immediately after the sale of receivables to the bank. The benefits for users are manifold. They are improving the quality of business financial parameters, then increasing competitiveness, reducing or even eliminating the risk of collection, then reducing financing costs.

---

<sup>1</sup> Sl. glasnik RS, br.62/2013 i 30/2018



## Book of Proceedings

Factoring is suitable for all companies that are not attractive to traditional short-term lending. Due to the crisis, the number of such clients is increasing, so factoring is one of the ways of providing additional liquidity to the "dead" part of the national economy. Factoring also affects the macroeconomic aspects of the national economy.

### **REFERENCES**

- Bejatović M. (2009). Privredno pravo. Univerzitet Privredna akademija, Pravni fakultet, Novi Sad.
- Bejatović, M., Stojković, M. (2019). Vrednosti rimskog prava u svetlu elektronske trgovine današnjice. Zbornik radova 16. Međunarodnog naučnog skupa „Pravnički dani-prof.dr. Slavko Carić“, Univerzitet privredna akademija Novi Sad, Pravni fakultet.
- Gorenc, V. (1988). Ugovor o faktoringu. Školska knjiga, Zagreb.
- Jović, Z. (2008). Menadžment finansijskih institucija. Univerzitet Singidunum, Beograd.
- Knežević, P. (2008). Ugovor o faktoringu u praksi banaka. Pravni život, 12.
- Kovačević, R. (2005). Značaj i uloga faktoringa kao instrumenta finansiranja izvoza-iskustva novih članica EU. *Ekonomski anali*, 50(165), 81-103.
- Krasulja, D., Ivanišević, M. (2001). Poslovne finansije. Beograd, Ekonomski fakultet.
- Milenković Kerković, T., Spirović Jovanović L. (2013). Obligacije i ugovori trgovinskog prava. Niš, Ekonomski fakultet.
- Spasić I. (2006). Značaj ugovora o cesiji kod ugovora o faktoringu. *Strani pravni život*, 3, 129-141.
- Spirović Jovanović, L. (2001). Trgovinsko (privredno) pravo sa osnovama prava, Beograd, Ekonomski fakultet
- Todorović, M. (1979). Ugovor o faktoringu. Beograd. Ekonomski fakultet
- Vasiljević, M. (2018). Kompanijsko i trgovinsko pravo. Beograd: Službeni glasnik
- Velimirović, M. (2001). Privredno pravo. Srpsko Sarajevo, Pravni fakultet
- Zakon o faktoringu (Sl. glasnik RS, br. 62/2013 i 30/2018)
- Zakon o zaštiti korisnika finansijskih usluga („Sl. glasnik RS“, br 36/2011)
- Zakon o sprečavanju pranja novca i finansiranja terorizma („Sl. glasnik RS“, br. 20/2009, 72/2009 i 91/2010);
- Zakon o platnom prometu („Sl. glasnik RS“, br. 3/2002 i 5/2003 i „Sl. glasnik RS“, br. 43/2004, 62/2006, 111/2009 – dr. Zakoni 31/2011);
- Zakon o obligacionim odnosima („Sl. list SFRJ“, br. 29/78, 39/85, 45/89-odluka USJ i 57/89, „Sl. list SRJ“, br. 31/93 i „Sl. list SCG“ br. 1/2003- Ustavna povelja);
- Zakon o deviznom poslovanju („Sl. glasnik RS“, br. 62/2006, 31/2011 i 119/2012);
- Zakon o rokovima izmirenja novčanih obaveza u komercijalnim transakcijama („Sl. glasnik“, br. 119/2012)



Book of Proceedings

***TRADITIONAL SOCIO-CULTURAL OBSTACLES TO THE  
DEVELOPMENT OF ENTREPRENEURSHIP IN SERBIA***

*Pešić Jenačković Dragana<sup>1</sup>  
Simić Žikica<sup>2</sup>*

***ABSTRACT***

*This paper deals with the consideration of the influence of external, non-economic factors (historical, political, cultural) on the economy of a country, the importance of cultural and psychological patterns (mentality, value system, understanding, habits, customs, etc.) on the work culture and entrepreneurship of members of a certain national culture, in this case, the state of Serbia.*

***Key words:*** entrepreneurship, entrepreneurial culture, individualism, collectivism, private initiative, willingness to take risks

***JEL Classification:*** L26

***INTRODUCTION***

Sociology as a science always starts from the assumption that the state of a country's economy is essentially determined by external, non-economic, or extra-economic factors and by a very complex of numerous social, political, and cultural factors. The attitude towards economic activities is fundamentally conditioned by certain views of the world of the population of that country, historical heritage, political circumstances, political system, tradition and cultural patterns, dominant value system, but also concrete evaluation of the work itself and the results of work. The level of economic development of a certain country and the well-being of its citizens also depend on all of this. There is a paradox that many countries and entire parts of the world that have enormous natural potential for economic development remain very poor because they do not know how to use their natural wealth, while on the other hand, there are countries in the world that have none of those natural resources but are among the richest countries of the world.

In our country, unfortunately, little has been written about the relationship between culture and economy and almost nothing about the relationship between religion and economy. Resistance to the study of this matter in our country comes especially from the theoretically influential circles of economists who believe that there is nothing to say about it. However, the works of recognized world experts from reputable world universities and institutes dealing with this scientific field testify that it is not so best. The connection between culture and economy is deep. The relationship between religion and economy is of particular importance. It is difficult to sustain a point of view according to which the model of economy and development of society is uniform because societies differ quite a bit in culture, mentality, custom, habits, and collective ideas (which often have a profound effect on motivational impulses in economic traffic (Stanković, 2013: 352).

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship Belgrade, Serbia, dragana.pesic@vspep.edu.rs

<sup>2</sup> College of Professional Studies for Criminology and Security, Niš, Serbia, zikicasimic@yahoo.com





Book of Proceedings

***CULTURAL AND RELIGIOUS DETERMINATION OF  
ENTREPRENEURIAL ACTIVITIES***

This problem dates back even further into the past or deeper into the national culture, which was not characterized by cultural influence on the individual in terms of the formation of traits that favor economic entrepreneurship. Namely, Serbian culture belongs to the circle of Orthodox culture that developed and nurtured values based on the individual's passivity: belief in fate, uncritical trust in a higher power and its help, obedience, and submission to various authorities (political and religious), uncritical adherence to tradition, rigid traditionalism and the like.

In this regard, the famous Russian religious philosopher drew a parallel between the Slavic and Orthodox civilizations, on the one hand, which he called feminine, and the Protestant-Germanic civilization, on the other hand, which he called masculine because it is characterized by the principles of organization, order, discipline, and activism, initiative, unlike the previous one, the Orthodox one, which is spontaneous, chaotic, passive, and as such dependent on that Germanic organizing principle.

And the famous sociological classic, Max Weber, wrote precisely about the Protestant confession, and the civilization that arose from it, as in many respects different or opposite to the Orthodox one. Namely, in contrast to Orthodox passivity stands Protestant activism. In his judgment, Orthodoxy sees man as a vessel shaped by God, thus as an object, while Protestantism sees man as an (active) tool of God.<sup>1</sup>

Through the comparison of Russian and Western culture, Berđajev brilliantly evoked this difference in understanding the place and role of man in society and relation to God. Namely, according to him, the independent initiative of individuals, classes, and groups was always weakly developed among Russians. The entire nation did not possess the organizational ability. The Russian man feels incapable of mastering the enormous size of his country and of organizing it. He is too used to leaving that organization to the central government, which seems to be transcendental to him. That is why dependence on authority, lack of initiative and activism, and a poorly developed sense of responsibility reigned among the Russian people.

He trusts too much in the Russian land and Mother Russia, while the Western man trusts in his intense energy and activity. The German feels that Germany will not save him, that he must save Germany himself. And the Russian thinks that he will not save Russia, but that Russia will save him. The Russian never feels like an organizer. Therefore, the Russian man must stop relying on someone else to do and achieve everything for him. When a Russian man is religious, then he believes that the saints or God himself will do everything for him, and when he is an atheist, then he thinks that the social environment should do everything for him (Berđajev, 2002: 38, 48-49).

Archibald Reiss, similar to Berđajev, writes about the lack of entrepreneurial spirit of the Serbs: "The modern young man believes that it is not his job to provide life for the state, but that the state is obliged to provide him with everything so that he can lead as pleasant a life as possible" (Rajs, 2008: 83). Even today, after a century since the time of Rajs, nothing much has changed. Even today, the most desirable jobs for young people in Serbia are in the overbooked public sector. Few of them decide to take a private initiative and start a business for self-employment.

As a result, we have too high expectations and dependence on the state. Although, the state itself does not create the best legal and economic environment for successful entrepreneurship. The main objection to the state by producers is the impossibility and difficulty of placing products on the market, both foreign and domestic, due to too liberalized import of foreign goods, and not the production itself.<sup>2</sup> However, this partially limiting and non-stimulating factor is often overestimated and used as an excuse for

---

<sup>1</sup> In our country, Zoran Đinđić promoted through motivational speeches exactly the Protestant psychology of activism, which has its origins in the Protestant religion.

<sup>2</sup> Many producers even claim that the state does not have to help them, but it is enough that it is not against them during production, although it could very well be helpful in the marketing of products or protection of their producers from overly liberalized imports, especially agricultural products. Also, it is understood that she could meet them with tax and other benefits.



## Book of Proceedings

entrepreneurial indolence. There are plenty of proven examples of successfully starting a business despite limiting factors and insufficient help and support from the Serbian state itself.<sup>1</sup> Thus, in the most difficult moments of the economic crisis and sanctions during the 90s and the most unfavorable period for business and starting economic activities in the years of the last century, there were cases of successful business people, entrepreneurs who knew how to take advantage of the opportunities of blocked imports and the lack of certain goods in conditions of interrupted communication with the world."

In the first period of blocked post-socialist transformation, the private sector developed without institutional support, despite all obstacles and instabilities. It was created as a result of personal initiative, which is why it can be said that human capital and entrepreneurship were among the most significant characteristics and where informal networks played a key role" (Stokanić, 2013: 549). Here, the author refers to the production of jeans in Novi Pazar during the mentioned turbulent period. The production satisfied the need of domestic consumers for deficit goods. A good imitation of branded jeans met the expectations of customers.

The passivity of Russian culture does not differ at all from our Serbian intransigence, whose overall consciousness was shaped under similar cultural, religious, and political influences or is the result of unfavorable historical circumstances. The only difference is Berdjajev's belief that such Russian passivity is additionally and specifically influenced by geographical factors. Namely, it is a matter of huge expanses that were difficult to control and in front of whose immensity the Russian feels despondent and powerless, hence his passive and despondent surrender to the elements. Accordingly, in the foundation of Russian history, there is a famous legend about inviting Varangians-foreigners to manage the Russian land since the Russian land is large and abundant, but there is no order in it. This is characteristic of the fateful inability and lack of desire of the Russian people to organize order in their own country. The Russian people do not want to be bold builders and creators, their nature is defined as feminine, passive, and submissive in state matters. Russia is always waiting for a groom, a husband, a lord. It is very characteristic that in Russian history there was no chivalry, that masculine principle. This is related to the insufficient development of the individual principle in Russian life (Berdajev, 2002: 208-209).

Similar to former and present-day Russia, Serbia is also waiting for its bridegroom in the form of foreign investors who, with domestic help and subsidies, by donating land for the construction of factories, create new jobs for the employment of cheap labor. Also, the state of Serbia mostly exports cheap raw materials to those countries for further processing and rarely transforms them into finished and profitable products.

The cause of such a state of consciousness, non-enterprising mentality, is in addition to the aforementioned cultural-religious and historical factors (slavery to foreign power and failure to manage one's life and the fruits of one's work) which, with their long-term effect on the life and work of Serbian peasants, as the dominant population in the Serbian nation, produced a relatively permanent feeling of fatalism and resignation. Rajs explained this lack of working energy in Serbs in two ways. At first, under Turkish rule, even the hardest work was of little use. Only the oppressor got rich from that. Over the centuries, only what was necessary was done. Then, the land is very fertile. With very little work, it provides the necessities of life. Over the centuries, a habit of working a little was created, which is no longer permissible (Rajs, 2008: 45). The peasant's work for a parasitic master or the enemy, to destroy or take away everything, lost all meaning and could only demoralize a person. Former trouble is today's habit. "The need for work could not develop in a man with such engraved traces of the past" (Dvorniković, 2000: 664-665).

Moreover, those two sources of influence (cultural and historical-political) merged into a unique amalgam that formed the Serbian soul. Our ethnologist Bojan Jovanović claims that in such a difficult situation, they listlessly surrendered to their fate, without interest in changing and improving their lives. Instead of managing events, events were happening to them. They fatalistically accepted and interpreted

---

<sup>1</sup> Although the producers themselves do not do enough for themselves in terms of mutual association in cooperatives for the protection of their interests, as well as for the formation of a relatively stable and profitable price for their products, they put all the blame for their failure or dissatisfaction on the state.



## Book of Proceedings

that what had to happen was happening to them. The state of despondency, faintness, and disbelief in success or victory is marked by defeatism, the attitude of necessary reconciliation with the consequences of defeat, which implies the aspiration to find a way of survival and deliverance in patience and passivity. Inherent in this attitude towards time is the belief in fate as a supernatural force to which everything is subordinate. In contrast to the speeding up with which fate is tried to be overcome, with the slowed down rhythm of life it is waited for.

That is why, in the feeling of a certain fatalism, a predetermined outcome of all processes, a certain pessimism arises as a projection of the state of one's impotence and insufficient confidence in the possibility of its change. In the slowness, passivity, and absence of motivation for people to get involved to do their jobs faster, the belief in fate and the expectation that events will happen according to a predetermined scenario prevails. The unrealistic expectation that something favorable will happen without immediate own activity and effort to achieve the desired goal is based on this feeling. Such a relationship seeks to acquire the right to irresponsibility because priority is given to the inertia of the life course and the belief in its immutability as a consequence of the absence of motivation to influence the change and improvement of life circumstances (Jovanović, 2008: 181, 240-241).

In addition to fatalism, traditionalism with a whole complex of interconnected and similar retrograde features represented a major obstacle. In the territory of today's Serbia, traditionalism was manifested in the past in the form of patriarchalism of the rural type, given that the largest part of the population came from the peasantry. Such traditionalism is characterized by a tribal lifestyle and consciousness, authoritarianism, collectivist spirit, homogenization, and egalitarianism, epic focus on the past and heroic ethics, oral communication, subordination of women and children, religious worldview and superstition (Stevanović, 2008a: 203-204).

The patriarchal value system strongly supported the ideas of collectivism, solidarity, and egalitarianism because the community and its survival took precedence over the interests and needs of individuals. The patriarchal community also promoted qualities such as courage and self-sacrifice. However, those qualities had a military and not an entrepreneurial character. That old feudal-heroic morality began to be slowly replaced by a working, creative one only from the era of the Enlightenment when Dositej Obradović began to educate the people and harshly criticize them when the awakening of the will to work and conscience started (Dvorniković, 2000: 669).

An important researcher of national culture as the basic foundation of the entrepreneurial spirit is Hofstede, who, in this sense, divided national cultures into individualistic and collectivistic; cultures with a greater or lesser range of power, cultures with a lesser or greater degree of acceptance of uncertainty; both male and female cultures. One cannot fail to notice that the first and last parameter of the division of national cultures (collectivism-individualism, female-male) is reminiscent of the classification mentioned by Berdaev. At the same time, it should be noted and added that a certain culture can be very masculine in the military sense (successful conquest or defense against invaders), and be feminine in the sphere of non-entrepreneurship (inactivity, lack of business ideas, lack of entrepreneurial courage). Namely, according to Hofstede, individualistic cultures encourage entrepreneurial behavior and the satisfaction of individual needs, in contrast to collectivist ones, which hinder it by fulfilling collective goals (religious, national). (<https://www.hofstede-insights.com>). It is, in fact, about the preference of group over individual interests in collectivist systems that are oriented towards social ownership and group decision-making.

It is undeniable that some factors that influence the emergence of entrepreneurship are common to all cultures, such as economic and institutional factors (individual freedoms, independent judiciary). However, the extent to which entrepreneurship will be encouraged or hindered will primarily depend on the cultural norms that support or sanction entrepreneurial behavior, freedom of creativity, creation, competitive spirit, individualism, desire for progress, acquisition of material values and wealth, etc.

If in a society the pursuit of wealth is sanctioned by value norms – no one has ever become rich in an honorable way, entrepreneurial behavior (which presupposes an individual's pursuit of personal success, including material wealth) will not be stimulated either. It is very difficult to behave entrepreneurially in cultures where quality entrepreneurs are looked upon in a negative way - we are all honest in our family - that's why we don't have entrepreneurs. On the other hand, in societies that value typical entrepreneurial



**Book of Proceedings**

traits, entrepreneurship has the necessary basis for full development (Stjepanović-Zaharijevski & Kostić 2009: 335). From the point of view of socialist morality and the state, the category of profit was notorious as a scourge of capitalism and exclusively as an unacceptable and immoral exploitation of the working man. The fact is that entrepreneurship, as a state of active spirit, implies and requires all the opposite values from those mentioned.

***ENTREPRENEURSHIP IN THE BALKANS***

Entrepreneurship implies actors who act independently, who are ready to bear risk and responsibility for the decisions they have made, and who manage and decide independently. However, research shows that the prevailing culture of the Balkans still gives primacy to collective over individual decision-making.

Instead of a culture of individualism as a postulate of entrepreneurial behavior, the results of the research on cultural values in Serbia, Bulgaria, and Macedonia reveal many aspects of collectivism: nationalism and etatism, belief in a collective fate, egalitarianism and common values, group solidarity and a critical lack of personal responsibility and willingness to take risks, collective achievements, conformity. The presence of collectivist orientations in all three countries is partly explained by a common cultural heritage. The Balkan peoples (except the Greeks and a part of the Montenegrins who lived along the Adriatic coast) did not have permanent access to the Western culture of individualism until the beginning of the 19th century.

While in the Balkans the Orthodox Church, which in its essence is more collectivist, more inspired by solidarity, and more oriented towards the secular government to which it is necessary to adhere, was the guardian and protector of the national identity under the Ottoman rule, in the West the process of creating an individualistic culture continued for a long time (Stjepanović-Zaharijevski & Kostić, 2009: 341). Moreover, Orthodoxy was a defensive bulwark against the ideas of the Enlightenment and rationalization that were even perceived as satanic. The Orthodox Church not only did not work on enlightenment but represented one of the strongest bulwarks against ideas from the West, which were advocated by secularized states, as well as against schooling and the forcing of an entrepreneurial spirit (Đurović, 1995: 87).

Given such a passive spirit of work culture, pastoral care and work of the SPC to awaken the spirit of entrepreneurship among believers and provide basic assistance in encouraging self-employment would be desirable (Todorović, 2014: 172). Thus, the replacement of the collective family with a nuclear one, the Renaissance and Reformation, new inventions, classical liberalism, and Adam Smith produced their effects long before the Balkan countries opened their borders to the West. Two world wars and the decades-long reign of the socialist ideology of a "society of equals" led to the re-suspension of individualistic influences from the West, but also a new strengthening of collectivist, egalitarian traditions in the Balkans (Stjepanović-Zaharijevski & Kostić, 2009: 341).

In his research into the cultural aspects of self-management in Yugoslav enterprises, J. Županov concludes that the ruling normative value complex of the Yugoslav workforce is, in fact, egalitarian syndrome or leveling. Egalitarianism, which is also known as the theory of equal stomachs, is nothing more than a collective idea of the need for equal allocation or distribution of social rewards, regardless of the natural abilities of individuals and their position in the economic, social, and political structure. The aforementioned author distinguished several structural components from the egalitarian syndrome, of which the norm of egalitarian distribution, which prescribes that an individual should not only not receive "excessive" earnings, but should not even want it, should also be highlighted, then the obsession with the private individual, or the understanding that the private individual is a constant threat and danger to socialism, and therefore should be driven by restrictive regulations into a certain type of "reserve" where he will spend his days until he is completely liquidated.

According to J. Županov, this component contains three differentiated collective attitudes: the phobia of enrichment (or the natural aversion caused by enrichment), the "state-ownership complex" (or the





## Book of Proceedings

ideological obsession according to which only that work is compatible with socialism that is controlled by the state) and an anti-entrepreneurial mentality. Such egalitarianism is also characterized by intellectual leveling or the embodiment of the spirit of mediocrity, with at least three collective attitudes: anti-creativity, anti-innovation, and anti-entrepreneurship (cited according to Stevanović, 2008b: 136-137).

Therefore, Serbia has an unenviable tradition of entrepreneurship. The characteristic "Serbian idleness" (Turkish: *javaşluk*) as a separate value was formed during centuries of slavery to foreign conquerors, when the rural population obstructed the foreign state with constant tricks and frauds and insufficient commitment to work, considering that all market surpluses benefited it. However, this attitude towards work was later transferred to the valuing of work prescribed by the national (Serbian) state, and manifested itself in tax evasion, cheating the state, and even by inaction to one's detriment.

The so-called "servile mentality of the masses" was also an ideal basis for a new phenomenon that appeared as a result of the West's enormous military and economic aid to the "other Yugoslavia" namely the "spoiled child phenomenon." Namely, the West helped the technical development of all parts of Yugoslavia but contributed to an unnatural and undeservedly high standard of living for the citizens" (Stevanović, 2008a: 208). All this subsequently hurt the work motivation of the people to create surplus value and a wrong understanding of work and its purpose. This is best expressed by the phrases "no one can pay me as little as I can work as little" "No matter if you work or not, the radio plays for you," "It is better to sit for nothing than to work for nothing." The problem is that this attitude towards work is maintained by inertia and turns into a relatively permanent work culture of laziness and lack of motivation, even when the social conditions that generated it disappear.

All these left consequences and significantly influenced the formation of work habits and the overall work and entrepreneurial culture of the local population. Living beyond the real economic capabilities of the state, based on foreign donations and foreign loans that were significantly used for consumption, contributed to having an unrealistically high standard or quality of life. After the collapse of such a system, which proved to be unsustainable, the able-bodied population, unmotivated by lower wages and incomes, refused to work "for little money" or a lower labor price than before, which was practically subsidized by an external factor. People from neighboring socialist countries (Romania and Bulgaria) where there was no such external financial support and where the price of labor was at significantly lower levels, were usually hired for low-paid and insufficiently respectable and undesirable jobs in Serbia.

Even more important than that, a mentality of great reliance on the protective state was formed, which is expected to provide social care and support the individual by employment in one of the public institutions or companies. "It is important to note that the issue of entrepreneurship is a relatively new concept for the citizens of the Republic of Serbia, considering the decades-long presence of communist and socialist heritage. The Serbian economy is defined as a post-socialist transitional economy on the way to a market economy" (Gardašević, Brkanlić, Kostić, 2020: 92). Therefore, the fragile beginnings of entrepreneurship in the so-called pre-war Yugoslavia were hindered by the arrival on the scene of a new policy based on a rigid ideology that suppressed those values and elements that are necessary for the creation and development of entrepreneurship.

The new political system completely suppressed the already fragile value principles that are needed to start a business: individualism, personal initiative, entrepreneurship, and willingness to risks and uncertainty. Instead, the state with its protectionist attitude towards the individual provided protection and positioned itself as the guarantor of the minimum of his social security, and in return it demanded and received the renunciation of the individual's own political and economic freedom. "Namely, the political balance and the survival of the one-party system were achieved by the compromise of the political elite with the masses by guaranteeing citizens a minimum of secure existence through guaranteed employment, provided health and social protection, education for all children, with the consent to renounce the demands for greater political freedoms and rights guaranteed in civil society" (Butigan, 2000: 208). A paternalistic state that "feeds and defends" its subjects reserves the right to limit and constrain their freedoms, demanding full loyalty to itself in return.

In addition, the state favored forms of public ownership at the expense of private ownership, thus completely preventing the personal initiative of entrepreneurs. "State regulation of the economy hindered



**Book of Proceedings**

privatization and liberalization, which is why Serbian society had a specific and slower path towards the formation of a new social system. And one of the characteristics of Serbian society during the nineties is the increase in the volume of the informal economy" (Stokanić, 2013: 541-542).

***RECENT RESEARCH ON ENTREPRENEURIAL CULTURE IN SERBIA***

In the period of transition or transformation of former socialist countries, and now post-socialist ones, there are noticeable changes in the value system that are very favorable to the development of entrepreneurial spirit and private initiative. Such a turn came only after the fall of the Berlin Wall, when the Balkan countries, through the process of transition, returned to the values of individualism. The different development paths of Serbia, Bulgaria, and Macedonia in the last few decades also explain certain differences in the degree of collectivist orientations, which include self-centeredness versus collective interests, individual achievements versus subordination to the group, willingness to take individual risks versus seeking security within the collective. They show that the culture of collectivism is still very present in our region, according to a survey in which respondents in 63% of cases completely or partially agreed with the statement that "national interests should always be put before one's own."

The fact that 70% of the inhabitants of the Balkans are ready to make personal sacrifices in the name of the nation and the collective interest is particularly impressive, while only 23% declared the principle of individualism and the inviolability of their interests over national interests. Such a finding shows that the collectivist heritage of the Balkans, in the form of nationalism, is still very present and as such will certainly hinder the emergence of entrepreneurship that assumes actors with an individualized identity, who put their own needs and interests above group and national ones. It can be said that nationalism prevents the transformation of an authoritarian-collectivist into an individualistic-entrepreneurial society (Stjepanović-Zaharijevski & Kostić, 2009: 340).

However, the findings of some researchers have shown that a certain liberalization of consciousness is taking place in the Balkans. Until recently, the idea of the state as a paternalistic and national one that takes care of meeting the needs of its citizens dominated in these areas. Current understandings are only slightly more liberal, which means that still a large percentage, - about 48%, expects the protection of the state and rejects the individualistic point of view. Although a large number of citizens expressed their opinion that each individual should be responsible for his position and the position of his family (in Bulgaria, as many as 63.4 respondents). Seen globally, the fact that respondents from Serbia showed the most pronounced collectivist attitudes is explained by the influence of the cultural context and the consequences of turbulent events (economic and political crises, international isolation and bombing, and civil conflicts). At the same time, Bulgaria's full membership in the EU reflected the values of Bulgarian citizens, who accept individualistic behavior somewhat more than their neighbors (Stjepanović-Zaharijevski & Kostić, 2009: 341-342).

According to another survey, the Republic of Serbia with an individualism index of only 25 belongs to the collectivist society. Collectivist societies are characterized by the presence of a close and long-term commitment to the group, whether it is the family, extended family, or relationships among colleagues. In a collectivist society, the most important thing is loyalty to the group. Furthermore, this kind of society fosters strong relationships among society members who are obliged to take responsibility for other members of their group. The power distance expressed through an index of 86 shows that this dimension of national culture is also very pronounced in the Republic of Serbia. This means that a hierarchical order in which everyone has their place is a necessity. In such a society, hierarchy is seen as a reflection of inherent inequalities, centralization plays a key role in the distribution of any power and is quite popular.

Members of society expect to be told what to do, they do not take part in decision-making, and the leader is usually a benevolent autocrat. As for the dimension of masculinity/femininity, the Republic of Serbia with a masculinity index of 43 belongs to the ranks of women's societies where the focus is on a working environment where managers strive for consensus, value equality, and solidarity in their working





## Book of Proceedings

life. The uncertainty avoidance index for the Republic of Serbia is extremely pronounced and amounts to 92. In such a culture, there is an emotional need to respect rules and forms (even if they are often not respected), innovations are not desirable and most members of such a society resist them, and security is one of the important elements of functioning. With an index of 52 for long-term orientation for the Republic of Serbia, there is no clear advantage or interpretation of this dimension. The low index of indulgence, which is 28, tells us that the Republic of Serbia is among societies with a pronounced culture of high restraint. Such societies tend towards pessimism and cynicism (Gardašević, Brkanlić, Kostić, 2020; <https://www.hofstede-insights.com>).

## CONCLUSION

To consider starting a certain economic activity, the entrepreneur's belonging to a certain national culture must be taken into account. The Republic of Serbia is characterized as a post-socialist transitional economy with certain peculiarities of national culture that are not particularly suitable for the development of entrepreneurial awareness and entrepreneurship.

Numerous and diverse interwoven cultural and historical factors (primarily political, educational, and religious) have had a very negative impact on work creativity and entrepreneurial initiative of the able-bodied population of Serbia, i.e., significantly hindered and slowed down the formation of the entrepreneurial spirit and character of the people. All this led to the formation of special work psychology and a very inert, conservative, and retrograde value system. Nevertheless, elements of the emergence and development of individual business entrepreneurship can be seen as a result of modernization and positive foreign influences.

In transition economies, which includes Serbia, the big problem is the challenges of high corruption, distrust in the financial sector, administration, and rigid bureaucracy and other challenges and limitations, and economies characterized by certain peculiarities of national culture, for example, a low index of individualism (attachment and subordination to groups) or a high index of uncertainty avoidance (intolerance to risk) that inhibits the entrepreneurial spirit.

It is necessary to change certain cultural and psychological patterns (thinking, activities) of people imposed by belonging to a certain national culture. Along with the transition to a market economy, the cultural environment will also have to change, given the fact that, among other things, cultural differences significantly and directly affect entrepreneurial orientation and entrepreneurial behavior among members of a certain cultural community.

## REFERENCES

- Berđajev, N. (2002). *Čovek i mašina*. Brimo, Beograd.
- Butigan, V. (2000). *Politička kultura na Balkanu*. Filozofski fakultet, Niš.
- Gardašević, J., Brkanlić, S., Kostić, J. (2020). Entrepreneurship, national culture and the Republic of Serbia. *Ekonomija. Teorija i praksa*, 13(1), 85-96.
- Dvorniković, V. (2000). *Karakterologija Jugoslovena*. Prosveta, Beograd.
- Durović, B. (1999). u: *Pravoslavlje i razvoj kod Srba u XVIII veku*. *Facta universitatis - series: Philosophy and Sociology*, Vol. 2, 6/2, 85-92.
- Jovanović, B. (2008). *Prkos i Inat*. Zavod za udžbenike, Beograd.
- Rajs, A. (2008). *Čujte Srbi (čuvajte se sebe)*. Zlatousti, Beograd.



**Book of Proceedings**

Stanković, V. (2013). Hrišćanske civilizacije i pristupi razvoju – od religijske kulture do ekonomske postavke. u: Tradicija, modernizacija, identiteti (dijalog kultura i partnerstvo civilizacija na Balkanu), (prir. Mitrović, Lj., Gavrilović, D., i Kristović, M.), 349-371., Filozofski fakultet, Niš.

Stevanović, B. (2008a). Politička kultura i kulturni identiteti u Srbiji i na Balkanu. Filozofski fakultet, Niš.

Stevanović, B. (2008b). Demokratski principi i političko-kulturne vrednosti. Filozofski fakultet, Niš.

Stjepanović-Zaharijevski, D., Kostić T. (2009). Preduzetništvo na Balkanu. u: Međuetnički odnosi, identiteti i kultura mira na Balkanu (prir. Mitrović Lj., Zaharijevski D., Gavrilović D.), 333-346, Filozofski fakultet, Niš.

Stokanić, D. (2013). Tekstilna industrija u Sandžaku: Između tradicionalnog i modernog (prir. Mitrović, Lj., Gavrilović, D., Kristović, M.), 532-554, Filozofski fakultet, Niš.

Todorović, D. (2014). Srpska pravoslavna crkva na početku trećeg milenijuma. u: Hrišćanstvo u 21. veku (prir. Đorđević, B.D., Todorović, D.), 161-177, Prometej, LKC, JUNIR; Novi Sad, Leskovac, Niš.

<https://www.hofstede-insights.com>



Book of Proceedings

***THE ROLE OF ARTIFICIAL INTELLIGENCE IN INVESTMENT FUNDS MANAGEMENT***

*Jovan Petronijević<sup>1</sup>*

*Tamara Vesic<sup>2</sup>*

*Alen Popović<sup>3</sup>*

***ABSTRACT***

*In recent years, the financial industry has witnessed a transformative impact from the rapid advancement and integration of artificial intelligence (AI) technologies. Particularly in the realm of investment funds management, AI holds the potential to revolutionize traditional practices and enhance decision-making processes. This paper examines the multifaceted role of AI in investment funds management and sheds light on the risks associated with its implementation. Through a scientific exploration of this dynamic landscape, we aim to provide insights into the opportunities and challenges posed by AI in this crucial domain. At the heart of this revolution lies the role of AI in reshaping the landscape of investment funds management. Traditionally, this field required investment managers to wade through oceans of data, sift through countless variables, and make complex decisions under the looming specter of market volatility. AI has changed this narrative dramatically. With its data-crunching capabilities, AI efficiently processes colossal volumes of information, discerns intricate patterns hidden within, and transforms this data into actionable insights. But this transformation is not without its perils. The integration of AI into investment funds management is not just a beacon of opportunity but also a source of apprehension. The risks are multifarious, ranging from algorithmic biases that might amplify pre-existing inequalities, to concerns about data privacy and security, and the ethical dilemmas surrounding autonomous decision-making. In essence, the path to reaping the rewards of AI in this domain is a treacherous one, fraught with challenges that demand intellectual rigor and ethical acumen. Through this paper, we embark on a scientific odyssey, aiming to traverse the depths of AI's role in investment funds management. Through a scientific lens, we hope to equip practitioners, researchers, and policymakers with the knowledge and foresight needed to harness AI's potential while safeguarding against its risks in this vital domain.*

***Key words:*** *artificial intelligence, investment funds, managements, investment*

***JEL Classification:*** *B 26, G11, G17*

***INTRODUCTION***

Increasingly rapid technological progress caused the emergence of the fifth industrial revolution (Industry 5.0), which is primarily oriented to automatic systems, robots, algorithms and their increasing integration and collaboration with humans (Lukić Nikolić et al., 2022). Artificial Intelligence (AI) is a big field, and this is a big book (Russel, 2010). Artificial Intelligence is indeed a vast and multifaceted field which serves as a comprehensive guide to this intricate realm. AI, in its essence, encompasses a myriad of technologies, methodologies, and paradigms, all converging towards a common goal: the development of intelligent

---

<sup>1</sup> Faculty of Business Economy and Entrepreneurship, Belgrade, Serbia, jovan.petronijevic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economy and Entrepreneurship, Belgrade, Serbia, tamara.vesic@vspep.edu.rs

<sup>3</sup> Faculty of Economy and Management, University Slobomir P, Doboj, Bosnia and Herzegovina, alen.popovic123@outlook.com



## Book of Proceedings

machines that possess the capacity to undertake tasks traditionally associated with human intelligence. These tasks span a wide spectrum, encompassing activities as diverse as data analysis, decision making, language understanding, and pattern recognition.

The vastness of AI's domain reflects the richness of human cognition, and it's a testament to humanity's pursuit of replicating and enhancing its own cognitive abilities through machines. On the other hand, Investment Funds Management, as a discipline, represents the professional stewardship of investment funds, a critical component of the global financial landscape. It encompasses an array of activities, all orchestrated with the primary objective of optimizing returns for investors. Within this multifaceted field, investment professionals engage in the careful selection and allocation of assets, leveraging their expertise to craft well-diversified portfolios. Risk management strategies, tailored to the specific needs and preferences of investors, serve as protective shields against market volatility. Moreover, portfolio optimization techniques, often powered by quantitative models and increasingly AI, seek to strike the delicate balance between risk and reward.

This paper embarks on an intellectual journey that begins by illuminating the pivotal role of AI within the domain of investment funds management. It's a journey that reveals how AI, with its assortment of technologies ranging from machine learning algorithms to natural language processing, has become an invaluable ally for investment managers. In a world characterized by an unceasing torrent of data, AI serves as the lighthouse, guiding investment professionals through the tumultuous seas of information. It empowers them to efficiently analyze colossal datasets and make decisions grounded in data-driven insights. The precision, speed, and objectivity that AI lends to investment decision-making processes are pivotal in navigating today's complex financial markets. Yet, this journey doesn't merely bask in the brilliance of AI's possibilities. It's also a voyage into the depths of AI's challenges and ethical considerations.

The paper serves as a compass, pointing out the potential pitfalls in the integration of AI into investment funds management. Issues concerning data quality, where the "garbage in, garbage out" principle holds true, require vigilant attention. Algorithmic biases, often lurking within the digital DNA of AI, pose ethical and fairness concerns that need to be addressed. The "black box" nature of AI decision-making calls for greater transparency and interpretability, ensuring that investment professionals can trust and understand the recommendations AI provides. Finally, the dynamic nature of financial markets, where change is the only constant, demands a nimble approach to AI implementation. In conclusion, this paper navigates through the expansive universe of AI in investment funds management, shedding light on the immense opportunities and daunting challenges that define this landscape. It's an essential tool for those seeking to harness AI's potential while safeguarding against its perils in this critical domain at the intersection of finance and technology

## ***DATA ANALYSIS***

AI technologies, characterized by advanced machine learning algorithms and natural language processing capabilities, have initiated a sweeping revolution within the realm of investment management, completely overhauling the traditional methods of financial data analysis. These state-of-the-art technologies have bestowed investment managers with an unparalleled ability to extract invaluable insights from the vast ocean of financial data, equipping them to unravel intricate patterns and, consequently, make highly informed investment decisions. Within the expansive domain of data analysis, AI algorithms have demonstrated remarkable versatility in handling an extensive array of data sources. These sources encompass a wide spectrum, including market trends, the financial performance metrics of companies, news articles, and even the sentiments expressed in social media conversations.

The sheer diversity in the types of data poses no challenge to AI algorithms; instead, it serves as an opportunity for them to excel. AI algorithms adeptly assimilate and meticulously scrutinize this rich



## Book of Proceedings

tapestry of information, revealing concealed correlations, pinpointing emerging trends, and detecting anomalies that may elude human analysts. This profound capacity significantly enhances both the speed and precision of investment decision-making processes. The practical applications of AI in data analysis are, indeed, limitless.

For instance, machine learning algorithms can meticulously dissect historical market data, identifying subtle yet critical patterns that might remain hidden through conventional analysis methods. Moreover, these algorithms possess the remarkable capability to forecast future market movements, providing investment managers with a decisive advantage when navigating volatile financial landscapes. On the other hand, natural language processing algorithms prove indispensable in the analysis of textual data, adeptly sifting through a deluge of information to accurately gauge market sentiment.

Consequently, they assist investment managers in identifying potential investment opportunities or risks that might otherwise evade notice. These AI technologies seamlessly complement human analysis, fostering a powerful synergy that empowers investment managers to make decisions firmly grounded in data-driven insights, thereby positioning them strategically within the ever-evolving financial landscape. In summary, the role played by AI in data analysis within the realm of investment fund management represents nothing short of a transformative paradigm shift.

The capacity to efficiently process vast volumes of data, unveil intricate patterns, and provide invaluable insights empowers investment managers to make decisions with unparalleled speed and precision. By harnessing the formidable capabilities of AI technologies, investment managers elevate their analytical prowess, identify emerging opportunities, and adeptly navigate the complexities of financial markets. This, in turn, translates not only into enhanced investment performance but also into investment strategies that are agile and adaptable to the ever-changing dynamics of the financial world. The integration of AI into data analysis serves as a testament to the colossal potential of technology in shaping the future landscape of investment management.

## ***DECISION MAKING***

The advent of AI technologies has sparked a seismic transformation in the arena of decision-making, ushering in a new epoch defined by unparalleled levels of automation and surgical precision in the formulation of investment strategies. These AI algorithms, deeply rooted in the vanguard of machine learning methodologies, wield an extraordinary prowess in assimilating, processing, and transfiguring vast troves of data into actionable, wisdom-laden insights. At their core, these algorithms exhibit an exceptional acumen for dissecting historical market data, economic indicators, and even conducting sentiment analyses of news sources. Each of these components serves as a crucial element in the alchemical concoction of well-informed investment choices. By embracing the potential of AI, investment managers open the gates to a veritable treasure trove of data-driven recommendations, which in turn serves as a formidable augmentation to their decision-making arsenal.

However, what truly sets AI apart in this domain is its exceptional adaptability and its capacity to learn and evolve in response to novel information and the ever-shifting dynamics of the market. This inherent adaptability forms the lifeblood of an ongoing cycle of refinement, where investment managers can perpetually fine-tune their strategies, discern intricate patterns, and unearth concealed investment opportunities. This continuous enhancement unfolds seamlessly as AI becomes an integral part of their decision-making framework. In practical terms, the utility of AI in decision-making extends its purview to encompass portfolio management and trade execution. AI algorithms, with their autonomous nature, can adeptly recalibrate investment portfolios based on predetermined criteria, whether it entails meticulous maintenance of asset allocation targets or unwavering adherence to specified risk thresholds. This automation acts as a robust safety net, ensuring that portfolios remain in unwavering alignment with their intended investment objectives while dramatically mitigating the risk of human error.



## Book of Proceedings

In summation, the role assumed by AI in the decision-making tapestry of investment fund management constitutes nothing less than a revolution. By harnessing the formidable capabilities of AI algorithms, investment managers find themselves endowed with the ability to make decisions grounded firmly in data-driven insights. This not only amplifies the efficiency of portfolio management but also stands as a compelling catalyst behind the stellar performance of investment funds.

The integration of AI into the decision-making process stands as a testament to the immense potential of technology in sculpting the future contours of the financial sector. It offers a tantalizing glimpse into a landscape where the fusion of human expertise and artificial intelligence ushers in a new era characterized by more astute, agile, and ultimately victorious investment strategies. The journey that lies ahead promises a panorama of unceasing innovation and boundless possibilities, as AI continues its evolutionary voyage, ceaselessly reshaping and redefining the financial landscape.

### ***RISK MANAGEMENT***

Artificial Intelligence is creating a rush of opportunities in the financial sector, but financial organizations need to be aware of the risks inherent in the use of this (Ashta, Herrmann, 2021). AI technologies have brought about a momentous revolution in the arena of investment management, completely reshaping how professionals in this field approach risk assessment and mitigation. These sophisticated AI algorithms, grounded in state-of-the-art data analytics and machine learning techniques, have bestowed upon investment managers an extraordinary capability – the ability to delve into vast troves of market and financial data with unprecedented depth and speed. This profound transformation has translated into the identification of potential risks that might have otherwise remained obscured, signifying a paradigm shift in risk management within the investment domain.

The impact of AI in risk assessment extends across a broad spectrum. These algorithms excel in passing through complex data landscapes, expertly detecting patterns, correlations, and anomalies that can frequently elude even the most astute human analysts. As a result, investment managers can harness these powerful AI-driven insights to fortify their risk assessment processes substantially. The ramifications of this development are profound, as it empowers investment professionals to navigate the intricate web of risks inherent in investment portfolios with greater finesse and precision. A tangible manifestation of AI's impact on risk management is the advent of dynamic risk models.

These models operate in real-time, providing investment managers with a constant pulse on evolving market conditions. Nestled within these models, AI algorithms consider a multitude of variables, including asset correlations, market volatility, and macroeconomic indicators, to furnish investment professionals with real-time risk assessments.

This real-time capability empowers investment managers to make informed decisions promptly, facilitating dynamic adjustments to portfolios that optimize risk-return trade-offs in the ever-evolving financial landscape. Moreover, AI plays a pivotal role in proactive risk mitigation through its capacity to generate timely risk alerts. By maintaining an incessant vigil over market conditions and meticulously scrutinizing data, AI algorithms act as vigilant sentinels. They swiftly identify potential risks and promptly alert investment managers to take appropriate measures. This early warning system endows investment professionals with the ability to proactively respond to shifting market dynamics, thereby shielding their portfolios from adverse events.

Nevertheless, it is imperative to recognize that the integration of AI into risk management is not without its challenges. Algorithmic biases, the quality of data inputs, and the interpretability of AI-driven decisions pose critical concerns that must be thoughtfully addressed. Ensuring the reliability and ethical use of AI in risk management calls for responsible implementation practices and ongoing oversight. In summation, the pivotal role played by AI in risk management within the realm of investment fund management is





## Book of Proceedings

indisputable. Through the utilization of AI technologies, investment managers can augment their capacity not only to identify but also to meticulously assess and mitigate the risks embedded within their portfolios.

The practical applications of AI in risk management empower investment professionals to make more informed decisions, fortify the resilience of their portfolios, and navigate the labyrinthine dynamics of the financial markets with heightened confidence. The amalgamation of AI and investment management signifies a potent alliance that promises greater precision and agility in managing risk, ultimately culminating in more robust and resilient investment strategies that stand ready to weather the complexities of today's financial landscape.

### ***PORTFOLIO OPTIMIZATION***

AI algorithms, fortified with cutting-edge optimization techniques, have spearheaded a monumental revolution in the realm of asset allocation within investment management. These intricately designed algorithms stand out for their remarkable aptitude to ingest, process, and glean invaluable insights from colossal reservoirs of data. This capacity represents a seismic shift in how optimal asset allocations are constructed, marking a fundamental departure from traditional approaches. Guided by predefined criteria that encompass crucial factors such as risk tolerance, return objectives, and the prevailing market conditions, these algorithms set out to sculpt portfolios that adeptly harmonize the pursuit of maximal returns with the imperative of prudent risk mitigation.

One of the most captivating and practical applications of AI in portfolio optimization is dynamic rebalancing. Within this context, AI algorithms assume the role of unwavering sentinels, continuously scrutinizing a constellation of variables spanning market dynamics, asset performance metrics, and deviations from predetermined target allocations. By automating portfolio adjustments and executing trades with efficiency, AI empowers investment managers to consistently uphold and optimize asset allocations.

This agility mirrors the ever-changing currents of the financial landscape and stands as a testament to the transformative potential of AI in investment management. Furthermore, AI algorithms conspicuously demonstrate their prowess in harnessing historical market data and adroitly employing sophisticated machine learning techniques. These algorithms engage in a perpetual learning process, constantly adapting to the ceaseless influx of new information. This adaptive characteristic represents the linchpin of their value proposition, bestowing investment managers with the means to progressively refine and fine-tune their investment strategies over time.

This iterative process of learning and adaptation lies at the heart of the relentless pursuit of investment excellence. However, it is of paramount importance to acknowledge and address the limitations and challenges intertwined with AI-driven portfolio optimization. The looming specter of algorithmic biases, the reliance on underlying model assumptions, and the omnipresent risk of over fitting all constitute critical facets that demand meticulous scrutiny.

Ensuring the efficacy and resilience of AI-powered portfolio optimization strategies hinges on a judicious approach to algorithm development, underpinned by vigilant oversight and an unwavering commitment to ethical considerations. In summary, AI's transformative role in portfolio optimization within the domain of investment fund management is indisputable. By harnessing the extraordinary capabilities of AI algorithms, investment managers are uniquely positioned to craft portfolios that not only align exquisitely with specific investment objectives but also possess the acumen to adeptly navigate the fluid and ever-evolving waters of the financial markets.

The practical applications of AI in portfolio optimization extend into the realm of heightened risk management, improved returns, and the delivery of substantial value to clients. The convergence of AI and investment management promises to be a potent driving force behind the development of more



## Book of Proceedings

sophisticated and adaptive investment strategies, tailor-made to serve the dynamic needs of today's investors. Importantly, the human factor, involving oversight, ethical considerations, and the interpretation of AI-driven insights, remains a pivotal aspect of this transformative journey, ensuring that technology serves as a powerful tool in the hands of investment professionals.

### *CONCLUSION*

In conclusion, the role of artificial intelligence (AI) in investment funds management is undeniably significant. Throughout this paper, we have explored the practical uses of AI in key areas such as data analysis, decision making, risk management, and portfolio optimization. AI technologies have revolutionized the investment landscape by enabling investment managers to process vast amounts of data, uncover hidden patterns, make informed decisions, mitigate risks, and construct optimized portfolios.

AI's transformative impact on data analysis in investment management cannot be overstated. It has ushered in a new era where investment managers can harness the power of AI to extract invaluable insights from an expansive array of data sources. This shift is akin to providing a magnifying glass to investment professionals, enabling them to see financial markets with unprecedented clarity. Traditionally, investment managers relied on historical data, financial reports, and market analysis to make investment decisions. However, these sources were often limited in scope and scale, leaving gaps in their understanding of market dynamics. With the advent of AI, the horizons of data analysis have expanded exponentially. Investment managers can now tap into a wealth of information, including real-time market trends, company financials, news sentiment, and even the collective wisdom of social media conversations.

AI algorithms have become the engines that process and analyze this vast trove of data. Their ability to detect subtle patterns and correlations within this information has revolutionized data-driven decision-making in investment management. No longer constrained by the limitations of human cognitive capacity, AI can uncover hidden insights that may elude even the most seasoned investment professionals. This depth of analysis leads to more accurate predictions and, consequently, the formulation of enhanced investment strategies. Moreover, AI's influence extends beyond data analysis and into decision making. By automating processes, AI reduces the impact of human biases that can cloud judgment.

Decisions that were once prone to emotional impulses are now grounded in data-driven objectivity. This transition has resulted in more consistent, rational, and optimized investment strategies. In the domain of risk management, AI acts as a vigilant sentry. Continuous monitoring and analysis of market conditions, made possible by AI algorithms, provide investment managers with real-time risk assessments. These assessments empower investment professionals to proactively identify and address potential risks, thereby safeguarding their portfolios against unforeseen market turbulence. Furthermore, portfolio optimization, a core responsibility of investment managers, has undergone a revolution fueled by AI.

Investment managers can now construct portfolios that strike an ideal balance between maximizing returns and minimizing risks. AI-driven dynamic portfolio rebalancing ensures that portfolios remain aligned with investment objectives even as market dynamics shift. However, as with any powerful tool, AI comes with its own set of challenges and responsibilities. Algorithmic biases, lurking within AI systems, require constant scrutiny to prevent unfair advantages or disadvantages in the market. Ensuring data quality, the foundation upon which AI operates, is a continuous endeavor that demands rigorous data management practices. Model assumptions and the interpretability of AI-driven decisions necessitate ongoing attention to maintain transparency and trust. In conclusion, AI's role in investment funds management is transformative. It enhances data analysis, streamlines decision making, fortifies risk management, and optimizes portfolio performance.

To navigate this evolving landscape, investment professionals must not only embrace AI but also foster a deep understanding of its capabilities and limitations. Collaboration between academia, industry practitioners, and regulatory bodies is vital to harness the full potential of AI in this field. Ultimately,



**Book of Proceedings**

responsible AI implementation will unlock new opportunities and drive innovation, ushering in a new era of investment funds management.

***REFERENCES***

Ashta, A., Herrmann, H. (2021). Artificial intelligence and fintech: An overview of opportunities and risks for banking, investments, and microfinance. *Strategic Change*, 30(3), 211-222.

Lukić Nikolić, J., Brkljač, M., Jovanović, J. (2022). Doing Digital Business with Robots: Necessary Knowledge and Skills of Employees in Digital Age. *International Review*, No. 3-4, 3-17.

Russell, S. J. (2010). *Artificial intelligence a modern approach*. Pearson Education, Inc., London.



Book of Proceedings

***RISKS OF USING ARTIFICIAL INTELLIGENCE IN  
INVESTMENT FUNDS MANAGEMENT***

*Jovan Petronijević<sup>1</sup>*

*Milan Gavrilović<sup>2</sup>*

*Nikola Radić<sup>3</sup>*

**ABSTRACT**

*This paper examines the role of artificial intelligence (AI) in the management of investment funds, highlighting several key aspects. The incorporation of AI has sparked a revolutionary transformation in the domain of investment management, driven by its ability to enhance efficiency, reduce human biases, and harness intricate data patterns to maximize returns. However, this technological revolution is accompanied by significant risks and challenges. The paper underscores the necessity of comprehending both the advantages and drawbacks of employing AI in investment funds. It delves into the multifaceted dimensions of AI integration, shedding light on its implications for investors, asset managers, and the broader financial sector. The primary objective of this paper is not to dissuade the use of AI in investment management but to provide a well-rounded view of its associated risks and present a framework for effectively managing those risks. The goal is to equip investors, asset managers, and policymakers with the knowledge required to make informed decisions, mitigate potential challenges, and fully exploit the potential of AI while safeguarding the interests of all stakeholders. Throughout the paper, it thoroughly explores key risk factors, encompassing data quality and bias, the absence of interpretability in AI models, overreliance on historical data, cyber security vulnerabilities, and the potential for AI manipulation. These risks are scrutinized in detail, and practical strategies for addressing them are delineated. Furthermore, the paper underscores the regulatory and ethical complexities related to the use of AI in investment management, underscoring the significance of well-defined guidelines and ethical principles to ensure the responsible and compliant utilization of AI.*

**Key words:** *artificial intelligence, risk investment funds, managements, investment*

**JEL Classification:** *B26, G11, G17*

**INTRODUCTION**

The field of investment management has undergone a profound transformation through the integration of artificial intelligence (AI) into the decision-making processes of investment funds. As AI technologies continue to advance and gain prominence across various sectors, they have firmly established themselves within the realm of finance. The appeal of AI-driven investment strategies lies in their capacity to optimize efficiency, reduce human biases, and leverage intricate data patterns to maximize investment returns. Nevertheless, within this technological revolution, there exist notable risks and challenges.

This paper delves into the intriguing domain of investment fund management in the age of artificial intelligence. It explores the manifold advantages AI brings to the table while also critically assessing the inherent risks and potential stumbling blocks associated with its implementation. In the subsequent

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, jovan.petronijevic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, milan.gavrilovic@vspep.edu.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, nikola.radic@vspep.edu.rs



## Book of Proceedings

sections, we will delve into the multifaceted aspects of integrating AI into investment funds, shedding light on the consequences for investors, asset managers, and the broader financial industry. The objective of this paper is not to dissuade the use of AI in investment management but rather to provide a comprehensive comprehension of the associated risks and to furnish a framework for effectively addressing them.

In doing so, our goal is to equip investors, asset managers, and policymakers with the knowledge and insights necessary to make well-informed decisions, mitigate potential challenges, and fully harness AI's potential in fund management, all while safeguarding the interests of all stakeholders. In the forthcoming sections, we will investigate the hazards of excessive reliance on AI, the complexities of interpreting AI-generated decisions, ethical considerations, regulatory issues, and other pertinent factors that demand meticulous consideration in the continually evolving landscape of investment fund management.

Through these examinations, we aspire to promote a more informed and responsible integration of AI into the financial sector, ensuring that it remains a catalyst for innovation and growth, rather than an inadvertent source of disruption and instability. Important to mention is that according to Novelli et al The EU Artificial Intelligence Act (AIA) categorizes AI systems (AIs) into four risk categories—unacceptable, high, limited, and minimal—assigning corresponding regulatory burdens to their providers (Novelli et al., 2023).

### ***SUBHEADING 1: DATA QUALITY AND BIAS***

This paper goes into the risks of artificial intelligence (AI) in investment funds management, I emphasize the critical importance of data quality and bias. AI algorithms heavily rely on the data they are trained on, and any issues with data quality can significantly impact the accuracy and reliability of investment decisions. Poor data quality, including incomplete or outdated information, can lead to flawed insights and distorted investment strategies. Moreover, the presence of bias within the data used to train AI algorithms can introduce systemic biases in investment decision-making processes. Additionally discrimination and bias are variables with strong interdependency that result in one of them cause the effect of the other, in the particular study bias refers to the action of deciding upon and individual or with a potentially harmful impact because of their futures, while discrimination is expressed by the outcome of the decision itself (Varona, Suarez, 2022).

Biased data may reinforce existing biases or introduce new ones, leading to suboptimal outcomes and potentially perpetuating inequalities. Therefore, investment managers must diligently assess and address any biases present in their data sources to ensure fair and unbiased investment strategies. To mitigate these risks, investment managers should implement rigorous data quality assurance processes. This includes ensuring data accuracy, completeness, and timeliness. Furthermore, employing diverse and representative datasets can help reduce the potential for bias. Regular audits and ongoing monitoring of data sources are essential to maintain high data quality standards.

Transparency and documentation of data sources and preprocessing methods are also crucial in addressing data quality and bias concerns. By maintaining clear records of data collection, cleansing techniques, and model training processes, investment managers can enhance accountability and facilitate the identification and mitigation of potential biases. In conclusion, addressing data quality and bias is paramount in the practical use of AI in investment funds management. By prioritizing data integrity, investing in robust data quality assurance measures, and addressing potential biases, investment managers can improve the accuracy and fairness of their AI-driven investment strategies. This commitment to data quality and bias mitigation is essential in building trust, ensuring ethical decision-making, and maximizing the potential benefits of AI in the investment industry.



**Book of Proceedings**

***SUBHEADING 2: LACK OF INTERPRETABILITY***

Artificial intelligence (AI) and its applications in investment funds management, the lack of interpretability in AI models poses significant challenges and risks. Investment managers heavily rely on AI algorithms for decision-making, but the opacity of these models makes it difficult to understand the underlying reasoning behind their recommendations. The lack of interpretability hampers transparency, accountability, and regulatory compliance, hindering stakeholders' ability to trust and validate the AI-driven decisions. A major talking point surrounding the lack of interpretability is the need for explainable AI models.

Investment managers must prioritize the development and adoption of AI algorithms that provide clear and transparent explanations for their recommendations. By enhancing interpretability, stakeholders can gain insights into the factors, data sources, and patterns influencing the AI models, enabling them to make more informed investment decisions. Moreover, interpretability is crucial for risk management. Investment managers must be able to identify potential biases, model limitations, and unforeseen risks. Understanding how AI models interpret and weigh different variables empowers investment managers to address these issues effectively and make necessary adjustments to their investment strategies.

In conclusion, addressing the lack of interpretability in AI models is paramount for the practical use of AI in investment funds management. Investment managers should prioritize the development of explainable AI algorithms to enhance transparency, accountability, and stakeholder trust. By fostering interpretability, investment professionals can navigate the challenges associated with AI and harness its potential benefits more effectively, leading to improved investment decision-making processes.

***SUBHEADING 3: OVERRELIANCE ON HISTORICAL DATA***

Artificial intelligence (AI) and investment funds management, the risk of overreliance on historical data is a major concern. While AI algorithms excel at analyzing large volumes of historical data to identify patterns and trends, an exclusive focus on past data poses risks in an ever-changing market environment. Investment managers must recognize that historical data may not fully capture current market dynamics and unforeseen events, potentially leading to suboptimal investment decisions. One of the key talking points surrounding the overreliance on historical data is the importance of augmenting AI-driven insights with up-to-date information. Investment managers should complement AI models with a deep understanding of current market conditions, emerging trends, and macroeconomic factors.

This holistic approach allows for a more comprehensive assessment of investment opportunities and mitigates the risk of making decisions solely based on outdated historical data. Furthermore, investment managers must continually evaluate and refine AI models to adapt to evolving market conditions. Regular model recalibration and stress testing are crucial to ensure that AI algorithms remain effective and relevant in dynamic investment landscapes.

This proactive approach helps investment managers stay ahead of market trends and capture emerging opportunities. It is also essential to strike a balance between historical data and forward-looking indicators. Incorporating real-time data, market sentiment analysis, and qualitative factors can provide valuable insights that complement historical data analysis. By doing so, investment managers can navigate the limitations of relying solely on historical data and improve the robustness of their AI-driven investment strategies.

In conclusion, the risk of overreliance on historical data in AI-driven investment funds management necessitates a balanced approach. Investment managers should augment AI models with current market insights, regularly recalibrate models, and integrate forward-looking indicators to enhance decision-making processes. By striking the right balance between historical data and real-time information, investment managers can harness the practical uses of AI while mitigating the risks associated with relying solely on past data.





**Book of Proceedings**

***SUBHEADING 4: CYBER SECURITY AND MANIPULATION***

The risks associated with cyber security and manipulation are critical considerations. As AI becomes increasingly integrated into investment decision-making processes, the vulnerability to cyber threats and potential manipulation of AI models pose significant challenges. Investment managers must recognize the potential for data breaches, unauthorized access, and malicious attacks that could compromise the integrity and confidentiality of sensitive financial information. A major talking point in this area is the need for robust cybersecurity measures. Investment managers must prioritize the implementation of advanced cybersecurity protocols, including encryption, access controls, and regular security audits.

This proactive approach helps safeguard AI systems and the sensitive data they handle, ensuring the protection of investor assets and maintaining trust in the investment management process. Moreover, investment managers should be vigilant against potential manipulation of AI models. By incorporating mechanisms to detect and prevent model tampering, investment managers can mitigate the risk of malicious actors distorting investment recommendations or gaining unauthorized control over AI systems. Regular monitoring and anomaly detection techniques can play a crucial role in identifying any suspicious activities or attempts to manipulate AI models.

***SUBHEADING 5: REGULATORY AND ETHICAL CHALLENGES***

Across the globe, industry representatives, governments, academics and civil society are debating where legal-regulatory frameworks are needed and when, if ever, ethical or technical approaches suffice. Even if those questions are answered, the issue of the extent to which our existing ethical and regulatory frameworks sufficiently cover the impact of these technologies remains (Cath, 2018). Practical applications of artificial intelligence (AI) in investment funds management, the regulatory and ethical challenges associated with AI implementation cannot be overlooked. As AI becomes more prevalent in the financial industry, investment managers must navigate a complex landscape of regulations and ethical considerations to ensure responsible and compliant use of AI technologies.

One of the major talking points surrounding regulatory challenges is the need for clear guidelines and frameworks. Regulatory bodies must develop comprehensive policies that address the unique characteristics and risks of AI in investment funds management. These regulations should cover areas such as data privacy, algorithmic transparency, and accountability to safeguard investor interests and maintain market integrity. Ethical considerations also play a crucial role in the adoption of AI in investment funds management. Investment managers must ensure that AI algorithms are fair, unbiased, and do not discriminate against certain demographic groups.

Transparency in the decision-making process and accountability for AI-driven recommendations are essential to building trust among stakeholders. Furthermore, the academic community and industry practitioners should collaborate to develop ethical guidelines specific to AI in finance. Engaging in open discussions and sharing best practices can help address potential ethical dilemmas and promote responsible AI use in investment management. In conclusion, the regulatory and ethical challenges surrounding AI in investment funds management require proactive measures.

Investment managers should stay informed about evolving regulations, adhere to ethical principles, and participate in industry-wide discussions to shape responsible AI practices. By doing so, investment managers can navigate the regulatory landscape, uphold ethical standards, and harness the practical benefits of AI while safeguarding investor interests.

***CONCLUSION***



## Book of Proceedings

In conclusion, the role of artificial intelligence (AI) in investment funds management is undeniably significant. Throughout this essay, we have explored the practical uses of AI in key areas such as data analysis, decision making, risk management, and portfolio optimization. AI technologies have revolutionized the investment landscape by enabling investment managers to process vast amounts of data, uncover hidden patterns, make informed decisions, mitigate risks, and construct optimized portfolios. AI's impact on data analysis has transformed how investment managers extract insights from diverse data sources, including market trends, company financials, news sentiment, and social media data. The ability of AI algorithms to process and analyze this information has led to more accurate predictions and enhanced investment strategies.

Similarly, AI has streamlined decision making by automating processes, reducing human bias, and optimizing investment strategies based on predefined criteria. In the realm of risk management, AI has emerged as a valuable tool for identifying and mitigating potential risks. Through continuous monitoring and analysis of market conditions, AI algorithms provide real-time risk assessments, enabling investment managers to proactively manage risks and protect their portfolios. Additionally, portfolio optimization has been revolutionized by AI, allowing investment managers to construct well-diversified portfolios that maximize returns while minimizing risks.

The use of AI algorithms for dynamic portfolio rebalancing ensures that portfolios remain aligned with investment objectives in the face of changing market dynamics. As we move forward, it is essential to address the challenges and potential risks associated with AI implementation in investment funds management. Algorithmic biases, data quality, model assumptions, and interpretability are critical considerations that require ongoing attention to ensure the reliability, ethical use, and robustness of AI-driven strategies. In conclusion, the role of AI in investment funds management is undeniably significant. Throughout this essay, we have explored the practical uses of AI in key areas such as data analysis, decision making, risk management, and portfolio optimization.

AI technologies have revolutionized the investment landscape by enabling investment managers to process vast amounts of data, uncover hidden patterns, make informed decisions, mitigate risks, and construct optimized portfolios. In light of the rapid advancements in AI technologies, investment professionals must embrace this transformative tool while also developing a comprehensive understanding of its capabilities and limitations.

Continuous research, collaboration, and knowledge sharing among academia, industry practitioners, and regulatory bodies are crucial for harnessing the full potential of AI in investment funds management. In conclusion, AI has revolutionized investment funds management by augmenting human capabilities, enhancing decision making, and optimizing portfolio performance. As we navigate the future of finance, it is imperative that investment professionals embrace the potential of AI while upholding ethical standards, ensuring transparency, and safeguarding the interests of investors. By leveraging the power of AI responsibly, we can unlock new opportunities and drive the next era of innovation in investment funds management.

Throughout the paper, key risk factors have been examined, including data quality and bias, the lack of interpretability in AI models, overreliance on historical data, cyber security threats, and the potential for AI manipulation. Practical strategies for addressing these risks have been outlined. The regulatory and ethical challenges associated with AI have also been emphasized, underscoring the need for clear guidelines and ethical principles to ensure responsible and compliant AI use.

Final conclusion is that integration of AI into investment fund management has brought a profound transformation in the field. AI technologies have gained prominence across various sectors, firmly establishing their presence in the world of finance. The allure of AI-driven investment strategies lies in their ability to enhance efficiency, reduce human biases, and leverage complex data patterns to optimize returns. However, this technological revolution is not without its share of risks and challenges. This paper has extensively explored the domain of investment fund management in the age of artificial intelligence, highlighting the advantages AI brings while critically assessing the associated risks.



## Book of Proceedings

The central objective has been to provide a balanced perspective, not to discourage the use of AI in investment management, but to equip stakeholders with the knowledge and insights necessary to make informed decisions and harness AI's potential responsibly. In conclusion, AI has undeniably had a significant impact on investment fund management by enhancing data analysis, decision-making, risk management, and portfolio optimization. It is essential for investment professionals to embrace the potential of AI while remaining vigilant about its challenges, upholding ethical standards, ensuring transparency, and safeguarding the interests of investors. Responsible AI integration promises to unlock new opportunities and drive the next era of innovation in investment fund management. It is through proactive measures and a comprehensive understanding of AI's capabilities and limitations that the financial industry can fully harness its transformative potential.

## **REFERENCES**

Cath, C. (2018). Governing artificial intelligence: ethical, legal and technical opportunities and challenges. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 376(2133), 20180080.

Novelli, C., Casolari, F., Rotolo, A., Taddeo, M., Floridi, L. (2023). Taking AI risks seriously: a new assessment model for the AI Act. *AI & Society*, 1-5.

Varona, D., Suárez, J. L. (2022), Discrimination, bias, fairness, and trustworthy AI. *Applied Sciences*, 12(12), 5826.



Book of Proceedings

***COMPETITIVE STRATEGY AND SUPPLY CHAIN, AND  
CORPORATE GOVERNANCE – THE FRUSTRATION OF THE  
MANAGEMENT FUNCTIONS – PART I***

*Miodrag Cvetković<sup>1</sup>*

**ABSTRACT**

*Porter's research in the field of strategic business management has left the deepest mark and the deepest impact on the theory, but also on the practice of the management function in the last few decades. The theory of the value chain, of competitive advantage and generic strategies of competitiveness should be re-read in the growing complexity of the environment, in the growing competitiveness and the increasing globalization of the economy. The concept of the supply chain, which was developed shortly after the theory of the value chain, especially represents a new context for a new consideration and study of the theories of strategic management, both by Porter and by other important authors. In particular, it is necessary to consider the relationship of the concept of management with the help of the value chain in relation to the concept of corporate management, traditionally focused on internal goals and goals of capital owners that survives and adapts to the conditions of globalization.*

**Key words:** *value chain, industrial structure, competitive advantage, strategic thinking, strategic positioning, competitive strategies*

**JEL Classification:** *M21*

**INTRODUCTION**

The business environment has changed dramatically, especially after the 1980s, and thus the way strategies are created and the business organization itself. The basic characteristic of the modern business and social environment is the dynamism of changes. What's more, changes are accelerating. Changes in the environment are primarily reflected in the rapid development of the process of globalization and global competition, in the development of technologies, especially information and communication, but also in the insistence on increased social responsibility of companies. However, the most significant change, which has affected all aspects of business, is the new role of customers and consumers, whose demands and needs are now the driver of all business initiatives.

As a consequence of all these changes, in the last thirty or more years, new economic theories appeared in the sphere of strategic and operational management. In practice, the way of creating strategies, way of applying and the very organization of business and operational functioning have changed. In the struggle to acquire and preserve a competitive position, companies realized, first of all, that they have to turn to the external environment, to develop their abilities, expertise and technologies in order to be ready for continuous innovation. It was necessary to develop organizational capabilities and, above all, to establish relations with suppliers and customers at the level of strategic partnership, and then to develop partnerships with other service companies for the required performance of the supply chain. Only this could ensure the creation of new strategies, innovation and flexibility in adapting to customer requirements. Finally, the

---

<sup>1</sup> *City Administration for Economy and Agriculture, of Leskovac, cvetkovic.miodrag2803@gmail.com*



## Book of Proceedings

purpose of a business organization is to create value for consumers, end users, and to create competitiveness in the end consumption market, *creating value for someone outside the system, where it is necessary to be a profitable business.*

The approach to management was changed on two grounds: the strategic approach was changed by turning to the external environment, and then, in practice, management became operational by establishing harmonized process performance and joint control over activities and outside the company, in the entire value delivery chain, as an operational response and in order to control the implementation of the strategy. Turning to the external environment meant a change in the basic task of business organization: it is not the primary consolidation of resources for a certain volume of production, but the research of demand, and then the choice of activities, the organization of resources for the performance of activities in a certain configuration in order to solve the needs and problems of customers and consumers. Such a focus has inevitably directed business towards a collaborative partnership. It is a change from an in side - out, to an out - in side approach. Thus, the management is oriented first towards entrepreneurship and innovation, and then towards collaborative planning and cooperation with partners. Management therefore represents the research of demand and external impulses and influences, and based on that, making decisions about resources, organization and operating system.

Among the numerous theoreticians who in the previous decades contributed to the new economic thought, strategic and even operational management, and their coordination, one of the most significant is undoubtedly Michael Porter. Its impact on management practice is also huge, which especially confirms that the theory is good and applicable. Porter's model of competitiveness, models of generic strategies and value chain theory are today the foundation for strategic thinking, for mental understanding of competitiveness, for harmonizing strategic and operational management.

The basic source of the mission idea and the determinant of strategies and management processes have become customers and consumers, and then, increasingly, social interests and needs. Professor Drucker (another great author in strategic management) early defined three necessary global contemporary management tasks (Drucker, 1986):

- the specific purpose and mission of the institution, whether business enterprise, hospital, or university,
- making work productive and the worker achieving,
- managing social impacts and social responsibilities.

However, the topic that has been imposed in all social sciences, in economics, law and politics, in sociology and philosophy, is the topic of globalization, neoliberalism, deregulation, corporatization. These are segments of the same topic for which it is difficult to find a term that will adequately and simultaneously include all these segments. It is a topic that starts from the micro level - companies and corporations, but spreads over all aspects of society and rises to the macro and global level, to neoliberalism as a new order whose protagonists and sponsors seek to establish it as a ruling global economy doctrine, or even as an ideology, because very often political elements are included. It is, finally, the environment, or an unavoidable part of the environment, in which strategic management and the supply chain concept must be considered.

Thus, in the neoliberal environment, compared to the above position of prof. Drucker and many other contemporary theorists, the practice of corporate management and corporate goals that are focused on profit and capital accumulation, which can be easily classified, on the one hand, in the private goals of capital owners, and, on the other hand, in the policy of global expansion of the most powerful country. Corporate governance as such is at odds with the supply chain concept and the company's competitive strategy.



Book of Proceedings

***COMPETITIVE ADVANTAGE***

After defining the competitive strategy (1980), Porter defined and published the value chain theory and the competitive advantage theory (1985). The competitive advantage is first analyzed through five key competitive forces, that is, through the characteristics and structure of the branch of the national economy and through the level of market attractiveness and market maturity of the industry as an environment. The enterprise must analyze these conditions and synthesize the conclusions, in order to define or explain the company's competitiveness strategy, that is, to eliminate or overcome the influence of the five objective forces of competition and achieve profitable competitiveness based on differentiation from direct competitors.

Porter defined five competitive forces (1985):

- 1) The level of competition in the branch,
- 2) Power (strength) of the supplier,
- 3) Buyer power,
- 4) Threat of substitutes,
- 5) Danger of entry of new competitors.

Porter's five forces of competitiveness represent a research model of the competitive environment in the overall industrial structure, and then the position of the company in its own industry. The model talks about the competitiveness of companies through the market and industrial structure, which first looks at the level of profitability of the overall economy and then the level of competition, which takes place on two levels - with competitors in the industry for market share, and about the balance of power with its own suppliers and customers for share in costs and profits (Porter, 1985). The structure of the industry (economy) through all five forces partially answers the question about the origin of profit. It is a structure that represents objectified conditions of competitiveness and level of profitability (attractiveness). Another part of the answer to the question of competitiveness and level of profit, which is often more important in modern conditions, is in the ability of the company to find its own strategy and new sources of value and profit by analyzing the markets of final consumption, and thereby improve its relative position in its industry. In this sense, the enterprise competitiveness strategy is the further search for opportunities to create value in consumer needs, value that consumers will understand and appreciate, and the creation of a unique (strategic) position for the enterprise. A company's competitive strategy and its implementation can make profits above average, or with an unsuccessful strategy and inefficient value chain, below the industry average.

“*Competitive Advantage* describes the way a firm can choose and implement a generic strategy to achieve and sustain competitive advantage. It addresses the interplay between the types of competitive advantage-cost and differentiation-and the scope of a firm's activities. The basic tool for diagnosing competitive advantage and finding ways to enhance it is the *value chain*, which divides a firm into the discrete activities it performs in designing, producing, marketing, and distributing its product. The scope of a firm's activities, which I term *competitive scope*, can have a powerful role in competitive advantage through its influence on the value chain. I describe how narrow scope (focus) can create competitive advantage through tailoring the value chain, and how broader scope can enhance competitive advantage through the exploitation of interrelationships among the value chains that serve different segments, industries or geographic areas” (Porter, 1985). From these considerations of Porter, it follows that the key advantages achieve through focusing, and that additional effects can be obtained from connecting market, industry (branch) and geographic segments. Broadening actually refers to a corporation and its diversified businesses.

*The dynamics of the branch or industry is taken as a given state, but a state that can change quickly today, and which does not have to oblige or hinder the enterprise in anything. The market of final consumption, towards which the enterprise is directed, obligates and initiates initiatives, whatever industry it belongs to. The dynamics of changes in the market and economic structure are accelerated due to accelerated technological, social and economic changes, and finally, due to accelerated changes in the needs and demands of consumers. The enterprise*





## Book of Proceedings

*adapts, that is, tries to recognize dynamically changing needs.* In this way, the final consumption market, conditionally, spontaneously affects the change of the economic structure, which can be illustrated by the fact that in the most developed economies the participation of the service sector is the largest (over 50%), while in underdeveloped and developing countries the largest participation is the primary economy (production sector), and the service sector is, as a rule, underdeveloped.

The company's position viewed through the return on invested capital to the level of the average of the overall economy, and then to the level of the average return of the industry. The return above the average of its own industry is the result of good strategy and management, and the competitive advantage of the company in relation to the given, objective conditions and direct competitors. For decades, the goals were quantitative: the fastest growth, the biggest profit, the biggest market share, i.e., beat the competitors, take the profit. Porter resolved that tense situation by rejecting such goals and established a new goal of strategic management, seemingly simple - *to be different. Also, don't follow general trends that are impossible to control. It is necessary only, or above all, to monitor the needs of customers of the selected segment and to control the relationship between the value created and the costs (price).*

The strategy of "being the best" and taking the profits of competitors is always problematic and even useless. Porter's five competitive forces actually represent the initial level of analysis. The second level means dealing with your own enterprise and value that is different from the offer of rivals, and that can be created in the environment of competitive forces. This phase is about defining your own target market segment and your own product and other benefits. In this context, a good, recognizable and differentiated product initially reduces the blackmailing possibilities of both the supplier and the customer, deters from entering the industry, eliminates substitutes. In any case, the ability to compete should mean the ability of an enterprise to find new sources of value in its activity or industry, those sources that competitors have not found, and that is the sphere of innovation and business improvement, and not work to suppress the competition and take over the profit.

The intensified competitive struggle in which they strive for leadership, for the largest share of the market, is disastrous. General Motors had the largest share of the market, so it went bankrupt. It was too big and too wide to succeed. This was shown in the auto industry in the period 2000-2009. Cutting prices to increase share has put the entire auto industry in a difficult position. BMW, a relatively small manufacturer, had the greatest success – a 50% higher return than the overall industry. At the end of the crisis, everything ended with acquisitions and consolidations to stabilize the auto industry with a few large manufacturers (Magretta, 2014). Profit as a goal is a legitimate and necessary goal, but what level of profit is needed? The level of profit that is objectively needed (Porter talks about fair profit) is the level that should ensure innovation and investment in future development.

Competitive advantage must still be related to financial success, which results from the price-cost ratio, but that ratio will be favorable due to sustainable competitive advantage and good strategy. This means that a company that has a competitive advantage will be able to sell its products at a lower price, and thus achieve a satisfactory profit, or it will be able to sell its products at a higher, premium price, and have customers accept it. From the buyer's point of view, value is also an economic category, as the buyer compares what value he got for his money.

Porter's five forces or the competitive strength of the company are still relevant today, but in a slightly different way and conditionally. The part that can be considered not quite accurate today refers to buyers and suppliers, who can no longer be considered as competitors by default, but as co-participants in the joint creation and delivery of value. In general, the influence of the five forces of competitiveness is relativized. In a certain way, Porter himself evolved his theory in that direction.

Porter talked about value being contributed by suppliers, the distribution system and customers, but he didn't talk about the supply chain. He said: "We have to admit that the time has come to put that (mutual competition - M.C.) aside and in the model start focusing more on groups where we can gather companies that support each other, increase their competitive advantage, and make their position more special... I also believe that strategy must be communicated to customers, suppliers, distribution channels, and the capital market" (Magretta, 2014). Capable and strong customers and suppliers today are a strength and an advantage,



## Book of Proceedings

that is, a means to improve the strategic position, and not a problem of the enterprise, which many modern managers understand. Competitive advantages of an isolated enterprise, only through transactional interactions are unsustainable today. Therefore, competitive advantages must be built in the context of a supply chain in which communication is continuous and intensive both downstream and upstream.

The theory of M. Porter's competitive advantage, with the concept of the supply chain, can therefore be extended to the third level when partners through the supply chain system are involved in the creation of competitive advantage:

- Competitiveness or relative position of the industry in the overall industrial structure,
- Competitiveness and relative position of the company in its own industry, i
- Competitiveness of the supply chain in the final consumption market.

The fourth level can be competitiveness at the global level with the "four diamonds" of national competitiveness (Factor conditions, Demand conditions, Related and supporting industries, Firm strategy, structure, and rivalry) (Porter, 1990). However, we believe that with the process of globalization, the four diamonds of competitiveness become very conditional and specific for different countries. They are important, even of utmost importance for most countries because they can prepare domestic companies for entering the international market or for global expansion: fierce domestic rivalry can create the competitive ability needed to compete on global level. The competitiveness of companies in a competitive environment based on innovation is a long-term competitiveness that develops not only the efficiency, but also the productivity of the company, and thus also develops the state, nation or geographical region, bringing prosperity (Porter, 1999).

## ***GENERIC AND DIFFERENTIATING COMPETITIVENESS STRATEGY***

Strategic management includes strategic thinking, strategic planning, development of a competitive strategy and its implementation. Strategic planning usually contains quantitative elements and a time horizon. Strategic planning is essential, but it must also be subject to change as circumstances change. Focusing on customers is what changed strategies and the perspective of looking at competition and business, to which Porter contributed immensely. What makes these changes possible is the constant presence of strategic thinking. Strategic thinking can rely on environmental analyzes and demand research, but it must certainly rely on intuition. That is, strategic planning does not abolish strategic thinking, on the contrary. Porter says: "Planning must support thinking instead of abolishing it." (Magretta, 2014). Porter's position on the genesis of strategy is similar: "good strategies do not rely only on good analysis and good forecasting, intuition must be involved." (Magretta, 2014). Porter singled out and defined three typical generic competitive strategies that suggest three competing possibilities: (Porter, 1980, 1985).

- 1) *Overall cost leadership,*
- 2) *Product differentiation,*
- 3) *Focus on narrow market niches that the competition will not be able to copy.*

Porter classified value chain activities into five types or functional areas of primary activities (inbound logistics, operations, outbound logistics, marketing and sales, services), and four types of supporting activities (infrastructure, human resources, technology, procurement) (Porter, 1985). The type and quality of activities has a direct impact on costs, customer satisfaction and the level of profit margins. By analyzing the activities, it can be determined that some activities add more or less value than planned, or in relation to the value of competitors, and some can create costs without adding value. These are generic activities of the value chain, which as such have different structures for different strategies: it is not the same activity structure for the product differentiation strategy, and for the cost leadership strategy, or for some third one. However, what is important for effectiveness, for differentiating competitive advantage and strategy realization is the configuration of activities. It means working differently than the competition, creating specific value. This principle is simultaneously connected to the strategic compromise that Porter defines



## Book of Proceedings

as the company's decision of what not to do, in addition to the previous decision of what to do. Finally, the competitiveness strategy is fully defined by the answers to three key questions:

- What will be done?
- What and how will be done differently from competitors?
- What will not be done?

The strategic link between the demand profile, the product and the required activities and processes that will create the product is obvious. That connection is realized through the required product and value chain, through processes and organization. The value chain is realized through the necessary activities. The necessary organization is characterized by appropriate connectivity, management structure, interactivity and integration of activities and processes and orientation towards the final outcome that occurs in the meeting with end users - consumers. *In that meeting with consumers, the relationship between value and price is established.* Smart strategic thinking is also that the product should not have too many varieties and too many functions that the customer will not use. The essence of Porter's approach is that the strategy positions the enterprise, but also differentiates it through performing activities differently - to work differently from competitors on the market. A general, generic strategy (product differentiation or cost leadership) is not enough, nor is competing only by operational efficiency (working better and more productively than competitors, expanding capacities, reducing costs per unit) because it leads to destruction and waste of resources. It is necessary for the company to offer a new value or a mix of benefits for a specific need and adapt the value chain to it, which again means working differently than competitors do. Don't stick to the generic level because the generic, general level of strategy is the easiest to copy.

According to Porter's concept, the essence of strategy „is that competitive advantage is at the heart of any strategy, and that achieving advantage requires a firm to make choices. If a firm is to gain advantage, it must choose the type of competitive advantage it seeks to attain and a scope within which it can be attained" (Porter, 1990). The level of the generic competitiveness strategy is general and such a strategy can be the same or similar in different companies. However, *only a set of elements of competitive advantage, which are realized through a specific configuration of activities, brings a different strategic position, differentiating the company and the product, making the strategy original and special. Competitive advantage is therefore a choice between several possibilities (and capabilities) that the company already has.*

In accordance with the theory of the value chain, the competitiveness strategy simultaneously contains and synthesizes two key components: external – a value proposition or mix for customers (consumers), and an internal component - a value chain that represents the necessary core activities or operations. These two components are finally synthesized into a competitive strategy by the necessary compromises or limitations that Porter considers essential, and which are first defined by the saying "what the company will certainly not do", and also "doing the same things differently than competitors do: "Strategic positioning means performing *different* activities from rivals' or performing similar activities in *different ways*" (Porter, 2000). Insisting on the differentiation and originality of competitive strategies, on our own configuration of value chain activities, Porter emphasizes that we must find our own specific answers in order to differentiate ourselves from our competitors. Because the role of competitiveness strategy is not extracting profit from competitors, but finding new, profitable sources of value, and therefore sources of profit.

Today, after the value chain theory, strategies have become more operational, because after the established needs of customers and consumers, they require the selection of necessary activities as basic building blocks for defining the performance of their responsiveness or efficiency in application. "Activities provide the bridge between strategy and implementation" (Porter, 1985). Such performance can only be achieved in a specific organizational arrangement and configuration of activities, which includes structure, organization, procedures and a specific management model, in accordance with the chosen strategy and target strategic values.

Operational practice cannot create strategy or effective management. Strategic thinking is constantly needed, from which the sources of competitiveness and competitiveness strategy, organizational and operational model will emerge. Porter says: "Improving operational efficiency is a necessary part of



## Book of Proceedings

management, but it is not a strategy... Managers must clearly distinguish operational effectiveness from strategy. Both are essential, but the two agendas are different... The operational agenda involves continual improvement everywhere there are no trade-offs. Failure to do this creates vulnerability even for companies with a good strategy. In contrast, the strategic agenda is the right place for defining a unique position, making clear trade-offs, and tightening fit... The strategic agenda demands discipline and continuity; its enemies are distraction and compromise... Strategic continuity, in fact, should make an organization's continual improvement more effective" (Porter, 2000). In order to create a competitive strategy, it is first necessary to "determine which values customers appreciate and how to turn that knowledge into an offer, who are the competitors and what is their offer" (Hugos, 2003). The most important thing is to formulate a specific offer, different from others, or an offer for needs that other bidders are not interested in. This implies different activities and configuration. It's not worth offering something that already exists. A standardized "best practice" that is imposed as a pattern and goal is not a strategy. Strategic innovation and competitive advantage essentially means discovering, defining or creating one's own market segment based on recognized needs and one's own capabilities to satisfy those needs. These are therefore not segments that are standard and objectively visible for everyone, but segments that are recognized and defined by the company itself. At the same time, it is important to focus on the key value, which will also be the key success factor. That's where competitiveness and differentiation come from. Strategy is thus an intuition and a subjective thing that arises from one's own perception, affinity, business and organizational culture and experience of its creator and company management.

With the growing importance of the service aspect, narrower segmentation can be applied to most, or an increasing number of products, as there is an increasingly present tendency towards mass customization of products. The level of customer service is increased by keeping an appropriate level of safety stock, especially for mass and standardized products, so that all orders can be responded to at any time and quickly, or by the availability of specific products through specific distribution channels, or through a model of delayed final assembly until "point of separation". This is the path "from anticipatory to responsive business model" (Bowersox et al., 2002). A strategic focus on a market segment elicits a specific response and emphasizes the difference between one's own company and supply chains, and possible competition. That difference in the perception of the market enables the creation of a competitive strategy as a methodology or concept for the achievement of goals, and the creation of an organizational and operational response. The competitiveness strategy, viewed through the product, processes and accompanying services.

The essence of strategic management, deliberation and the competitiveness strategy itself is focusing. Without focusing, the system is in a "disorganized state", when too many things are important and nothing is (or it is not known what is) the most important. With strategic focusing, order, organization, priorities and mechanisms of self-regulation and guidance are established in the system. On the operational level, focusing on customers has changed the "push" supply system and directed the organization towards a "pull" system of organization, centered on demand initiative and customer service.

The strategy of competitiveness does not have the task of defeating competitors in a direct encounter, but to remove the negative effects of the five forces of competitiveness. This is first achieved through proposed values and through compromises, whereby immediate competitors, substitutes and new competitors can be made less important. The most appropriate tool is a supply chain concept and system that implements the strategy, involving suppliers, service firms and customers in the co-creation and delivery of value. „The process of organizing the supply chain system begins when the desired level of value delivery performance is determined“ (Cvetkovic, 2022).



**Book of Proceedings**

***CONCLUSION***

Key segments of the theory of M. Porter's are competitiveness (competitive advantage), value chain and competitive strategies. Both are necessary – the ability to compete and the strategy of competitiveness as a value proposition. The structure of the industry (economy) through the five forces of competitiveness only partially answers the question about the origin of profit. It is a structure that represents the objectified conditions of competitiveness and the level of profitability and attractiveness of the industry. Another part of the answer to the question of competitiveness and level of profit, which is often more important in modern conditions, is in the ability of the company to find its own strategy and new sources of value and profit. The company's competitive strategy, applied through its own competitive predispositions, and its implementation, can make the profit above average, or in the case of an unsuccessful strategy and inefficient value chain, below the industry average. The competitive advantage tells about how the enterprise can apply the generic strategy in a specific way.

As Magreta said: "If there was no competition in the market, there would be no need for a strategy". Operational efficiency is not enough, a strategic approach and competitiveness strategies are needed. The key decision in the strategic approach is not to copy the competition, not to do the same things in the same way and take the competition's profit, not to compete in operational efficiency, but to recognize new sources of value and profitability from one's own perception of value for customers and consumers. Strategy is the specific choice of focusing on customer needs - what will be done, the choice of value to be offered, the activities that will make up the value chain, the specific configuration of activities that will enable differentiation, and last but not least - what will not be done. That compromise accepts certain limitations and supports differentiation, and most often means that the focus will be on some, or a certain group of customers, and not all, because this is the only way to offer a recognizable value that differs from the value of competitors. The new environment of business organization is the environment of an integrated supply chain. It is a way of establishing constant communication with end users of value and operational control in the all processes of creation and delivery of value. Opposite to the concept of the supply chain is the concept of corporate governance which focuses on internal, short-term, and financial goals.

***REFERENCES***

- Bowersox, D., Closs, D., Cooper Bixby, M. (2002). Supply Chain Logistics Management. McGraw-Hill, Inc., New York.
- Drucker, P. F. (1986). Management, Tasks, Responsibilities. Practices. Truman Talley Books/E.P. Dutton, New York.
- Kerzner, H. (2001). Strategic Planning for Project Management using a Project Management Maturity Model. John Wiley and Sons, Inc., Hoboken, New Jersey.
- Magretta, J. (2014). The essential guide to competition and strategy. Harvard Business Review Press, Harvard.
- Hugos, M. (2003). Essentials of Supply Chain Management. John Wiley and Sons, Inc., Hoboken, New Jersey.
- Porter, M. E. (1985). Competitive advantage. The Free Press, New York.
- Porter, M. E. (1980). Competitive strategy: techniques for analyzing industries and competitors. The Free Press, New York.
- Porter, M. E. (1990). The Competitive Advantage of Nations. Free Press Edition, New York.





**Book of Proceedings**

Porter, M. (1999). *Innovation and Prosperity of Advanced Nations*. Harvard University.

Porter, M. E. (1996). *What is strategy?*, Harvard Business Review Press, Harvard.

Cvetković, M., Salamzadeh, A. (2022). From the functional organization into the concept of an integrated sistem of creation and delivery of value, 11th International Scientific Conference "Employment, Education and Entrepreneurship", Proceedings, 228-241.





Book of Proceedings

***COMPETITIVE STRATEGY AND SUPPLY CHAIN, AND  
CORPORATE GOVERNANCE – THE FRUSTRATION OF THE  
MANAGEMENT FUNCTIONS – PART II***

*Miodrag Cvetković<sup>1</sup>*

***ABSTRACT***

*The concept of the supply chain is the right environment for strategic management of the enterprise with the help of the value chain, that is, it is necessary to create the value chain of the supply chain, not only the company. This establishes control over the entire process of creating and delivering value to end users. At the same time, this means that competition does not take place only between companies (with direct competitors), but above all between their supply chains in the final consumption market. Unlike management through the value chain system of the supply chain, where value is created for someone outside the system (for end users), the concept of corporate governance is focused on internal goals and the goals of capital owners, using the entire socio-economic infrastructure, and which creates numerous tensions and frequent crises, increasingly on a global level. Corporate governance especially makes problems for the function of management in SBUs which is guided by market goals and strategic positioning.*

***Key words:*** value chain, supply chain, enterprise (SBUs) market objectives, corporate objectives and strategies, neoliberalism..

***JEL Classification:*** M21

***INTRODUCTION***

The business environment has changed dramatically, especially after the 1980s, and thus the way strategies are created and the business organization itself. The basic characteristic of the modern business and social environment is the dynamism of changes. What's more, changes are accelerating. Changes in the environment are primarily reflected in the rapid development of the process of globalization and global competition, in the development of technologies, especially information and communication, but also in the insistence on increased social responsibility of companies. However, the most significant change, which has affected all aspects of business, is the new role of customers and consumers, whose demands and needs are now the driver of all business initiatives.

As a consequence of all these changes, in the last thirty or more years, new economic theories appeared in the sphere of strategic and operational management. In practice, the way of creating strategies, way of applying and the very organization of business and operational functioning have changed. In the struggle to acquire and preserve a competitive position, companies realized, first of all, that they have to turn to the external environment, to develop their abilities, expertise and technologies in order to be ready for continuous innovation. It was necessary to develop organizational capabilities and, above all, to establish relations with suppliers and customers at the level of strategic partnership, and then to develop partnerships with other service companies for the required performance of the supply chain. Only this could ensure the creation of new strategies, innovation and flexibility in adapting to customer requirements.

---

<sup>1</sup> City Administration for Economy and Agriculture, Leskovac, [cvetkovic.miodrag2803@gmail.com](mailto:cvetkovic.miodrag2803@gmail.com)



## Book of Proceedings

Finally, the purpose of a business organization is to create value for consumers, end users, and to create competitiveness in the end consumption market, *creating value for someone outside the system, where it is necessary to be a profitable business.*

The approach to management was changed on two grounds: the strategic approach was changed by turning to the external environment, and then, in practice, management became operational by establishing harmonized process performance and joint control over activities and outside the company, in the entire value delivery chain, as an operational response and in order to control the implementation of the strategy. Turning to the external environment meant a change in the basic task of business organization: it is not the primary consolidation of resources for a certain volume of production, but the research of demand, and then the choice of activities, the organization of resources for the performance of activities in a certain configuration in order to solve the needs and problems of customers and consumers.

Such a focus has inevitably directed business towards a collaborative partnership. It is a change from an in side - out, to an out - in side approach. Thus, the management is oriented first towards entrepreneurship and innovation, and then towards collaborative planning and cooperation with partners. Management therefore represents the research of demand and external impulses and influences, and based on that, making decisions about resources, organization and operating system. Or, business management is the alignment of the strategic values and goals of the companies in the chain and their distinctive and complementary capabilities and competencies, and the creation of an integrated operating system of value delivery.

Among the numerous theoreticians who in the previous decades contributed to the new economic thought, strategic and even operational management, and their coordination, one of the most significant is undoubtedly Michael Porter. Its impact on management practice is also huge, which especially confirms that the theory is good and applicable. Porter's model of competitiveness, models of generic strategies and value chain theory are today the foundation for strategic thinking, for mental understanding of competitiveness, for harmonizing strategic and operational management.

The basic source of the mission idea and the determinant of strategies and management processes have become customers and consumers, and then, increasingly, social interests and needs. Drucker, another great author in strategic management, early defined three necessary global contemporary management tasks (Drucker, 1986):

- the specific purpose and mission of the institution, whether business enterprise, hospital, or university;
- making work productive and the worker achieving;
- managing social impacts and social responsibilities.

However, the topic that has been imposed in all social sciences, in economics, law and politics, in sociology and philosophy, is the topic of globalization, neoliberalism, deregulation, corporatization. These are segments of the same topic for which it is difficult to find a term that will adequately and simultaneously include all these segments. It is a topic that starts from the micro level – companies and corporations, but spreads over all aspects of society and rises to the macro and global level, to neoliberalism as a new order whose protagonists and sponsors seek to establish it as a ruling global economy doctrine, or even as an ideology, because very often political elements are included. It is, finally, the environment, or an unavoidable part of the environment, in which strategic management and the supply chain concept must be considered.

Thus, in the neoliberal environment, compared to the above position of Drucker and many other contemporary theorists, the practice of corporate management and corporate goals that are focused on profit and capital accumulation, which can be easily classified, on the one hand, in the private goals of capital owners, and, on the other hand, in the policy of global expansion of the most powerful country. Corporate governance as such is at odds with the supply chain concept and the company's competitive strategy.



**Book of Proceedings**

***THE SUPPLY CHAIN CONCEPT***

It was only with the concept of the supply chain that the value chain theories, as well as other theories of Porter, could realize their full potential. There are numerous definitions of the supply chain that mostly contain the notion of integration from different perspectives and joint management of activities. One definition is: "Supply chain management is the coordination of production, inventory, locations and transportation among supply chain participants to achieve the best combination of responsiveness and efficiency in the market being served" (Hugos, 2011). Fit or alignment of decisions (consistency), and alignment of activities (when activities mutually support and reinforce each other, or replace more effective and efficient ones, which Porter talks about), can be the most expediently realized only in an integrated supply chain, i.e. by controlling the entire flow of the value chain.

Porter's five forces of competitiveness are still relevant today, but the field of competitiveness research has expanded substantially with the concept of the supply chain. With the context of the supply chain, competitiveness is primarily defined directly on the market segment – consisting of end users, consumers, or other industrial consumers as end users. In an isolated enterprise, outside the context of the supply chain, the enterprise is distant from the final consumption and communicates primarily with immediate partners. In the context of an integrated supply chain, an enterprise can achieve direct communication with the consumption market (with its end customers) constantly and in real time through integrated relationships, partnerships and an integrated information system. Thus, all activities in the overall flow can be harmonized with the competitiveness strategy and the desired final outcome and target values. Contrary to the definition of competitiveness within the boundaries of the industry and industrial structure, the issue of market segments, in the supply chain context, as an environment of competitiveness, is full of subtleties and specificities.

The supply chain is a response to the company's strategic needs. Supply chain management activities refer to the creation, verification of different (systemic) scenarios through connections and interactions, to the achievement of stability and sustainability of the solution, then to the direction and improvement of the supply chain process, to coordination in execution based on the target performance of the value chain, to the necessary measurements, improvements and optimization. Management is placed in the context of the supply chain and its unique management, that is, the company is managed from the perspective of the supply chain. Enterprises improve their competencies where they add the most value, outsourcing all other activities, through partnerships or outsourcing, to other companies, where all these activities are integrated into a single process of delivering value through the supply chain.

This overcomes the tactical and operational limitations of the company and enables process integration with the aim of achieving high performance of the overall value delivery process. Internal skills, competences and resources are not a source of value in themselves, they are if they participate in the creation of some value in the overall flow to end users, i.e. if they increase or improve the value of their partners, which is transferred all the way to final consumption. Or, if the company is not producing value for its partners, then it is not the value that is needed. Finally, the business will be profitable if it produces value that is needed by partners and final consumption. Thus, the competition no longer takes place between individual companies, but between supply chains, and the competitive struggle is about gaining and loyalty of end customers and consumers, in the final consumption market. This leads to the conclusion that what is not needed by the supply chain, is not needed by the company.

This particularly refers to the excess of various types of capacity, or the building of skills that will not be used to meet the demands and needs of the partners. Managing relations with partners is very complex due to numerous interests, but also due to the mutual influence of partners on all functional areas. That is why it is necessary that the process of building a partnership is ongoing. The process of managing relations with partners must answer the questions: who are the partners in the supply chain, what are their requirements and goals in the future, are there conflicting interests, what is the role and contribution of each partner? At the same time, the market of final consumption and the key factors of competitiveness are researched, creating the basis for creating a business model and joint operational capabilities.



## Book of Proceedings

The concept and principles underlying the supply chain organization are largely defined, but often from different starting points. Elements and forms of organization are different and specific, depending on goals and priorities. The goals of cooperation in the supply chain are most often (or primarily) competitiveness and creating a more favorable position on the market, but also conquering new technologies, accessing new markets, sharing or reducing risks, and numerous other business goals that arise from the strategy or are aligned with it. *In general, one description of the supply chain can be that it is an operating system in response to the strategic needs of the enterprise and the required performance of the entire value chain.*

However, it is not only an operational, but also a strategic and tactical response to the growth of competition in the conditions globalization of the environment, so the supply chain can be considered a strategic asset of the company. It can be said that the purpose or ultimate goal of the supply chain is to achieve the competitiveness and strategic position of the enterprise in the final consumption market, that is, on the selected market segment. Value chain activities and supply chain positioning begin with strategic analyzes and research and analysis of customer needs, market size and cultural characteristics of the environment: assessment of wants and needs and value propositions of customers, understanding of cultural-socio-political, economic and infrastructural characteristics of the environment, level and profile competition, benchmarking competitors and their products and communications. The following steps concern the definition and development of products and required competencies, partnerships and distinctive capabilities in the supply chain, possibility of supplying materials and distribution possibilities.

In the supply chain as a strategic alliance, relationships are long-term or of indefinite duration. "Partnership must be brought in connection with the strategy, defining the purpose of the partnership also defines the willingness to change the way of cooperation with changes in the environment. Based on the level of competition and the characteristics of the market, the potentially best partners are identified... Everyone who participates in cooperation processes knows 'what' cooperation brings and 'why' it brings. (The goal is) to capitalize on cooperation relations through the adoption of the best practice that results from cooperation..." (Blanchard, 2010). The strategic aspect is key, but also the tactical level on which abilities and competencies are developed, and the operational level that enables the achievement of best practice performance through intensive cooperation and operational functioning; the company will not and must not give up operational efficiency and good practice.

Through cooperation in the supply chain and through improved coordination, through harmonizing plans and timing, efficiency and ultimate benefits (effectiveness) are improved. In modern conditions, relations with all partners are important, but the basis of the business system is primarily relations with customers and suppliers. Deepened business relationships in the supply chain, agreed goals and strategies, change the information base needed for management and require new performance and measures. It is a performance system whose focus is on the integration of activities and processes, efficiency, flexibility according to demand and on the level of customer service and effectiveness of strategies.

Supplier relations (after establishing customer relations and researching demand) represent the second supporting pillar of the supply chain. Relationships with suppliers are created in accordance with the desired level of customer service and with the process elements of order execution for end customers. If it is about the production of standard mass products, then the supply will be continuous and massive, where the performance of the economic supply will be important. If a certain specific quality is delivered to customers in small lots and more frequently, the JIT (just in time) system philosophy will be applied in relations with suppliers – "just in time", in small quantities, right on time and of a certain quality. Sourcing and supplier relationships are the foundation of the supply chain and the basis for creating an offer and managing inventory as another crucial issue.

Deviations in time performance, in the operational process are possible in the further course, in all phases. Delayed deliveries will require safety stock, and early completion of tasks will require inventory handling costs (Bowersox et al., 2002). This is equally valid on the customer side, i.e. for every supplier-customer relationship. Efficient supply and use of JIT supply is possible only in conditions of long-term defined relations with partners. Improving the supply in terms of continuity, quality of materials and components, as well as the supply technology itself is one of the priorities of the manufacturer, which affects



## Book of Proceedings

the quality of the overall supply chain process. The establishment of partnership relations with suppliers, and their improvement, is made possible by the establishment of an "information highway", so that intensive and open communication enables the integration of operating systems and the synchronization of production processes, and coordination in the execution of all other activities and processes (Harrison & Van Hoek, 2002). Many suppliers, thanks to such communications, adopt a just-in-time supply system, or fill the stock of traders themselves by suppliers under the VMI model.

In fact, customers are the drivers of all business initiatives. Good partnership relations with customers allow the company to always be alert in relation to changes in the market, but also in relation to the actions and reactions of competitors (Fawcett et al., 2007). Collaborative relations with customers, wholesalers and retailers, are especially important because they concern the immediate creation of a flexible relationship to demand. In the development of partnership relations with customers, a key distinction can be made between transactional marketing and relationship marketing (Dougan, 2004). Transactional marketing is concerned with acquiring as many customers as possible and taking customers from competitors. Relationship marketing seeks to protect the customer base and improve the profitability of existing customers.

One of the key processes that is researched, developed and implemented through the concept of supply chain management as a business philosophy and management tool is customer relationship management (through the Customer Relationship Management, or CRM model). Some theorists describe CRM as the application of new technology (software) that collects data and knowledge about customers. Others talk about technology, but also about social relations. "In practice, it is most often a decision to invest in hardware and software to enable the collection of detailed information about customers, in order to more easily achieve marketing goals" (Kotler, 2003).

## ***GLOBALIZATION, NEOLIBERALISM AND THE PROBLEMATIC NATURE OF CORPORATE STRATEGY AND CORPORATE GOVERNANCE***

Globalization is a modern phenomenon that has numerous aspects at the world level - political, cultural, social, but the basis of this concept is the economic aspect. Globalization is undoubtedly a political process of creating a unique space for easier achievement of economic, ultimately hegemonic goals. Actors of neoliberal globalization and deregulation from the power centers, above all the alliance Wall Street – US Treasury – IMF (Harvey, 2005) strive to make the "mechanism" invisible. The bearers of the globalization process are highly developed countries, that is, their transnational companies (corporations) and banks, which strive for the integration of the world market due to their economic interest (Bonić, 2008). A deeper analysis and consideration of the actual situation leads to the conclusion that the effects of that process are neither harmless nor positive for many countries.

Neoliberalism as an environment and a new world order is interpreted, among other things, as the separation of political (state) sovereignty from economic sovereignty, which is disappearing and which (starting with the Washington Consensus, 1973) succumbed to the processes of deregulation of the economic space of states by adopting the principles of international economic relations and by signing agreements with international institutions and organizations.

At the microeconomic level, today, with the expansion of the globalization process, two strategic concepts of governance appear persistently and simultaneously in practice – the corporate concept and the concept of competitiveness and supply chain strategy, for which in many cases it is not certain whether they are in a convergent or divergent relationship. Corporate policies and business expansion and diversification strategies are increasingly financial policies or policies of one-time or short-term contracts, often with speculative elements, and far from the principles and goals of long-term value creation for the market and customers. If we delve deeper into corporate values, i.e. the corporation's value chain, we can easily get to the biggest social issues, at the local and global level, to investor urbanism, to pressure on legislation, to the deepening of social differences at the local and global level, to the policy of global corporations to move





## Book of Proceedings

their production (especially dirty) to poor countries in order to get cheap labor, cheap raw materials and to avoid necessary investments in environmental performance in the race for profit. In this respect, *the global supply chains of global corporations do not represent the essence of the supply chain concept because they are primarily focused on internal, financial goals*. Corporate governance is often bureaucratized, authoritarian and directive. One of the many definitions of corporate governance indicates that "corporate governance includes a set of relationships between the company's management, board of directors, shareholders and other interested parties" (OECD, 2004).

Corporations, with the help of the promoters of the neoliberal doctrine (who are otherwise sponsored by the corporations themselves), have been declared subjects, almost as "homo economicus". Corporations as subjects of society, through the neoliberal system, insist on rights, but not on institutional status and obligations. All this takes place under the slogan of the free market and the protection of individual freedom and rights, which also includes corporations. The disproportionate power of capital is obscured by this slogan, which has been translated into legal norms. In this context, the private interest of the owners of corporations is declared to be public. Thus, from Adam Smith and the "invisible hand of the market" we have actually reached the "invisible hand of corporations" today.

Due to the increasingly visible problems, there is increasing pressure from various movements, the civil non-governmental sector and the intellectual public and important individuals to stop the activities that bring destruction. This primarily refers to no ethical action, the ecological dimension, the preservation of health and safety of people, protection at work, which can mostly be subsumed under the new paradigm of sustainable development (Stefanović & Krstić, 2008).

From the point of view of microeconomics, a unique strategy of a corporation with diversified operations is almost impossible: strategy means focus on a specific market segment and belongs to strategic business units, while diversification of a corporation's operations usually means focusing on different types of business with the aim of making a profit. Corporate strategy starts from financial goals, assigning operational tasks to its SBU (or divisions) which, in the opinion of corporate management, will achieve the greatest return and profit. In this sense, corporate strategists may have a low level of understanding of the competitive strategies of their enterprises. About this, M. Porter says (Porter, 1985): "Since each generic strategy often implies a different pattern of investments and different types of executives and cultures, there is a risk that a business unit that is 'odd man out' will be forced to live with in a appropriate corporate policies and targets. For example, an across-the-board cost reduction goal or firmwide personnel policies can be disadvantageous to a business unit attempting to differentiate itself on quality and service, just as policies toward overhead appropriate for differentiation can undermine a business unit attempting to be the low-cost producer."

Porter's weakest work is "From competitive advantage to corporate strategy" because such a connection, which is the subject of research, is difficult to establish based on the principles of a consistent mental and process model. Porter focuses his research on organizational efforts for joint use of activities and mutual transfer of skills in a corporation. These are segments of the corporation's strategy that require communication between SBUs. The other two segments of corporate strategy – portfolio management and corporate restructuring do not require communication between SBU (Porter, 2001). Such a strategy and an imposed organization, driven by internal goals, will easily put in the background and threaten the competitive strategies of SBU or enterprises within the corporation. Porter himself says (Porter, 2001): "Moving from competitive strategy to corporate strategy is the business equivalent of passing through the Bermuda Triangle." The case of each corporation is special and incomparable to other cases. Private ownership in such corporations, which runs away from principles and generic models, is inviolable and self-centered. Such a corporation does not want to become a transparent social institution, and it should because it uses a huge social and even state infrastructure, information unavailable to everyone and privileges (e.g. low tax rates) large state projects. Therefore, a company, even in the complex form of a corporation, must be a social institution in order to deserve full legitimacy. Owners of corporations, only when they become very rich, become altruists (Buffet, for example).





## Book of Proceedings

Andrews was the first to point out the difference between business and corporate strategy in 1971. (Andrews, K., *The Concept of Corporate Strategy*). He believed that business strategy is the selection of products for a specific market by divisional or product line management in a diversified company. Corporate strategy is a superset of business strategies... Corporate strategy sets a course of development in the indefinite future and can be included in the business strategies of its SBUs". (Chesbrough H. and Rosenbloom S. R. 2002, 530) However, it can also be argued that business strategies of SBUs constitute, or at least can constitute (induce) corporate strategy. It is more appropriate and logical. The corporate strategy is motivated by the interest of the capital owner as the master of the overall situation, but the market cannot be neglected and it can connect the competitiveness strategy and the corporate strategy according to the *down-up* principle.

Some of the principle differences between the two concepts of management (corporation and supply chain) are: in a corporation, everything is secret, even for most employees; in the supply chain, everything is transparent within the system and based on inter-organizational information sharing. Corporate management insists on procedures, on budgetary control, and often on unconditional directives; middle management, or SBU management, insists on flexibility and interactivity. For corporate management every income and every claim and every customer who will pay anything is important, as well as the total ratio of income and expenses (or costs); for a strategic business unit, a market segment defined by specific demand and required services, as well as the costs of those services and relationships with suppliers, is important. Corporate management will find it difficult to define a mission statement because in grown corporations there is too much concern about financial flows. This will have to be done by the marketing director who operates operationally in the relationship "market - internal operations", or by the management of a strategic business unit.

The management of non-transparent fund-type corporations or conglomerates can often be reduced mainly to simple mathematical operations of adding and subtracting the costs of activities and the rational allocation and use of resources for short-term profitable goals, with the aim of achieving a favorable ratio of income and expenses and rapid capital increase, and its multiplication. Also, the stock market and speculative businesses are very close to this type of management. "At the end of the day", the two key documents of corporate strategy are: the income statement (the difference between income and expenses), and the balance sheet (equity balance). "The large corporations became more and more financial in their orientation, even when, as in the automobile sector, they were engaging in production. Since 1980 or so it has not been uncommon for corporations to report losses in production offset by gains from financial operations (everything from credit and insurance operations to speculating in volatile currency and futures markets). Mergers across sectors conjoined production, merchanting, real estate, and financial interests in new ways to produce diversified conglomerates. When US Steel changed its name to USX the chairman of the board, James Roderick, replied to the question 'What is X?' with the simple answer 'X stands for money...' Neoliberalization has meant, in short, the financialization of everything" (Harvey, 2005).

Peter Drucker (1986) says: "Each business within a diversified company, indeed each product line and each distribution channel, needs its own plans, goals, and strategies. Each needs to set clear objectives and to measure results against expectations. Each needs, in other words, to be managed as an autonomous business." And immediately afterwards he adds: "But, at the same time, to obtain the results of diversification, there has to be a unified strategy, an overall design, a common mission for the entire business. There has to be diversity in unity." However, it is not clear what provides the uniqueness of the corporation, or what the uniqueness consists of, if it is not the rate of profit, or the return on capital, or the return on investment, or all of these together. The mission is certainly not that. SBUs are needed at a level where they can be integrated and focused on market, profitable goals and results, which will enable continuity and self-financing.

Logistics technology, with the use of information technology, has reached perfection. That source of advantage has been exhausted and it is obvious that global companies are faced with the problem of maintaining responsiveness. "There is a danger that companies might run the risk of sacrificing service on the altar of cost reduction through a failure to fully understand the required services in individual markets" (Christopher, 2011).



## Book of Proceedings

Other authors also talk about the success of the supply chain concept: After the recession of 2008, big (global) companies found that they made a lot of money and to their own surprise, they concluded that it came from effectively managing their supply chains, that is, they discovered the connection between well-managed supply chains and profitability! The cash was generated by freeing up capital tied up in operations and inventory. This surprise is a consequence of distrust in the supply chain, because corporations believe in hierarchy, in internal procedures, in order and order, in savings, and possibly in bonuses to managers for the execution of set goals. During the Great Recession (December 2007 to June 2009), more companies than in the past realized the connection between well-managed supply chains and profitability (Cooke, 2014).

## *CONCLUSION*

Today's enterprise competitiveness strategies are connected with supply chain management strategies: with information exchange, with integration and synchronization of processes and joint planning, with joint use of resources, in order to achieve efficiency, ensure customer loyalty and competitiveness. The supply chain is a response to the company's strategic needs. With the supply chain concept, value chain theory can realize its full potential. In the new environment of high competitiveness and constantly changing consumer demands, competition no longer takes place between enterprises, but between their supply chains. For these reasons, Porter's theory of "five forces of competitiveness" is partially relativized, while the value chain theory realized its full meaning. Long-term control of profitability is only possible if competition is achieved in the final consumption market, because only final consumers ensure strategic positioning and the profit.

With the expansion of the globalization process, two strategic concepts of management appear persistently and simultaneously in practice - the corporate concept, and the concept of competitiveness and supply chain strategy. These are not only different levels of governance, but also a reflection of goals and prevailing interests. In many examples (cases) it is not certain whether they are in a convergent or divergent relationship. As a generic, these two concepts are opposed. For corporate management is important every income and every claim and every customer who will pay anything, as well as the total ratio of income to expenses (or costs). For a strategic business unit is important a market segment defined by specific demand and required services, as well as the costs of those services, and relationships with suppliers.

A supply chain is a system that works for someone outside the system - the end users. In this sense, any opportunism of some of the members of the supply chain is harmful: when the system starts working for someone within the system, the system fails. The supply chain is also the best management control of the enterprise: everything that is not needed by the supply chain, is not needed by the enterprise. Or, if a enterprise in the chain does not improve and contribute to the value created by partner companies, then it is doing the wrong job.

Corporate policies and as business expansion and diversification strategies are increasingly financial policies or policies of one-time or short-term contracts and goals, often with speculative elements, and far from the principles and goals of long-term value creation for the market and customers. Emphasized corporate policy is often inappropriate for strategic business unit (SBU) goals and poses a problem for supply chain management, i.e. for the creation and implementation competitiveness strategy of the enterprise in the corporation. Corporate strategies, driven by internal and private and financial goals, are not subject to generalization, that is, there is no generic model of corporate strategy, but all cases are different and incomparable.



**Book of Proceedings**

***REFERENCES***

- Blanchard, D. (2010). Supply Chain Management. Best Practices. John Wiley & Sons, Inc., New Jersey.
- Bonić, Lj. O. (2008), Finansijska analiza u funkciji maksimizacije vrednosti kapitala vlasnika. Doktorska disertacija, Ekonomski fakultet, Niš.
- Bowersox, D., Closs, D., Cooper Bixby, M. (2002). Supply Chain Logistics Management. McGraw-Hill, Inc., New York.
- Chesbrough, H., Rosenbloom, S. R. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and Corporate Change*, 11(3), 529–555.
- Christopher M. (2011). Logistics and Supply Chain Management. Pearson Education Ltd., London.
- Cooke, J. A. (2014). Protean Supply Chains, Ten Dynamics of Supply and Demand Alignment. John Wiley & Sons, Inc., New Jersey.
- Dougan, S. (2004). Customer Relationship Management Strategies in Financial Service. Business Insights Ltd., London.
- Drucker, P.F. (1986). Management, Tasks, Responsibilities, Practices. Truman Telley Books/E. P. Dutton, New York.
- Fawcett, S., Ellram, L., Odged, J. (2007). Supply Chain Management – from Vision to Implementation. Pearson Education International, London.
- Harrison, A., Van Hoek, R. (2002). Logistics Management and Strategy. Pearson Education Limited, London.
- Harvey, D. (2005). A Brief History of Neoliberalism. Oxford University Press Inc., New York.
- Hugos, M. (2011). Essentials of Supply Chain Management. John Wiley and Sons, Inc., New Jersey.
- Kotler, P. (2003). Marketing Insights from A to Z. John Wiley & Sons, Inc., New Jersey.
- OECD (2004). Principles of Corporate Governance. OECD Publishing, Paris.
- Porter, M. E. (1985). Competitive advantage. The Free Press, New York.
- Porter, M. E. (2001). From competitive advantage to corporate strategy. *Harvard Business Review*, May–June, 43-59.
- Stefanović, S., Krstić, B. (2008). Društvena odgovornost menadžmenta u upravljanju ekološkim performansama lanca snabdevanja. XI Internacionalni simpozijum – Menadžment i društvena odgovornost, SymOrg, Beograd. <http://www.symorg2008.fon.rs/radovi/arhiva-radova.php>



Book of Proceedings

***THE APPLICATION OF BLOCKCHAIN TECHNOLOGY IN  
EDUCATION***

*Jelena Bačević<sup>1</sup>,  
Vladan Pantović<sup>2</sup>,  
Vojkan Vasković<sup>3</sup>*

***ABSTRACT***

*Blockchain is a relatively new technology which enables forming a distributed digital recording in a decentralized way so that data and connected transactions are not controlled by any third party. In the beginning, this technology was used to transfer values in the form of crypto currencies but through the development of new algorithms, it has been accepted in many areas of business. This technology enables the possibility for the decentralized management of records and provides maximum security and protection from unauthorized changes. In this paper, the domain of application of blockchain technology and its pros and cons in the field of education is analyzed. There is a special focus on the conditions and needs of educational institutions and the reasons for the transition to this technology. Work that can be automated through blockchain technology, risks of manipulating documents, methods of verification and the exchange of records, the possibility of accessing data and privacy issues during working with this technology are analyzed. The research includes the fields in which this technology can be applied.*

***Key words:*** *blockchain, education, educational credential, digital documents*

***JEL Classifications:*** *I21, I23, I26*

***INTRODUCTION***

Blockchain is a technology that is still being developed, and that is always a challenge for educational institutions to try and improve work and study processes through the application of new technological solutions. The very term “blockchain” refers to a chain of blocks of information stored on decentralized devices of a network of computers which verifies and enters every transaction into a shared encrypted ledger. Every new block of information is verified through a protocol consensus with the block preceding it, thus forming a chain. Once a block is created (i.e., the information contained within it), it cannot be changed, giving blockchain the quality of immutability.

The first paper on the topic of blockchain was published in 2008 as a suggestion for launching a completely decentralized currency which is also completely anonymous (Nakamoto, 2008). The author of this paper remains anonymous to this day, but the suggested technical solution caused great interest from the public. The first real payment system Bitcoin appeared in 2009, and it received a great deal of attention from the media. Other payment systems were soon developed, resulting in euphoria. As Bitcoin gained popularity, everyone involved in the research started to realize that the potential of this technology is far greater than a simple application in crypto currencies. The other significant date in the development of this technology was the year 2015, when Ethereum appeared,

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, jelena.bacevic@vspep.edu.rs

<sup>2</sup> Faculty of Information Technology and Engineering, University Union – Nikola Tesla, Belgrade, Serbia, pantovic@vladan.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, vojkan.vaskovic@vspep.edu.rs



## Book of Proceedings

which is programable so that decentralized applications can be made in its network. Unlike the previous Bitcoin system, the Ethereum system enables a program or an agreement to be written instead of a message. Since that moment, blockchain technology has been gaining momentum and the first papers with the idea of its application in educational institutions started to get published.

As Bitcoin, Ethereum and other systems based on blockchain technology continue to grow and gain in popularity, researchers and the interested community are seeing the great potential of this technology (Liu, Q at al., 2018). Unique blockchain possibilities including immutability, transparency and reliability are advantages that other technologies were unable to provide for their users and this has shown to be the decisive factor not only in cryptocurrency, but also many other areas. The ideas for the application of this technology have been multiplying over time, so that today, experiments in many areas of business application are being conducted (Ethereum development documentation). The possibilities of this technology are best described by the following definitions:

*“Blockchain is a distributed ledger available as replicated copies with the members of the Peer to Peer Network. The ledger entries are immutable, tamperproof, secured, transparent and auditable. The ledger entries are chained according to timestamp; can be accessed by anyone who has appropriate permissions*

*Blockchain is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An asset can be tangible (a house, a car, cash, land) or intangible (intellectual property, patents, copyrights, branding)”.  
(IBM Blockchain for Dummies, by Manav Gupta)*

*“The blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value”.  
(Don & Alex Tapscott, authors Blockchain Revolution 2016.)*

Blockchain technology provides a number of advantages which can be applied in educational institutions.

- Immutability since the data is protected from unauthorized access and is chronologically entered.
- Reliability is ensured since the distributed data is located on a large number of computers on the network.
- Transparency.
- Accessibility.
- Trust.

When the significance of education for the development of a country is considered, the application of new technologies is of decisive importance in order to follow the trends that are being developed. Blockchain technology in educational institutions can provide significant advantages such as the high security of the entered data, low cost, improvement of student grading methods, enabling group work with individual grading, better control of access to date, increasing responsibility and transparency, identity confirmation, increase of trust, increase in the efficiency of student records, enabling students to present their work during schooling to potential employers as well as the improvement of intractability among students.

## ***LITERATURE REVIEW***

After the first installation of Bitcoin (2009), banks were among the first interested users of blockchain technology. Thus, the Bank of England (in 2016) started with the analysis of this technology in banking (Manav, 2018). A large step forward in the application of this technology was with the appearance of the new Ethereum system. On the Ethereum website, detailed instructions and explanations of the





## Book of Proceedings

potential of this technology as well as the definition are given: “*Ethereum is the community-run technology powering the cryptocurrency ether (ETH) and thousands of decentralized applications*”. (Ethereum development documentation).

The first papers in the field of education appeared in 2016, and since then, every year more are published. Thus Alex Grech, A. Cimilleri (2017) analyze what this technology enables and in what way it can be applied to educational institutions and provide a critical review of its application. The application of blockchain technology in lifelong learning is analyzed by Tapscott, D., Kaplan, A. (2019), where they give a detailed review of the conditions in this area as well as the ensuing problems.

In her paper, Mara-Florina Steiu (2020) gives a review of the technology of data protection and problems that occur during the development of applications for the needs of education. In their paper on intellectual property protection Kapliienko, O. et al. (2021) suggest the application of this technology in order to protect intellectual property and follow the ideas and papers of university students. The application of blockchain technology is analyzed by a group of authors (Bjelobaba G, et al. 2022.) in the context of Collaborative Learning and Student Work Evaluation.

When a query is entered into [www.google.com](http://www.google.com) in the Serbian language (key words: “blockchain tehnologija u obrazovanju” i.e., „blockchain technology in education“), the search yields several papers on this topic (Kuleto, 2023), but the texts merely provide information that blockchain technology can be applied in this area.

### ***WHO NEEDS BLOCKCHAIN TECHNOLOGY***

The indiscriminate application of any technology as a rule gives poor results. In order for a needs assessment for the application of this technology to be carried out, it is primarily necessary to determine what jobs and in which environments it needs to function. It is certain that the best recommendation for the implementation of this technology exists if there is an example of its successful application.

The initial question during the analysis of the need for this technology is “whether and who needs the shared memorized data”. This question is significant since most historical data which has once been used is no longer significant for further use. However, in educational institutions, data that someone completed training at the educational institution and received a certificate for it is significant and it is certainly important for it to have it as public information that can be verified by anyone.

Another significant question is at how many places the data entry is conducted and what is the level of mutual trust between the locations where this is conducted. In the context of data entry, it should be analyzed whether the data is later updated, since blockchain technology does not allow for subsequent changes in entered data. The problem of updating data can be solved only through the subsequent entry of a new block, but also the preceding one, which once entered remains in the block chain. One of the issues is that mainly, the data entered is of a personal and confidential nature and cannot be publicly available, so matters of confidentiality should be taken into account. Also, it should be noted who and when and under what conditions can enter data and what is the level of trust of the person who has access.

### ***ANALYSIS OF THE POSSIBILITIES OF BLOCKCHAIN TECHNOLOGY***

When analyzing the possibility of applying blockchain technology in educational processes, three basic questions need to be answered. What is the purpose of introducing this technology in educational processes, what are the uses from the application of this technology and what changes can be expected or would happen from the application of this technology.

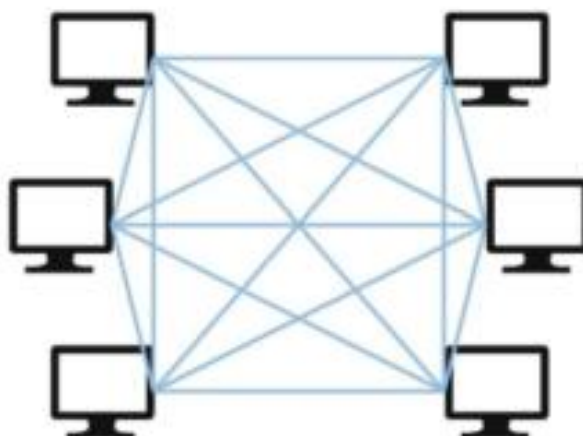


When we analyze the reasons for introducing blockchain technology, it is necessary to primarily see if there is a need in an educational institution where it is to be introduced or if it is sufficient to organize a classic database. It should primarily be determined whether there is a reason for several participants to update the database. If the answer to this question is positive, it is necessary to determine the level of trust among the participants and whether a third party trusted by all participants is necessary. At the end, it should be determined whether it is necessary to control who and when changes the data in the database.

Blockchain can be organized in several ways in educational institutions (Zheng, 2018):

- **Public blockchain** (Figure 1)

The application of a blockchain organized in this way necessitates a license to access the network and anyone who has a computer or mobile phone device can take part in it. This blockchain is mostly based on a method of consensus for proving work (PoV), and for adding new data entries in the network. In a public blockchain, every node can take part in the consensus process. The expansion of such an organized blockchain is simply the addition of a new member. With a large expansion in the number of new members and the increase in the volume of information exchange between them, the speed of the data processing is slowed down since everyone has to confirm the transaction.



*Figure 1. Public blockchain*

Transactions in a public blockchain are visible on the network, which further necessitates for the accessible data to not be of a confidential character. This form of organizing can be applied in educational institutions in order to display students' diplomas or papers. When it comes to the immutability of the entry, it should be noted that the entries are saved on a large number of participants' computers, so it is almost impossible to manipulate the transactions in the public block chain. The efficiency of working in it depends on the number of participants and the number of transactions processed through this protocol. The problem with public blockchain is that the privacy of the data published needs to be taken care of.

- **Private blockchain** (Figure 2)

Organizing a private blockchain is convenient for individual educational institutions and colleges and implies that there is a central authority which manages the access of participants to the network. Access to a private blockchain is limited, so that the central authority (system operator, owner of the block chain) grants rights to a participant based on certain specifications (permissions).

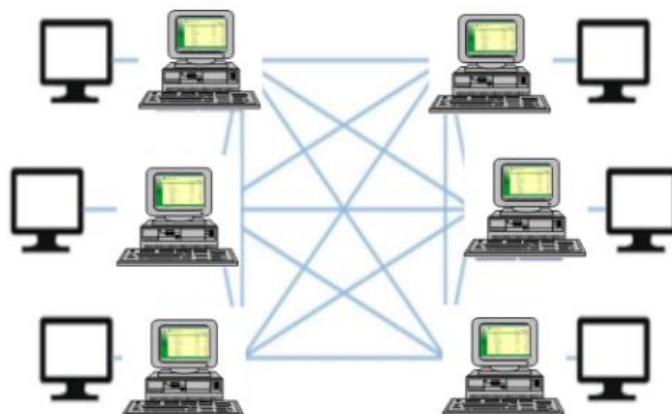


Figure 2. Private blockchain

A private blockchain is considered a centralized network since it is completely controlled by one institution. With a private block chain, it is completely controlled by one organization and it determines the final consensus. When it comes to the private blockchain, the visibility decision of what each user can see is brought by a central authority that leads the business. When it comes to the immutability of the transactions in a private blockchain, there is a possibility to change entries since there is a limited number of participants. The efficiency and system response speed of private blockchains is significantly better than public ones since the number of users is limited and the number of transactions is smaller. This model of organizing is convenient for organizing the group work of students of a single educational institution, for following individuals' success, credit control and tuition payments and similar tasks which have a limited number of users. Expanding the system is limited and depends on centralized system management. All participants need to be recognized and what they can do on the system can be partially limited.

• **Hybrid blockchain** (Figure 3)

This form of organization is convenient for educational institutions which have several organizational units such as universities with a larger number of colleges, educational institutions which are located in several places and similar. This a combination of a private and public blockchain and the inclusion of a new member requires from the central institution the permission of all the other participants (Allison, 2015).

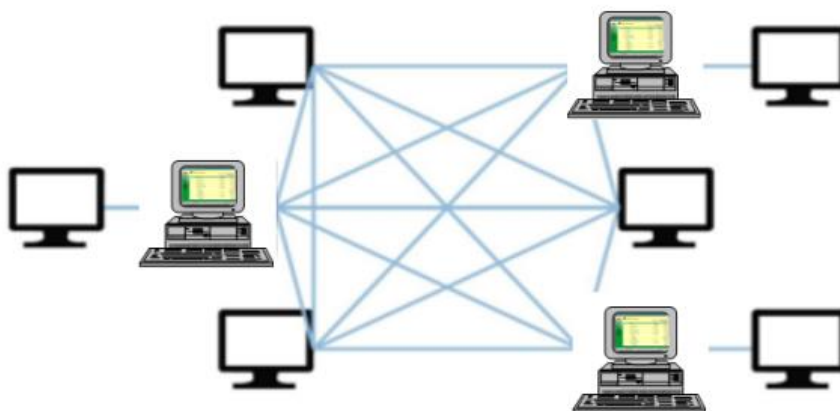


Figure 3. Hybrid blockchain

Experts from this field predict a promising future for hybrid types, including different types of block chains. A hybrid blockchain which encompasses several institutions is partially decentralized since



## Book of Proceedings

only a small number of knots is selected to determine the consensus. Expanding and adding new members (colleges, schools, etc.) depends on the central organizer but the access to certain users is completely free but is limited to publicly available data.

### ***AREAS OF APPLICATION IN EDUCATION***

Introducing any new technology demands for it to primarily define what are the uses of one such significant undertaking. In order to perceive the potential that this technology can offer, it is necessary to define where and in which areas it can be applied. The tentative list of the realized or suggested work in this field in the existing literature is as follows: (Steiu, 2020)

- managing student identification, privacy protection, achieved results and achievements, rewarding of students,
- managing certificates, diplomas,
- managing papers and the achieved realized knowledge of individuals in the study process,
- managing shared work and projects,
- managing scholarships and credits,
- gaining insight into educational results (parents, sponsors, scholarships),
- grading students' abilities and recommendations,
- managing copyright and preventing plagiarism,
- possibility for future employers to familiarize themselves with the results of potential candidates.

Changes which can be expected are primarily in the need for educational institutions to remain relevant and in line with technological achievements of the time in which they operate, which will enable students to be followed during their education and improvement in the skills they are studying and will provide records which will not be subject to subsequent changes. (Bartolomé, 2020)

Changes which were created by introducing distance learning using Internet technologies are especially suitable for working with blockchain technology. The materials which are delivered to students and the answers received from them cannot be changed and are permanently recorded. This method of materials exchange provides for accepting grades received based on this type of student knowledge testing with a great amount of reliability. The complete correspondence of teachers and students is completely transparent and accessible (with the appropriate permissions) (Kalicanin, 2021). Students' papers can be publicly available and allow the academic institution to display to the public the achievements of its students but also to recommend them to potential employers. On the other hand, students are motivated to do their work as well as possible in order to increase their chances of employment.

### ***DISCUSSION***

In the field of education, blockchain technology is still in the research and experiment stage but has already shown potential in the scope of issuing and verification of certificates, registering students' achievements, as a platform for the secure sharing of students' data, for decreasing business expenses, increasing transparency and decentralized management.

The application of blockchain technology enables students to work in a group but so that individual contributions to the common work are clearly recognized and can be quantified on an individual basis. This way of working helps students get used to group work and improves the social dimension of



## Book of Proceedings

group work. Improving educational work can be achieved through the following activities (Vargas & Soriano, 2019):

- group seminars,
- developing skills in using various technologies,
- presenting at conferences,
- participation in symposia,
- writing scientific papers.

Through the development of electronic business, a need has developed for books and digital materials to be developed by a large number of participants that take part in the work. The materials delivered by participants arrive in a certain dynamic and it is necessary to determine who did what and how much he/she participated. Crowdsourcing is a term coined from "crowd," i.e., a large number of people and "outsourcing", i.e., the hiring of external collaborators to perform some tasks. In the Merriam-Webster Dictionary, crowdsourcing is defined as „*the practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people and especially from the online community rather than from traditional employees or suppliers*". Essentially, it is a call for hiring external collaborators who would in community with other interested parties take part in developing some idea, show their creativity or give their contribution to their development of some idea. The problem that arises during the development of these projects is in that it is necessary to clearly define who did what and how much each individual contributed. Blockchain technology is almost ideal for registering an individual's participation. Participating in these projects is especially important for beginners in order to clearly mark off the part of the work that an individual did since it is a significant recommendation and reference in the job application process. It is especially important for a job applicant to show that he/she participated in a certain project in a clear and documented manner.

The problems of financing and sponsoring student work, the necessary equipment or realization of ideas that need to be financed are more frequently being solved through crowdfunding financing models. It is the practice of financing projects or fundraising from small donors who wish to provide financial assistance and take part depending on students' or educational institutions' needs. Sponsoring students' participation in acquiring equipment for students (individually or for an educational institution) - crowdfunding has become the main source of compensating for the costs of everything, from ideas on new products to medical costs to independent movies. Small donations given by many people can have significant influence and greatly improve the development of new ideas. Blockchain technology can enable the keeping of records of payment in a completely transparent way so that donors can check the status of the resources that they paid for and how they were spent.

The protection of intellectual property of student papers during undergraduate and graduate studies, the work of the teaching staff in the development of the projects, scientific research, doctoral dissertation- all of those are materials that are subject to the intellectual property protection law. All these materials once recorded in the blockchain ledger guarantee that it is easily possible to prove the time of the entry and in the case of plagiarism or any kind of illegal use, the evidence is readily available (Kaplilenko, 2021). On the other hand, all those familiar with the fact that their material will be permanently and publicly available will not dare to use others' materials or plagiarize their own or others' papers. Through the very application of blockchain technology, the misuses of others' work and other kinds of fraud will drastically decrease.

Testing students in the previous periods was conducted through personal contact and grading of the knowledge of the candidate was based on the free assessment of the examiner. Blockchain technology enables student evaluation to be automated and significantly improved (Bjelobaba et al., 2022). Teachers can use the technology of smart agreements and blockchain by defining correct answers and criteria for scoring and grading. Once completed, an exam is permanently noted and can be made publicly available or protected from viewing. This detail can be interesting to good students so that the results of their examinations can later serve as a reference during job search. Blockchain



## Book of Proceedings

technology enables different variants of entering students' other abilities or skills they acquired during schooling.

Contemporary trends in education imply that after completing their studies, training and learning is permanently continued. Improving and motivating lifelong learning considering the speed of the changes imposed by new technological solutions creates pressure to constantly attend classes and add certificates that confirm the acquired skills. Certificates, diplomas or other confirmations of acquired knowledge through the Internet can over time be lost since for example, for some reason the educational institution was closed, so later the certificate owners have a problem being hired for a post since they are unable to confirm the knowledge acquired (Tapscott & Kaplan, 2019). All diplomas and certificates can be registered in some blockchain so that during their acquisition from the certificate issuer, they are forwarded to the blockchain for entry, but in this case, the owner himself/herself has to have control of all the information noted on him/her. Data control needs to encompass the right of users to decide who will have access to his/her data. A serious threat to this way of working is the entry of incorrect data since its later application is not possible.

## CONCLUSION

Blockchain technology is a technical solution that tends to significantly change and improve business relations in education. It is an open resource which enables the transition from centralized logging and managing data to a distributable system. This system is designed so that once entered, the data remains permanently immutable while ensuring privacy.

Blockchain technology is still a novelty in educational institutions and so far in the literature it is noted that it is mostly used for the issuing and verification of certificates, displaying a presentation of the results and abilities of the students' work. Also, it is applied in the organization of the business of educational institutions, registering payments, decrease of costs and improvement of transparency and trust.

As a problem for the more massive use of this technology, the motivation of the management of educational institutions in applying new technologies can be noted. Another problem is the complicated work with this technology where it is required for the staff to have significant knowledge of working with computers. This problem can be solved through the development of new applications based on this technology, but which are adapted to the users.

## REFERENCES

Allison, I. (2015). Bank of England: Central banks looking at 'hybrid systems' using Bitcoin's blockchain technology. *International Business*. Retrieved from <http://www.ibtimes.co.uk/bank-england-central-banks-looking-hybrid-systems-using-bitcoins-blockchain-technology-1511195>

Bartolomé, R, A., Bellver, C., Castañeda, L., Adell, J. (2020). Blockchain in education: Introduction and critical review of the state of the art, *edutec*. *Revista Electrónica de Tecnología Educativa*. ISSN 1135-9250

Bjelobaba, G., Paunovic, M., Savic, A., Stefanovic, H., Doganjic, J., Miladinovic Bogavac, Z. (2022). Blockchain Technologies and Digitalization in Function of Student Work Evaluation, *Sustainability* 2022, 14, 5333.

Ethereum development documentation. (2023). Ethereum development documentation | [ethereum.org](https://ethereum.org)  
Kalicanin, K. Brdar, I. Vesic, T. (2021). Education is becoming digital – the youth attitudes towards online teaching during the Covid-19 pandemic. *International Review*, 1-2, 111-119.



**Book of Proceedings**

- Kapliienko, O., Tabunshchik, G., Kapliienko, T., Wolff, C. (2021). Intellectual property assurance method for digital university ecosystem based on blockchain technology, CMIS-2021. *The Fourth International Workshop on Computer Modeling and Intelligent Systems*
- Krstić, D., Gutai, H., Milićević, A., Kozma N. (2022). Upotreba savremenih tehnologija i alata u obrazovanju.. XXVIII Skup trendovi razvoja: "Univerzitetsko obrazovanje za privredu", Kopaonik.
- Kuleto, V., Retrieved from. Primena i potencijali blockchain tehnologije u obrazovanju. | Valentin Kuleto.
- Liu, Q., Guan, Q., Yang, X., Zhu, H., Green, G., Yin, S. (2018). Education-Industry Cooperative System Based on Blockchain. In Proceedings of the 2018 1st IEEE International Conference on Hot Information-Centric Networking (HotICN), Shenzhen, 207–211.
- Manav, G. (2018). IBM Blockchain for Dummies. 2nd IBM Limited Edition
- Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. Retrieved from. <http://www.Bitcoin.Org>, p. 9,
- Rivera Vargas, P., Soriano, L. (2019). Digital Education Review, No. 35. Retrieved from. <http://greav.ub.edu/der/>
- Steu, M-F. (2020). Blockchain in education: Opportunities, applications, and challenges. Retrieved from <https://www.researchgate.net/publication/344053445>
- Tapscott, D., Tapscott, A. (2017). The Blockchain Revolution and Higher Education, Educause Review. Retrieved from <https://er.educause.edu/articles/2017/3/the-blockchain-revolution-and-higher-education>
- Tapscott, D., Kaplan, A. (2019). Blockchain revolution in education and lifelong learning. Blockchain Research Institute and IBM Institute for Business Value
- Zheng, Z., Xie, S., Dai, H., Chen, X., Wang, H. (2018). An Overview of Blockchain Technology: Architecture, Consensus, and Future Trends. Proceedings of IEEE 6th International Congress Big Data, 557–564.





Book of Proceedings

***ADVANCED INTERNET TECHNOLOGIES FOR ECONOMISTS,  
LAWYERS AND MANAGERS  
New core curriculum development***

*Dragorad Milovanović<sup>1</sup>  
Vladan Pantović<sup>2</sup>  
Slađana Vujičić<sup>3</sup>*

**ABSTRACT**

*The authors' work in progress on the development of a new core curriculum in Advanced Internet Technologies (AIT) is presented in this paper. The emergence of AIT has led to accelerating digital transformation in various sectors: economics, law, entrepreneurship and management. Therefore, educational institutions need to update their curricula to meet this demand and provide students with the skills and knowledge to succeed in these fields. The new core curricula encompass a range of subjects, including fifth generation (5G) mobile networks for Intelligent Connectivity (ICoN) for Internet of Things (IoT) and Artificial Intelligence (AI), Big Data (BD) analytics, Cloud Computing (CC) and BlockChain (BC). We have adopted a subject-centered curriculum development model, with an emphasis on specific skills and knowledge. In addition, students should be familiar with emerging applications, regulations and professional ethical implications regarding these advanced technologies.*

**Key words:** *Education, curriculum, internet technologies, artificial intelligence, 5G, cloud computing, big data, blockchain*

**JEL Classification:** *O33*

**INTRODUCTION**

In today's society, huge significance is given to knowledge, information and communication. The internet, digital computers and Information Technologies (IT) are nowadays core technologies and are the framework for the *digital transformation* of society (Starcevic, Pantovic, 2019). Advanced Internet Technologies (AIT) play a significant role in digital economy, law, entrepreneurship and management. Innovation is a crucial element of entrepreneurship, so companies must continuously innovate their business in order to avoid stagnation and possible closure (Šormaz, 2021). They usually start with innovative ideas and innovative activities that lead to improvement in the overall performance of the company (Ivanović, Momčilović, Fuchs, 2022). The importance of innovation for gaining a competitive advantage imposes the necessity of detailed and analytical planning of this process (Vujičić et al., 2021). Some of the aspects of key significance in the sector of the economy are increased productivity, new business models as well as increased globalization and competition. Advanced technologies are creating new legal challenges as well as opportunities. In management, technologies are enabling new ways of working, improved decision-making and increased agility. Overall, AIT enable new ways of working, communicating, and living. This is leading to increased productivity, globalization, and competition. It is also creating new legal challenges and opportunities, and changing the way businesses are managed.

---

<sup>1</sup> AFB Sports Academy, Belgrade, Serbia, dragoam@gmail.com

<sup>2</sup> Faculty of Information Technology and Engineering, Belgrade, Serbia, pantovic@vladan.rs

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, sladjana.vujicic@vspep.edu.rs



## Book of Proceedings

5G mobile networks are becoming a key infrastructure for AIT implementation, intelligent business and social transformation, the acceleration of technological development and structural changes (Milovanovic & Pantovic, 2022a). The development of the digital economy and intelligent upgrades of traditional sectors is being promoted. Despite the fact that 5G supports innovative solutions, there are various challenges such as integration, connectivity, scalability, adaptability, as well as economic issues. The emergence of new technologies forced the competition to adapt in order to retain a relevant position in the market. As advanced technology continues to develop, best practices are also emerging, as well as related risks.

Advanced internet technologies are constantly evolving, and they offer a wide range of possibilities for economists, lawyers, and managers.

- Big Data (BD) analytics technology allows professionals to collect and analyze large amounts of data, which can be used to make better decisions. For example, economists can use big data analytics to track economic trends, lawyers can use it to analyze legal cases, and managers can use it to improve their business operations.
- Artificial Intelligence (AI) technology is capable of performing tasks that were once thought to be the exclusive domain of humans, such as making predictions, generating creative content, and translating languages. Professionals can use artificial intelligence to automate tasks, improve their decision-making, and gain new insights.
- BlockChain (BC) technology is a secure and transparent way to record transactions. It has the potential to track transactions, verify data, and build trust.
- Cloud Computing (CC) technology allows professionals to access computing resources, such as storage and processing power, on demand, and develop new products.

After looking into the significance of advanced Internet technologies and their role in the digital transformation of selected sectors, the question of how to organize academic studies in order to answer the aforementioned expectations arises (Pantovic et al., 2023). Here are some specific examples of new core curriculum development for these professions.

- Economics students could learn in a course on BD analytics how to collect, analyze, and interpret large amounts of data. A course on AI could teach students how to develop and use artificial intelligence models. Meanwhile, a course on BC could teach students about the potential of this technology to revolutionize the financial industry.
- Law students could learn in a course on big data analytics how to track legal cases and make better predictions. A course on artificial intelligence could teach students how to develop new legal arguments and automate tasks. A blockchain course could teach students about the potential of this technology to revolutionize the legal industry.
- Management students could learn in a course on BD analytics how to track business operations and make better decisions. An AI course could teach students how to improve their decision-making and automate tasks. A course on BC could teach students about the potential of this technology to revolutionize the business landscape.

Educational institutions need to update their curricula to meet this demand and provide students with the skills and knowledge to succeed in these fields. The new core curricula encompass a range of subjects, including 5G mobile intelligent connectivity for Internet of Things (IoT) and Artificial Intelligence (AI), Big Data (BD) analytics, Cloud Computing (CC) and BlockChain (BC). We have adopted a subject-centered curriculum development model, with an emphasis on specific skills and knowledge. In addition, students should be familiar with emerging applications as well as the regulations and professional ethical implications regarding advanced technologies.

The paper is organized as follows. In the first part, significance of advanced Internet technologies and their role in the digital transformation of selected sectors are analyzed in-depth. The organization of academic studies in development of an effective AIT core curriculum is presented in the second part. Open



## Book of Proceedings

issues and concluding remarks are highlighted out in the final section.

### ***ADVANCED INTERNET TECHNOLOGIES (AIT)***

In the past few years, there has been continuous growth and convergence of mobile networks, smart devices and Internet applications. The Intelligent Connectivity (ICon) paradigm is convergence of (5G) mobile networks and smart connected objects (IoT) (Milovanovic & Pantovic, 2023a). The new 5G intelligent network, based on ubiquitous wireless connections, is designed to interconnect sensory regions and data processing centers. The data is stored on the Internet platform instead of on local devices. Cloud Computing (CC) is a concept of dividing the resources of remote servers located in data centers for the storage, management and processing. Big Data (BD) infrastructure and services store large amounts of data of various formats for high-speed processing and access, enabling searches, analyses, sharing and visualization, as well as the use of predictive analytics or other advanced methods for extracting value from data. There are several key characteristics of BlockChain (BC) which makes it suitable for 5G networks as well as IoT applications providing high scalability, preserving full data privacy, and ensuring interoperability. The combination of AI added values (to each other) in authenticity, augmentation, and automation.

### ***INTELLIGENT CONNECTIVITY AND 5G AIoT***

Mobile network systems have evolved from a communications infrastructure to a crucial and necessary industrial and social infrastructure. The development of 5G mobile networks and wireless connections represent a response to the expected user demand for increasing capacities, as well as for the demands for productivity from vertical sectors of market. Technical success relies on the delivery of wider range of data transfer rates to much wider group of devices and users. Technical specifications of Radio-Access Network (RAN) and the protocols and network interfaces of core network (5GC) are developing in 3GPP consortium. The industrial and academic communities have dedicated huge means and resources for research. The ultimate goal is the improvement of network performance and efficiency (Milovanovic et al., 2022b).

The concept of ICon intelligent connections is based on a combination of the new 5<sup>th</sup> generation of mobile networks and AI technology of artificial intelligence in order to accelerate technological development and structural changes (You et al., 2019). However, with the continuous development of technology, new opportunities and challenges emerge. The network capacity is significantly increased and supports connecting massive number of IoT devices (Wu et al., 2019). Increased rate of data transfer, decreased total End-to-End (E2E) latency, improved coverage, joint functional split of RAN and Network Slicing (NS) in 5GC as well as Mobile Edge Computing (MEC) support even the most demanding and sophisticated IoT applications. The convergence of 5G and AI enables the development of flexible and adaptable network which supports scalability (with the use of orchestration techniques), decentralized intelligence (moving AI computing capabilities from central nodes to the edge of network), improved operational efficiency (reduction of human intervention and simpler technological complexity), as well as the improved network safety (analytics of large amounts of data). It is expected for the ICon convergence to take the main role in key vertical markets. However, there are numerous challenges for which a solution must be found in the near future.

Through the synergy of artificial intelligence technology and the 5G infrastructure of the Internet of Things (IoT), more efficient AIoT services are achieved, the interaction of human and machine is improved, as well as data management and analytics (Milovanovic & Pantovic, 2022a). Convergence is a logical advancement in the evolution of these technologies (Al-Sartawi et al., 2021). The data collected by IoT devices and sensors can now be efficiently analyzed and contextualized through the use of AI



## Book of Proceedings

technology. The two concepts complement each other absolutely, develop rapidly and have a vital role in the advancement of the information society. Artificial intelligence is a true driving force of the full potential of IoT. However, the reality is that there are still numerous challenges. AI and IoT encompass various design principles, industrial standards and function on heterogenous computer platforms and network topologies. A successful AIoT ecosystem of devices, data, analytics and connectivity requires standardization activity in interoperability, compatibility, efficiency and reliability on the market.

The IoT ecosystem is quite complex, fragmented and rapidly developed (Poncha et al., 2018). It is in the early stage of implementation, and various applications for different services are being developed. Connected Internet objects have huge potential for the transformation of industry, transportation, healthcare, smart homes, smart cities. However, there are several key challenges in interoperability (Roy et al., 2021). IoT supports set of system functions, such as detection, identification, activation, communication and management. Artificial intelligence analytics and Machine Learning (ML) algorithms are necessary in development of the AIoT system. There are three main IoT components: acquiring data, communication, computer infrastructure, and analytics. The application and development of IoT analytics includes the following life cycle stages. Acquisition unit contains smart devices, sensors, production systems and other objects from which it collects raw data. It is necessary to verify the data integrity, accuracy and consistency, and prepare for the transport. The mobile Internet is the backbone of the communication infrastructure. It connects the acquisition to the Data Center (DC), which processes and analyzes the data. The processed data is delivered to smart devices in real-time. Therefore, these components inherently contain numerous challenges.

The typical IoT architecture connects objects to the network on a communication infrastructure. IoT has large potential for the development of smart applications and as a key provider, activates new business models based on IoT services. The implemented IoT applications can be classified into four groups: surveillance, management, optimization (device performance, diagnostics) and autonomous operations. In the implementation and development of IoT applications, it is necessary to take care of the key issues of availability, management, reliability, interoperability, scalability (great expansion and integration), security and privacy (Milovanovic et al., 2017).

AI applications are based on information from IoT sensors and connected objects. The AIoT system supports personalized, automated and more intelligent services. Concerning that, the trends of Cloud Computing (CC) for large-scale data storage and Big Data (BD) processing on a huge amount of IoT data are important. At the same time, the implementation of 5G mobile networks enables new ranges of data rates and wireless communication with a small latency with ultra-high reliability and availability (Pantovic et al., 2022). The huge amount of data is generated in one large IoT system, so that Edge Computing (EC) services are necessary in local of the device for reliable offloading and back-end cloud integration for content localization and data processing in real-time. Mobile Edge Computing (MEC) as a platform has a significant role in this architecture. The three basic functionalities which it enables are real-time analysis and low latency, local content caching, close cooperation with cloud computing. Edge computing is suitable for local, in real-time, short-term data processing and analysis, while cloud computing is focused on global, long-term processing and analysis of big data which is not in real time.

Artificial Intelligence (AI) is the true driving force of the full potential of complex IoT ecosystem. 5G network emerges as an excellent opportunity for the further growth of massive IoT, which has a huge bandwidth, better coverage and capacity. The convergence of 5G AIoT is huge advancement in the evolution of these technologies. As technology continues to develop, so do the possibilities and challenges. AIoT covers different design principles, industrial standards and developments. It operates on heterogenic computer platforms and network topologies. A healthy technological environment demands interoperability, compatibility, reliability and efficiency of new smart devices. The technical success of 5G depends on better coverage and capacity for massive number of devices and users in various vertical markets.

The deep integration of IoT technology with big data and artificial intelligence enables solutions for many platforms. Artificial intelligence carry algorithms that analyze big data collected from IoT devices, identifies different ways of operation and brings predictions and decisions. When applications based on artificial intelligence are used, each added value comes from the data collected. Analysis of big data can then be used for creating predictions, gaining insight and initiating actions using workflows that you define.



## Book of Proceedings

### ***CLOUD COMPUTING AND BIG DATA ANALYTICS***

According to the ITU, cloud computing can be referred to as *a paradigm for enabling network access to a scalable and elastic pool of shareable physical or virtual resources with self-service provisioning and administration on-demand*. These resources can be operating systems, servers, software, networks, storage equipment and applications. Cloud computing is a methodology for providing technology solutions through the dynamic utilization of virtual machines, with upgradability and management features.

The four main types of cloud deployment architectures are defined as follows:

- **Private cloud.** A single enterprise with several users is granted entirely private access to the cloud architecture (business units). The infrastructure may be local or offshore, while still being governed, controlled and run by the company.
- **Community cloud.** A group of customers from firms with similar challenges is given exclusive access to the cloud infrastructure. The shared concerns may include objectives, security needs, protocols and compliance requirements. This means that it may be governed, controlled and run by one or more community groups, a foreign member, or a mixture of both. The infrastructure can be local or offshore.
- **Public cloud.** The public is authorized to use the cloud platform without restriction. A commercial, educational, governmental body, or a combined party may own, administer, and run it. It is present on the cloud provider's property.
- **Hybrid cloud.** This type of cloud platform is made up of two or more different cloud environments ranging from private to public to community, each of which is independent and continues to exist as a separate entity, but which are connected by regularized or exclusive technologies that allow data and application migration and mobility. An example enabling load balancing is cloud bursting between clouds.

The most common cloud computing services provided privately or by external vendors are: Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) which are defined as follows:

- **Software as a Service (SaaS).** The client is given access to the cloud provider's applications that ultimately run on the platform. A variety of thin client interfaces like web browsers or graphical user interfaces allow clients to access such applications and services. Apart from the likely exclusion of a small number of particular software configuration choices at the discretion of the client, the latter does not handle the actual building blocks of the cloud framework, which includes networks, servers, operating systems, storage, or even tailored application capabilities.
- **Platform as a Service (PaaS).** The consumer is handed the ability to deploy custom-made or procured applications onto the cloud platform, through application development software, libraries, servers and in-house tools. Although the hosted programs and perhaps the configuration options for the framework are within the control of the customer, the latter has no further management rights or influence over the actual cloud infrastructure.
- **Infrastructure as a Service (IaaS).** The consumer is given access to processing, storage, networks and other essential computing services, on which the client can install and execute required software such as operating systems and custom-made applications. Likewise, the consumer has no control over the cloud infrastructure that upholds the services with the exception of a small number of network elements such as host firewalls.





## Book of Proceedings

Big Data (BD) indicates that the amount of data involved is too large to be fully collected, managed, processed and analyzed within a reasonable time using existing computer software tools. From the point of view of data attributes, big data is a collection of data consisting of a large number, a complex structure and a large number of types. Three characteristics indicate problems of BD domains: high volume (a very large number of sources generates data), high variability (data from different data sources comes in different formats that require harmonization), high speed (data is generated quickly, i.e., faster than can be processed by traditional methods). In the case of intelligent connectivity, the data collected and processed has all these features. The BD technique enables solutions to these challenges by offering special storage and processing methods (Milovanovic & Pantovic, 2021).

Data analytics reveals new knowledge and creates new value through the exchange, selection, integration and analysis of massive data. It provides technology that detects knowledge and correlation in systems that may not be detected or fully described by conventional mathematical models. The properties and problems of data analytics vary when the volume, speed of generation, and variability of the collected data increase above a certain threshold, entering the realm of big data (BD) analysis. Conditions have imposed the use of new technologies, such as cloud computing and NoSQL databases. Big data analytics, combined with basic AI technologies, has found its application in all aspects of intelligent connectivity.

BD and artificial intelligence, as key drivers of intelligent connectivity, are evolving in conjunction with new IoT technologies. Significant industry interest and research efforts have been attracted in these areas. In development from both academia and industry, data analytics and ML are used to extract insights and knowledge from data collected by IoT networks. AI and ML algorithms are based on the processing of large amounts of data, so large resources are required for data storage and processing. In fact, above a certain threshold, traditional computer techniques are insufficient for the successful execution of individual AI systems, so big data technology is necessary.

## ***BLOCKCHAIN AND 5G AIoT***

Blockchain is an important component of AIT as it can enhance processes in 5G, IoT and AI. It is built upon a decentralized foundation which translates into its databases being distributed and dispersed over a number of users, rather than being housed in a single place. For records maintained on blockchains, this decentralized model offers exceptional resilience and confidentiality with the absence of a single point of failure. Furthermore, all participants in the network witness every transaction, making the blockchain visible. This is made possible via a process developed as consensus, which consists of a set of guidelines to ensure that all parties are in accord over the state of the blockchain ledger (Corrales et al., 2019).

Blockchains can typically be divided into two categories: public (permissionless) and private (requires privileges) ones. A public blockchain is open to all users, who may join, execute business, and partake in the agreement procedure. In private blockchains, access is only possible via invitations, and it is generally run by a single organization. A validation method must grant authorization to a member.

There are several key characteristics of blockchain which makes it suitable for 5G networks: immutability, decentralization, transparency, security and privacy (Milovanovic et al., 2023d). Also, blockchain plays several crucial roles in boosting the domain of IoT applications: providing high scalability, preserving full data privacy, orchestration of connected IoT devices, and ensuring interoperability. The combination of Blockchain and AI in fact leads to a synergy whereby these two techniques can bring added values to each other: authenticity, augmentation, as well as automation.





**Book of Proceedings**

***AIT CURRICULUM DEVELOPMENT***

The development of a new AIT curriculum is essential to prepare the next generation of professionals in digital economy, law, entrepreneurship and management (Pantovic et al., 2023). The curriculum covers the fundamentals of technologies (Milovanovic & Pantovic, 2023), emerging applications as well as the regulation and professional ethical implications of these technologies (Milovanovic & Terzic, 2023b, 2023c). Curriculum development is a multi-step, ongoing and cyclical process of creating and improving courses (Pantovic & Milovanović, 2020). We evaluate the existing programs, design an improved program, implement a new program and come back to evaluate the revised program. By equipping students with the necessary skills and knowledge, educational institutions drive innovation in these sectors.

- Students need to learn about the architecture, protocols, and applications of 5G, as well as the challenges and opportunities it presents for various vertical sectors. The course covers requirements, standardized technical specifications and different implementation options with an emphasis on services and users.
- Students need to understand the fundamentals of IoT, including the communication protocols, data analytics, and security issues. The requirements are concurrently of massive connectivity, efficient small data-packet transmission, as well as low-cost devices, ultra-low power consumption, and ubiquitous coverage. This large amount of heterogeneous data requires efficient data collection, processing, and analytical methods. The technological advances of these complex components call for study in integration, interoperability and standardization.
- Students need to acquire the fundamentals of cloud computing, including the architecture, service models, and deployment models. A cloud-based platform supports decentralized and scalable solutions for data management, advanced information processing and analytics. An analytic platform performs a number of ML tasks such as prediction, classification, and clustering on different types of data including real-time data and big data, to make it meaningful.
- Students need to understand the fundamentals of Blockchain decentralization and transparency through the DLT (distributed ledger technology). The structure of data with inherent security qualities is based on principles of cryptography, decentralization and consensus, which ensure trust in transactions. Smart contracts execute the terms of an agreement when predetermined conditions are met and automate the actions.
- Finally, students need to learn about the various AI techniques as well as their applications and limitations.

The AIT curriculum is continuously being improved. An iterative curriculum development process gives us structure to make improvements to the course. Plans for instruction could be frequently reviewed, revised, and updated as new and different requirements arise. Changes may be required due to subject-area developments. The early phases of the process involve deep research and analysis. Various approaches have been used in developing curricula. A commonly used approach consists of need/task analysis, objective design, choosing appropriate learning/teaching methods and appropriate assessment methods, formation of the curriculum implementation, evaluation and review.

Planning changes in education and training gives schools the chance to reconsider their curricula and programs. The emergence of advanced technologies reconsiders the existing parameters, paradigms and concepts which leads to legal, ethical and social challenges. The necessary changes in the need for training are a challenge for schools to revise their curricula. While formulating new curricula, it is necessary to take into account the sectors' dynamic development. With the aim of a more complete adaptation to the curricula of new subjects to users' needs, we consider it significant for basic and advanced courses to be introduced. Such a practice of introducing basic and advanced programs already exists in certain European countries, in which special master's programs aimed at getting to know and using advanced technologies in the law



## Book of Proceedings

and economic sector exist (Corrales et al., 2019; Mackenzie, 2015). However, at the same time, it is necessary to adapt the curricula to the degree of users' knowledge, skills and experience.

### **CONCLUSION**

The development of new AIT core curriculums is an important step in preparing students for careers in the fields of digital economics, law, entrepreneurship and management. These curriculums should focus on the intersection of advanced technologies, including how 5G and BC enable new applications within IoT, the role of CC in enabling the deployment and BD analytics of these services, and the importance of a strong foundation in AI. 5G mobile networks are becoming the key infrastructure for intelligent entrepreneurship and social transformation, accelerating technological development and structural changes. The development of the digital economy and the intelligent upgrading of traditional sectors are promoted. Advanced Internet technologies have the potential of revolutionizing the daily life of people by making connectivity omnipresent, extremely reactive and adaptable. The quality of daily human life will be elevated, with intelligent connectivity affecting the way people study, work, and engage as a community. By providing students with the skills and knowledge needed to succeed in these areas, educational institutions can help to meet the growing demand for professionals.

The development of subject-based curriculum is a multi-step, ongoing and cyclical process of creating and improving a course. It is emphasized that students need to learn about the architecture, protocols, and applications of 5G; understand the fundamentals of IoT, including the communication protocols and data analytics; as well as learn about the various AI and BC techniques and their applications and limitations. In addition, they should be familiar with emerging applications as well as the regulations and professional ethical implications regarding these technologies. However, there are numerous challenges that need to be addressed in the near future.

### **REFERENCES**

- Al-Sartawi, A.M., Razzaque, A., Kamal, M.M. (2021). Artificial intelligence systems and the Internet of Things in the digital era. Springer, Berlin.
- Corrales, M., Fenwick, M., Haapio, H. (2019). LegalTech, Smart contracts and Blockchain. Singapore: Springer, Berlin.
- Ivanović, S., Momčilović O., Fuchs S.(2022). Impact analysis of human resources and leadership on innovation in small and medium enterprises, *International Review*, 3-4, 67-75.
- Mackenzie, A. (2015). The Fintech revolution. *London Business School Review*, 26(3), 50-53.
- Milovanovic, D., Pantovic, V. (2021). Interoperability in Internet of Media Things and integration Big Media: Conceptual model and frameworks. In *Emerging trends in IoT and integration with Data Science, Cloud Computing, and Big Data analytics*, IGI Global, 59-79.
- Milovanovic, D., Pantovic, V. (2022a). 5G-AIoT artificial intelligence of things: Opportunity and challenges. In *Driving 5G Mobile communications with Artificial Intelligence towards 6G*. (Eds. Milovanovic, D., Bojkovic, Z., Fowdur, T.P.), 253-276, CRC Press, Boca Raton.
- Milovanovic, D., Pantovic, V. (2023a). Core curriculum development in Intelligent Connectivity: Integration of subjects 5G and IoT with AI, in *Proc. IEEE Frontiers in Education (accepted)*
- Milovanovic, D., Terzic, R. (2023b). Security and privacy issues in 5G mobile systems: Data protection and AI regulation, in *INFOTECH 2023, Proceedings*.
- Milovanovic, D., Terzic, R. (2023c). Responsible application of Artificial Intelligence in healthcare: Ethical principles of practice and new regulations, in *YUINFO 2023 Proceedings*.



**Book of Proceedings**

- Milovanovic, D., Bojkovic, Z., Fowdur, T.P. (Eds.) (2022b). Driving 5G Mobile communications with Artificial Intelligence towards 6G, CRC Press, Boca Raton.
- Milovanovic, D., Fowdur, T.P., Bojkovic, Z. (2023d). 5G Multimedia communication and Blockchain technology: Emerging potential and challenges. in Blockchain Technology for Secure Social Media Computing (Eds. R.S.Bhadoria, N.Saxena, B.Nagpa), IET, 139-155.
- Milovanovic, D., Pantovic V., Gardasevic, G. (2017). Converging technologies for the IoT: Standardization activities and frameworks. in Emerging trends and applications of the Internet of Things (eds. Kocovic, P., Behringer, R., Ramachandran, M., Mihajlovic, R.), IGI Global, 71-103.
- Pantović, V., Milovanović, D. (2020). The role of international standards in education, in Proc. TIE 2020, 8th International Scientific Conference Technics and Informatics in Education, 10-14.
- Pantovic, V., Milovanovic, D., Coric, V. (2023). Advanced digital technologies in law and economics: New interdisciplinary curriculum development. In Proceedings LEMiMA 2023, vol.2, 131-151.
- Pantovic, V., Milovanovic, D., Starcevic, D., Bojkovic, Z. (2022). 5G mobile networks and Digital Twins concept: Research challenges in network DT emulation. In Proceedings ELECOM 2022, 4th International Conference on Emerging Trends in Electrical, Electronic and Communications Engineering, 215-218.
- Poncha, L.J. et al. (2018). 5G in a convergent Internet of Things era: An overview, in *Proceedings IEEE International Conference on Communications Workshops (ICC Workshops)*, 1-6.
- Roy, M. Kar, P. Datta, S. (2021). Interoperability in IoT for smart systems. CRC Press



Book of Proceedings

***LEGAL FORMS OF BUSINESS ASSOCIATIONS AND COMPANIES IN THE SERBIAN COMMERCIAL CODE OF 1860***

*Slobodan Jovanović<sup>1</sup>*

***ABSTRACT***

*The economic development of Serbia in the 19th century took place simultaneously with the struggle for independence from the Ottoman Empire. In this sense, this paper analyzes the international circumstances and legal assumptions of economic organizations until 1859 and according to the Serbian Commercial Code of 1860. Using the historical and normative approach, the most relevant circumstances for the adoption of legal acts and their content are presented. Legislation is analysed in relation to freedom of trade and forms of economic organization. In the end, conclusions are drawn on the legal environment and adverse status for the emergence and development of the market and modern forms of companies. It is also outlined the importance of the Serbian Commercial Code 1860 for the further social and economic development of Serbia in the 19th century.*

***Key words:*** *Sretenjski Constitution 1835, Serbian Civil Code 1844, Serbian Commercial Code 1860, partnership, joint stock company*

***JEL Classification:*** *K20, K22*

***INTRODUCTION***

The economic development of Serbia in the 19th century took place simultaneously with the struggle for independence from the Ottoman Empire. At the very beginning, it is desirable to briefly analyze the international circumstances and legal assumptions of economic organizations until 1859 and according to the Serbian Commercial Code of 1860. Therefore, we look at the most relevant circumstances for the adoption of legal acts and their content, while we dwell on legislation only in relation to freedom of trade and forms of economic organization.

***THE INTERNATIONAL SITUATION AND THE LEGAL ASSUMPTIONS OF CORPORATE ORGANISATIONS UNTIL 1859***

The Serbian nation acquired its first international legal subjectivity after the First Uprising, when as allies of Russia in the fight against the Ottoman Empire, their rights were included in the Bucharest Peace Treaty of 1812. Under the threat of Napoleon invasion, Russia strove to quickly reach a peace treaty, which is why it limited its claims to the Ottoman Empire, including its obligations to Serbia. It is so in art. 8 of that agreement stipulated the obligation of the Porte to provide the Serbs with the same rights that its subjects had on the islands of the Archipelago and elsewhere, in addition to the right to internal administration and independent tax collection. And finally, the obligation of the Ottomans to agree upon all the demands of the Serbian people (Savić, n/a, p. 3).

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship Belgrade, Serbia, slobodan.jovanovic@vspep.edu.rs.



## Book of Proceedings

Through a permanent deputation in Constantinople, the wishes of the Serbian people were presented to the Ottomans in the Separate Act of 1826. Among other things, the separate act required freedom of trade and emphasized that the Ottomans should inform the Russian court about this through a firman<sup>1</sup> (Rajić, Leovac, 2018, p. 47). Given the Ottoman violation of the agreements and after additional wars between Russia and the Ottoman Empire, all subsequent peace agreements only confirmed the previously agreed rights of the Serbian people. Thus, the Akerman Convention of 1826, in Art. 5, refers to Art. 8 of the Bucharest Peace Treaty of 1812, and the Art. 6 of the Edirne Peace Treaty of 1829 again referred to the obligations of the Ottomans from the Separate Act, i.e. the sultan had to guarantee the progress and full freedom of trade and movement of the Serbian people. Full freedom of trade meant breaking with the feudal restrictions of the term “merchant” as a class right in favor of an objective understanding of merchant and trade. Finally, with the Hatisherif<sup>2</sup> of 1829, the Turkish sultan Mahmud II promised the Serbs the realization of the rights set forth in the Separate Act of 1826.

However, without the recognition of the autonomy and independence of the state administration, Serbia would be unable to start building a modern legal system which would guarantee stability and legal certainty. The first conditions to achieve this objective were the acquisition of the autonomy of the Principality of Serbia and the independence of its state administration. The possibility of independent legislation, founded on the Sultan’s Hatisherif of 1830, was an additional motive. When feudalism was abolished by Hatisherif on the territory of then Serbia in 1833, the conditions to build a civil state, market relations and the economy were created.

While the Sretenjski Constitution of 1835 made no explicit reference to the freedom of commerce, it was taken for granted. However, special legislation was required to regulate forms of economic activity. Modeled on the French Declaration on the Rights of Man and Citizen from 1789 (Article 4), it was prescribed in Article 117 that “Every Serb has the right to adopt a way of life in accordance with his own will, provided that it is not to the general detriment of the nation.” The only prohibition regarding freedom of trade was contained in the provision of Article 138 that provided no official could be the owner of a trade or craft shop alone and under his own name. Article 45 of the Turkish<sup>3</sup> constitution imposed on Serbia in 1838 confirmed that trade is free in Serbia and that everyone can engage in it freely, unless the law prescribed some limitation.<sup>4</sup> By the Constitution of 1838, the country was administratively divided into districts consisting of counties, and those of several villages and towns. For the law of business companies, it is significant that for the first time the right to property was recognized for the citizens of Serbia and the right to dispose of it freely.

Although there was a need to establish the legal order of the newly recognized autonomous Principality, ensure legal security and regulate property relations (Mirković, 2019, p. 140), Prince Miloš started work on the Civil Code in 1829, primarily under the pressure of the growing social atmosphere of dissatisfaction due to of his personal rule (Nikolić, 2014, p. 64). More than a decade after the work began, the Serbian Civil Code (hereafter: SCC) was adopted in 1844 under the rule of Aleksandar Karađorđević.

For the history of companies' legal forms legislation, the SCC is significant because it regulates the partnership agreement with thirty-six articles (Articles 723 to 758). According to the SCC, a partnership

---

<sup>1</sup> A firman (Turkish: ferman), at the constitutional level, was a royal mandate or decree issued by a sovereign in an Islamic state, Seslisozluk 1999-2008. Retrieved from:

<https://web.archive.org/web/20080619051937/http://www.seslisozluk.com/?word=firman>, June 1st, 2023.

<sup>2</sup> *Hatt-i humayun*, also known as *hatt-i sharif* (خط شریف *ḥaṭṭ-ı şerif*, plural خط شريف *ḥaṭṭ-ı şerifler*), was the diplomatic term for a document or handwritten note of an official nature composed by an Ottoman sultan. These notes were commonly written by the sultan personally, although they could also be transcribed by a palace scribe. *DBpedia*. Retrieved from: [https://dbpedia.org/page/Hatt-i\\_humayun](https://dbpedia.org/page/Hatt-i_humayun), June 1st, 2023.

<sup>3</sup> This epithet is used because the constitution of 1838 was passed in the form of Hatisherif, although in 1830 the autonomy of the Principality of Serbia was recognized..

<sup>4</sup> Article 45: Since trade in Serbia is free: every Serb can exercise it freely, and the least restriction of this freedom will never be allowed, only if the Prince, in agreement with the Land Soviet, does not find a more limited trade item necessary.





## Book of Proceedings

exists when two or more persons conclude a “partnership agreement” under which they invest their work or things, and divide the profit between them, if any. In addition to the rules on relations between partners, its provisions regulate partnership property, relations between partners, the method of dividing profits and bearing business losses, termination of partnerships and partnership company, and other rules.

Before further presentations, it is necessary to refer to the economic conditions that prevailed at the beginning of the 19th century. At that time, Serbia was a distinctly agricultural country where craftsmanship began to develop as the first form of separation of industry from agriculture. It was developed in towns and villages, where the peasants engaged in rural crafts mainly for their own household needs and thereby encouraged the development of the national economy (Radovanović, 1906, p. 347). It can be said that artisans and later merchants were the first independent entrepreneurs who joined guilds as a legal form that represented an economic association of a specific craft or trade. For this reason, one cannot even talk about any of the more developed forms of business companies, such as corporations.

It must be kept in mind that until the early nineteenth century, the Turkish guild system was in force in Serbia. The purpose of organizing the Turkish guild was to secure certain trades performed exclusively by the Muslim population and therefore prevent competition and expansion of the market (Vučo, 1955, 142). However, the changed circumstances and the dynamics of the craft and trade contributed to its lagging and obsolescence to the relationships that were being established.

It is stated in the literature that this was influenced by the appearance of new crafts initiated by Prince Miloš Obrenović by his order to invite the foreign masters – craftsmen to Kragujevac, but also by the Central European culture “from Prek”<sup>1</sup> in the first half of the 19th century in Serbia (Radovanović, 1996, pp. 157, 159, 163). The rapid development of capitalist relations imposed the need to change and adapt the feudal organization of the economy and guilds to the current social development.

In addition to introducing a new guild system, the Ordinance on Guilds of 1847 in Serbia presented artisans and merchants with the basis “for joint harmonious and lasting work, to flourish and progress as best as possible” (Ordinance on Guilds, 1847, Art. 100). The regulation applied to luxury goods dealers, retailers and potter's shop. The association of artisans and merchants in guilds meant mutual dependence of their members on each other. In this sense, the guilds were obliged to supervise well and put their own efforts that:

- 1) an apprentice to a craft or trade is properly accepted and trained, and journeymen perform their work properly and rule for the general good, and
- 2) members, masters and merchants perform their duties according to the rules of that Regulation and conscientious life.

Because of all the reasons mentioned above, a developed market economy in those years was not something achievable. Particularly, the economy based on a competitive sector of small and medium-sized enterprises and in which the concept of developing an entrepreneurial economy based on knowledge, innovation and modernized technological capacities is both accepted (Ilić, 2018, p. 3) and resulting from effective education (Stevanović, Staletović, Bačevac, 2022).

### ***LEGAL FORMS OF BUSINESS ORGANIZATIONS FROM THE COMMERCIAL CODE 1860***

The proclaimed values of the French bourgeois revolution contained in the Declaration of the Rights of Man and of the Citizen 1789 (Hereinafter: the Declaration) represented the foundation of the development of democracy and capitalist social relations. Equality of citizens before the law, freedom of

---

<sup>1</sup> “Prek” was the colloquial name in Serbian language for the territory north from Danube and Sava Rivers, the border between Austro-Ungarn Empire and Serbia in 19th century.





## Book of Proceedings

entrepreneurship and association (Declaration, Article 4), and the inviolability and sanctity of private property (Declaration, Article 17) created the possibility of engaging in commercial activities.

The French Commercial Code of 1807 was enacted as one of the institutional means breaking with the French feudalism in favor of setting the foundations of a capitalist social order. To this end, we should take into account the Serbian Commercial Code from 1860, which regulated commercial law in the strict sense of the First Part. It was based on the aforementioned French legislation and adopted twenty-seven years after the abolition of feudalism in Serbia. Commercial law in the narrower sense contained provisions on merchants, commercial books, companies, intermediaries and evidence in commercial disputes.

Accepting the objective concept of commercial business from the French Commercial Code, in Serbian commercial law commercial business was considered to be the business performed by any person (merchant or non-merchant) if it complies with the objective legal requirements of form and object, and if it does not adhere to these requirements, regardless of whether if that work is performed by a person who possesses the capacity of a trader, it will not be considered trading (Vasiljević, 2007, p. 29). In this fashion, the Serbian legislator in the 19th century took over the separation of legislation of commercial and civil affairs, given that he initially passed the Civil Code in 1844 and the Commercial Code in 1860. After the Second World War, the former Yugoslavia, of which Serbia was a part, passed the Law on Obligations in 1978, which adopted the concept of a unified regulation of commercial and civil affairs.

The Serbian Commercial Code of 1860 regulates two standard forms of business companies: partnership and joint-stock company, with the provision that in Art. 22 the legislator named public partnership – partnership under a common name (*sociétés en nom collectif*), mixed and limited partnership (*sociétés en commandite*) and nameless partnership (shareholder partnership – *société anonyme*) as “three types of commercial partnership”. However, there were two forms of partnership (partnership and limited partnership) and one form of corporation – joint stock company.

It should be observed there were a limited number of joint stock companies even after the adoption of the Serbian Commercial Code in 1844 (Veljković, 1866, p. 188), so based on Veljković’s commentary on the Serbian Commercial Code, we can conclude that in the first half of the 19th century economic activity was carried out as an entrepreneurial craft and trade, only sometimes in the form of partnerships entered into by individual merchants with strangers for the purpose of trade or engaging in contemporary crafts using the better manufacturing experience (Vučo, 1955, p. 197).

*Partnership* – Contracts on public and mixed partnerships had to be concluded in writing, and the contractors decided whether to certify them before the court. If the partnership agreement was uncertified, there would have to be as many copies as there are contractors – partners, and in each copy it had to be stated how many copies were drawn up. In his commentary on the Serbian Commercial Code of 1860, Veljković points out that in commercial law, a contract must be in writing, whereby oral agreements and consents made before or after or during the drafting of the contract itself do not bind any party (Veljković, 1866, p. 118). The partnership agreement was a civil asset in the form of a partnership. In this regard, the Commercial Code builds on the definition of a joint stock company from Art. 723 of the Serbian Civil Code of 1844.<sup>1</sup>

Given that the Commercial Code regulates the rules on individual commercial companies, the provisions of the Serbian Civil Code are applied accordingly to the partnership agreement (Articles 723 to 758). In the contract establishing a trading company, the following had to be stated: 1) name and surname, place of residence and profession or function of the partner, 2) trading company of the partnership, 3) names of the partners who manage the business and sign, 4) limited partnership capital entered or promised or divided in shares, 5) the time when the company will start working and the deadline when it will end, 6) as well as the date of conclusion of the contract.

---

<sup>1</sup> “A partnership agreement is formed when two or more persons agree to invest their effort, or even their belongings, in order to share the benefit obtained from it”.



## Book of Proceedings

Every trader working alone or in some form of trading company had the obligation to register the name of the company under which they will trade with the local commercial court. Although formally and legally the start of the partnership could be considered the date specified in the contract on the establishment of the partnership (Veljković, 1866, p. 135), the merchant or the partners were obliged to publish the start of activity in the official newspaper, and the court was obliged to nail that notice on the board in front of the court (Serbian Commercial Code, Article 5).

The legislator did not regulate the moment when that application must be published, but according to the nature of the matter, it was considered that it should be done as promptly as possible, and at the latest before commencing the business. The same was true for changes in the contract. If the regulations on the publication of the contract are unfulfilled, the contract will be considered null and void between the partners, but not against third parties who would conclude a contract with the company (Đorđević, 1887, p. 151). Only adults over the age of 21 could engage in trade (Serbian Commercial Code, Art. 2), while public officials, clerks, lawyers and clerics had the right to engage in trade, but occasionally and not as a regular occupation (Veljković, 1866, p. 46).

A joint public partnership firm was composed of the names of all partners or one or more of them with the words "and company." The partners were liable mutually to each other with their entire property for all obligations incurred under the joint firm and undertaken by the partnership agreement. This rule only applied to third parties, outside of the partnership agreement. However, the obligations could be arranged differently in the partnership agreement. A partner, who discharges the creditor the entire debt, could request compensation from the others only for their corresponding shares.

The composition of a mixed partnership represents what we know today as a "limited partnership." That is why a mixed partnership consisted of two groups of partners: limited partners who might not have to be merchants and were responsible for the obligations of the partnership only to the extent of their share and general partners, jointly and severally liable for the obligations of the partnership. This partnership is a business under a common name, which had to be composed of one or more names of partners in the status of general partners, because the name of the limited partner could not be mentioned in the name of the partnership.

The management and representation of the partnership were under the responsibility of the general partners, which rule is taken over in the current Serbian Companies Act (Art. 131, Paragraph 2) as follows: Limited partners cannot manage the affairs of the company, nor represent it (similar rule exists in Art. 29 of the Serbian Commercial Code from 1860). The Serbian Commercial Code from 1860 regulated only two cases in which limited partners were jointly and severally liable, and that was when they undertook management or representation actions, as well as when their names were specified in the company name.

*Secret partnership* (society for honorable speculation – *association commerciales en participation*) – Secret partnership was not a business like a partnership or limited partnership, because there was no business name, company property separate from the personality of the company members, and therefore no corporation status. It existed as an "association" only for its members, and not for third parties, for whom is completely hidden from a legal point of view. Only one specific member trades on behalf of the association, but always in his own name. According to Veljković, there were two views about how secret partnerships were formed. According to the first opinion, they were founded for the purpose of performing one or more commercial transactions, so that upon their completion, the secret partnership ceased (Veljković, 1866, p. 189). In the second opinion a partnership would exist if only one partner assumed rights and obligations in his name and for his own account, while the other partners remained unknown to third parties (Veljković, 189, p. 190).

As for mutual relations, the member who traded on behalf of the company in this business association was under the obligation to transfer each member share of the profit. Accordingly, others were obliged to cover their share of the losses. The contributions of the members did not represent a share in the initial capital of the company. This was understandable because the company was without its own property and was not a legal entity. Contributions were considered the exclusive property of the members, and the other members



## Book of Proceedings

appeared as his creditors. The members of this company could agree some of them to be responsible for the company's obligations within the limits of their roles. If they did not agree anything in this regard, then the damage was divided between them in proportion to their stakes. If the member of the secret partnership invested his effort and work, he wouldn't cover the loss in material or monetary terms (SCC, Art. 742).

*Joint-stock company* – The joint-stock company existed under a common name, it was not allowed to contain the names of any of the founders, but was given a name based on the activity of the company. The Serbian Commercial Law from 1860 uses the term "nameless company" for a joint-stock company, which comes from the French original *société anonyme* or *SA* abbreviated, and which is still in use today in French commercial law. The use of this term may be explained by the fact that its members (shareholders) are unknown to the public and, as a rule, they are unimportant to business partners, unless it is a shareholder who performs the function of management and representation (Veljković, 1866, p. 184).

A joint-stock company was established in Serbia only with the permission of the Ministry of Finance, which was authorized to consider the business plan of that company, its articles of association and its amendments and to give or refuse consent to those acts. Therefore, a joint-stock company that started operating before obtaining the aforementioned license could not validly assume obligations to third parties because it could not acquire legal personality (Veljković, 1866, p. 187). Ownership of shares was proven by entering them in the company's books. The transfer of shares was carried out on the basis of a written statement by the shareholder that he wanted to transfer his shares to another person and by recording that transaction in the company's book.

The organization of the management of a joint-stock company according to the Serbian Commercial Code from 1860 was exclusively bicameral because, in addition to the shareholders' assembly, there was also a "supervisory council" that controlled whether the work was carried out in the interest of the company, so that the management did not only benefit for itself (Veljković, 1866, p. 186).

## CONCLUSION

The origin and development of business associations and companies in the 19th century in Serbia were burdened by Serbia's international position in the Ottoman Empire and its restrictive rules. The late abolition of feudalism and resistance of inherited guild organisations in the preservation of their own interests contributed to the slow introduction of market relationships. However, the decision of Prince Obrenovic to install foreign craftsmen in Serbia, together with the activities of foreign traders, contributed to the development of the market. The Serbian Commercial Code of 1860 was a logical extension of the Serbian Civil Code of 1844 and complemented the legal framework for economic activity. It can be said that for the then level of development of economic relations, the Serbian Commercial Code of 1860 represented a solid legal framework for the further social and economic development of Serbia in the 19th century.

## REFERENCES

Déclaration des Droits de l'Homme et du Citoyen de 1789, Conseil constitutionnel. Retrieved from: <https://www.conseil-constitutionnel.fr/le-bloc-de-constitutionnalite/declaration-des-droits-de-l-homme-et-du-citoyen-de-1789>. (21.05.2023.)

Dorđević, Ž. Đ. (1887). O objavljivanju ugovora trgovačkog društva i o posledicama neispunjenja propisa o obznani §§ 43-45. Trgovačkog zakona. *Branich*, I godina, 151.



**Book of Proceedings**

- Ilić, Đ. D. (2018). Razvoj i mesto preduzetništva u privredi Republike Srbije. *Trendovi u poslovanju*, 1(11), 1–10.
- Mirković, Z. (2019). *Srpska pravna istorija*. Beograd: Pravni fakultet Univerziteta u Beogradu.
- Nikolić, D. (2014). Građanski zakonik, knez Miloš Obrenović i zakonodavna komisija u Srbiji 1829–1835. godine. U: Polojac, M., Mirković, Z.S., Đurđević, M. (urednici) *Srpski građanski zakonik – 170 godina* (str. 63–72). Beograd: Pravni fakultet Univerziteta u Beogradu.
- Radovanović, B. (1996). *Stari Kragujevac*. Kragujevac: PIP „Krug”.
- Radovanović, M. (1906). Zanatsko pitanje. *Arhiv za pravne i društvene nauke*, br. 4.
- Rajić, S., Leovac, D. (2018). *Istorija srpskog naroda*. Beograd: Zavod za udžbenike.
- Savić, B. V. (n/a). *Napoleon i velika Srbija*. Valjevo: Istorijski arhiv.
- Stevanović, M., Staletović, M., Bačevac, S. (2022). Factors that in the modern environment determine the development of Serbian economy. *International Review*, 11(3-4), 84–88.
- Vasiljević, M. (2007). Francuski trgovački zakonik (1807) kao model – uzor srpskog trgovačkog zakonika (1860). *Pravo i privreda*, br. 9-12, 27–34.
- Veljković, S. (1866). *Objašnjenje Trgovačkog zakonika za Knjaževstvo Srbiju*. Beograd: Državna štamparija.
- Vučo, N. (1955). *Privredna istorija Srbije do Prvog svetskog rata*. Beograd: Naučna knjiga.



Book of Proceedings

***IS THE ROMAN SOCIETAS (CONTRACT OF PARTNERSHIP)  
STILL ALIVE TODAY?***

*Aleksandra Jovanovic<sup>1</sup>  
Aneta Atanasovska Cvetkovic<sup>2</sup>*

***ABSTRACT***

*Earning, increasing incomes and the capital are the results of any good entrepreneurial business. The economy, which has existed since ancient times, functions on the basis of contracting joint operations, combining joint effort, work, property and joint funds, all with the aim of achieving profit. Business and economy in the Republic of Serbia is not unfamiliar with the partnership as a legal form of company. The question arises: Where are the beginnings of partnership, created on the basis of a contract, which produces obligations for the contracting parties? In this paper, the authors will present the contract of partnership of the past, specifically - the age of the imposing Rome, in order for historical research, to prove its influence on the contemporary contract of partnership and today's forms of companies, and thus the reception of Roman law today.*

**Key words:** Roman law, contemporary law, partnership, society, contract, entrepreneurship, economy  
**JEL Classification:** K10, K12, K15

***INTRODUCTION***

The economy, as a historical legacy to the society and its integral part, has always adapted to its changes and needs, while finding ways to expand, supplement, resist or survive every challenge of humanity. It is indisputable that the economy is sometimes (justifiably or unjustifiably) equated with trade and mentionable, contractual obligations lie at the base of every economy and business. Every contractual right and obligation, for each contractual party, entails a certain motive which, it seems, represents the instigator and specific process within each person in order to achieve certain results undertakes various activities [Gavric, Cukanovic Karavidic, Pesic, 2020, pp.82] . In the narrowest sense of the words, contracting parties, in the economy, are motivated by the profit. A simple example of this motive, from a historical context, long before money entered the historical scene: one man has grain, and another wine, and motivated to have the other's products, they barter. Today, partnership, consensual, synalgmatic *bonae fidei* contract, represents a social agreement by which two or more persons join together to achieve gains and property.

We accept the notion that the economy and trade have created different types of contracts that "spoken words" enable the satisfaction of the obligee's needs. The initial commercial and economic forms of contracts, in general, leave a strong stamp in every historical era, giving us knowledge about the stage of development of the society and economy of that civilization. One of the many contracts, whose evolutionary development is as long as the history of mankind, and which represents a mergence, is the contract of partnership.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, [aleksandra.jovanovic@vspep.edu.rs](mailto:aleksandra.jovanovic@vspep.edu.rs)

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, [aneta.cvetkovic@vspep.edu.rs](mailto:aneta.cvetkovic@vspep.edu.rs)



**Book of Proceedings**

***METHODS AND GOALS***

By applying the historical method, methods of analysis and definition, the article will investigate the Roman contract of partnership (*societas*), showing its proper legal rules in Roman law, with the purpose of detecting its basic characteristics and development in a specific era, historically imposing – Roman era. The main source of data used in this article are legal regulations: regulations of the Roman law and the contemporary law of the Republic of Serbia. By analyzing and comparing today's contract of partnership in contemporary law of the Republic of Serbia expressed in the Companies act (Law on Companies), where it is regulated today, an attempt is made to determine whether and to what extent the same contract from Roman times signified a base of today's very important contract in the economy and, furthermore, be the basis of partnership – a business company recognized and acknowledged by the legislator (lawmaker) in the Republic of Serbia.

***RESULTS***

Regardless of the historical period, we detect the existence of contract of partnership, even if it was a segment that meant an evolutionary step towards the final formation of this legal institute. Rome and Roman law receive such a primacy - it is practically completely formed as a consensual contract vital for the Roman economy in those days. The rules set at that time are the foundation of today's partnership, which, despite the medieval "unfavorable winds", remains an integral part of the economy, but also of contemporary normative solutions in the Republic of Serbia.

***PARTNERSHIP AND THE EVOLUTION OF THE CONTRACT OF PARTNERSHIP***

The original forms of association (partnership), due to the fulfillment of certain goals, arose within the family, between blood relatives, but the associations with neighbors or good friends are not excluded. The unusual history, especially in the age of Babylon and the great Hammurabi, translated into the Code of Hammurabi [Jovanović, Atanasovska Cvetković, 2022, pp.272], enables us to detect and present partnerships through legal norms: "If a man gives money to another man in the name of a joint investment, the two will divide the resulting profit or loss in equal parts before God" [Višić, 1985, pp. 130]. This regulation from distant past, leads to the fulfillment of the conceptual elements of the contract of partnership: a joint investment for some purpose, from which a certain profit is expected, but also responsibility for profit or loss, which the joint investors share equally.

The first legal notes on partnership give us the right to understand that partnership has its own conceptual form, and that they are significant for the further path of its development and the complete definition of the concept of the contract, which today is one of the frequently represented and used contracts in the law of obligations for the purpose of economy. In Sparta and Athens, as two antipodean ancient states, we can try to find some segments of this contract. The specificity of Sparta is reflected in the manifestation of the Spartans' need for war, not trade. We reduce the existence of any contract in the Spartan society at the time to the level of speculation because of the lack concrete sources of aknowledge. It is considered that, at that time, the conditions for the development of trade in the Spartan society were not met, and therefore, the law of obligations and contracts almost did not exist [Gilbart, 1984, pp. 57 – 58].

On the other hand, the ancient polis of Athens, directed towards the development of economy and trade, the exchange of goods is an extremely important segment of Athenian society. Despite the omission of the





## Book of Proceedings

definition of the concept of obligation relations, obligations are created based on the will of the parties (contracts). The partnership, from which the rights and obligations of the contracting parties derive, was an integral part of the Athenian economy and trade [Atanasovska Cvetković, 2023, pp. 94].

The great and powerful Rome, as confirmed by many historians and Romanists, left a great legacy to human civilization [Atanasovska Cvetković, Jovanović, 2022, pp. 26]. Without a doubt, one of the greatest benefits of today, inherited from Rome, is the law [Atanasovska Cvetković, 2021, pp. 33]. It is an indisputable fact that the Romans, in their characteristic way of strongly developed legal awareness and logic [Jovanovic, Atanasovska Cvetkovic, 2022, pp. 519] created legal rules intended for the contract of partnership, which will be discussed in this article.

Justinian's death and the Middle Ages bring great changes to the historical-legal "scene". The creation of feudal states, the formation of feuds and influential and powerful rulers, and non of the less influence of the church, indicate the sociological conditions and characteristics of this historical period [Atanasovska Cvetković, 2020, pp. 24]. The peasants binding to the land, gaining within one feud, indicates a drastic decline in trade, and thus the absence of contractual relations, so it is debatable whether and how much the need for this contract was present in that period.

The new, contemporary century and its codifications (for example, the French Civil Code, the Austrian Civil Code, the Serbian Civil Code, the Code for Montenegro) bring "new winds". Codifications regulate civil law matters as a whole, so with the reception of Roman rules, the contract of partnership is experiencing its renaissance and reappearing for the purposes of further economic development. The Serbian Civil Code from 1844 is important to us. It was in force until 1946, and the chapter XXVII is dedicated to this contract. The definition is as it follows: "A contact of partnership is formed when two or more persons agree to invest their efforts or their belongings in it, to share the benefit that is obtained from it among themselves." [Art. 723, Serbian Civil Code, 1844]. In Bogišić's General Code of Property for Montenegro from 1888 in article 885, it stipulates that an association is (the word partnership is not used, it is considered foreign) "a contract by which two or more of them are bound, one to the other, to unite their efforts and care, their money or other property, in order to achieve some common goal".

For this evolution of the contract of partnership, it might be too surprising to learn that, after the Second World War, there were no legal provisions dedicated to the same contract [Dabić, 2015, pp. 763]. For professor Mihajlo Konstantinović, it is precisely that these shortcomings are confusing, so he introduces the legal provisions on the contract of partnership in the ninth section of his Outline for the Code of Obligations and Contracts, Article 590 under the title "Commercial Association of Citizens", whereby two or more persons they join their work or resources all for the sake of "achieving a certain common economic purpose" [Konstantinović, 1969, pp. 212], which once again the importance of the contract is confirmed, within the legal rules.

Considering the fact, this time, the legal norms of the Republic of Serbia indicate that without a contractual relationship, the economy and modern business cannot be nor imagin nor conducted. In the modern Republic of Serbia, the contract of partnership is regulated by the provisions of the Law on Companies, in the part dedicated to the partnership, and it can be also found in the Draft of the Civil Code of the Republic of Serbia (Articles 845 - 883).

### ***ROMAN SOCIETAS (THE CONTRACT OF PARTNERSHIP)***

The Romans for the consensual (created on the base of the consent of the contractual parties) *contractus bilateralis aequalis* (bilaterally equal contract - rights and obligations arise for both parties to the contract) and *bona fidei* (honor, fairness, trust) contract *societas*, considered any contract by which "two or more parties (*socii*) joined their resources together, skills or work or their combination, in order to achieve a certain economic benefit" [Buckland, 1921, pp. 504; Romac, 1987, pp. 318]. The contractual relationship was created on the basis of delivering of the property, verbally or by means of a messenger [Digests, D.



## Book of Proceedings

17, 2, 4pr], with the fact that in Roman law, in no context was the *societas* allowed to infer the reasons and goals of committing fraud or crime, and only the legal transactions were allowed [Digests, D. 17, 2, 3, 3].

The evolutionary development of *societas* in Romanistic science still produces discussions about its beginnings in Rome. One position is that the beginnings of the contract development path can be found in the Roman family - the consortium. This form of partnership, *ercito non cito* (community of undivided property), according to Gaius, was peculiar to Roman citizens, and was created by the death of the head of the family between his heirs – some kind of legal and natural association [Gaius, Inst., 3, 154]. Another opinion, presented in science, indicates that "*societas* arose independently of the old family community, following the example of quite old Roman associations of tax tenants (*societas publicanorum*), that is, some forms of agrarian association of owners and cultivators of land." [Romac, 1987, pp. 318].

The third position in science is represented by all the Romanists who believe that *societas* was created during the period of classical Roman law, that it was a response to the needs of the intensive development of the trade, economy and of the maritime affairs (seafaring) after the Punic Wars, where joining resources, based on honor, trust and friendship, played a key role when performing various jobs and activities for the purpose of economic benefit (for example, associations of commodity traders *societas venalicioorum* or association of bankers *societas argentanorum*) [Bujuklić, 2010, pp. 686]. At the very end, regardless of whose opinion we will adhere to, its presence in Roman society "since ancient times" is indisputable, confirmed by the Law of the XII Tables (*Lex Duodecim Tabularum*, a codification of the Roman common law, result of political and civil conflicts between the Patricians and the Plebeians – Roman social classes, written on stone tablets, published in the Forum, and approved by the Centurial Assembly (*committa centuriata*) in 460. B.C.) [Table VIII, p. 26 – 27].

We emphasized that the Romans joined their resources in order to achieve a certain goal and obtain a profit that they share together, so each of the *socii* (partners) necessarily contributes to the partnership (some contribute with property, money, and some contribute with skill or work) [Gaius, Inst., 3, 149; D. 17, 2, 5pr – 1; CJ. 4, 37, 1]. Hence, based on the means and purpose of the partnership, Roman law recognizes several types of partnership: *societas omnium bonorum* (community of all present and future property in which the partners became co-owners; it was created on the basis of *proin diviso* – act of joint ownership) [Zimmermann, 1996, pp. 457]; *societas quaestus* (referred to any future property that was acquired during joint business and activity) [Sanfilippo, 1996, pp. 327,]; *societas alicuius negotiationis* (the most common type of partnership where the partners took over the tasks of a specific, concrete legal branch, for example banking, science) [Buckland, 1921, pp. 504]; *societas unius rei* (partnership only for one specific, concrete business).

When we take a look at *societas* in that period, regardless of the attention that Romanists paid to, everyone turns to the Digests (Integral part of Justinian's famous *Corpus Iuris Civilis*)<sup>book</sup> 17 (D.17.2.1.pr) and Paulus's text, which contains the first classical division of the *societas* [Polojac, 2006, pp. 186]: *Societas coiri potest vel in perpetuum, id est dum vivunt, vel ad tempus vel ex tempore vel sub condicione*. From here, it seems that Roman jurists, adapting *societas* to social circumstances from that period, envisaged several classic types of partnership: permanent partnership (untermed, *in perpetuum*) or for a certain period of time (termed), conditional or unconditional.

This is directly reflected in its duration and termination: in the first case, the *societas* depended to a large extent of the will of the contracting party, it ended with dismissal – *renuntiatio*, where there were no obligations to compensate for damages (*reparatio* – compensation for damage, reparation as an obligation existed only in case of termination in bad time, because the termination could be applied at any time, except in bad time, which in the case of *societas* meant that one of the partners wanted to terminate before the goal was achieved – *renuntiatio dolus*), as well as with the death of one contracting party, whereby the contract was considered non-inheritable and connected with the person of certain skills and knowledge (*intuitu personae*) [Sanfilippo, 1996, pp. 328]. In another case, quite common in the Roman economy at that time, the term *societas* was concluded for a certain, concrete time, and terminated on the basis of dismissal, when an unjustified or temporary term was secured by means of a stipulations and a contractual penalty. In the absence of dismissal, the "life" of the *societas* continued. The indisputable Roman rule was



## Book of Proceedings

that the termination of the *societas* was linked to the loss of civil rights (*capitis deminutio*), and linked to poverty (insolvency), which could be the reason for its termination [Gaius, Inst., 3, 151 – 154; D. 17, 2, 4, 1]. Obligations and rights arising for the contracting parties, based on mutual trust, if we enumerate them exhaustively, would be: obligations for each of the partners to contribute their share; to take care of things as if they were their own (as a good host, otherwise *culpa levis in concreto*); the obligation to carry into the partnership any acquired "gravy" during the course of business, i.e. profit; the obligation to pay any loss incurred in the course of business.

The right that belonged to them was: the division of profits in equal parts, unless otherwise contracted [Gaius, Inst., 3, 150; CJ. 4, 37, 3]. In the event that it was "contracted differently" - that only one owner bears only losses, but not profits (lion partnership, *societas leonina*), then the contract was considered null and void. However, it was allowed for one of the *socii* not to participate in the business risk, but still got to share, at least minimally, the profit [Gaius, 3, 149; JI. 3, 25, 2; D.17, 2, 29,1]. This creates a different position of the partners in their association (company): the position of the partners, one to the other, in relation to the division of risk and profit being unequal; one of the partners in relation to loss and profit participates in a different fraction (quota, percentage); or for one partner to be completely excluded when sharing the risk [Polojac, 2005, pp. 132]. As for the procedural means used by the *socii* when resolving their mutual claims, there was an *actio pro socio* lawsuit that entailed infamy (*infamia*).

### ***THE ROMAN SOCIETAS AND THE CONTRACT OF PARTNERSHIP IN THE CONTEMPORARY LAW OF REPUBLIC OF SERBIA***

Today, in Republic of Serbia, partnership is regulated and established by provisions intended for partnership as a form of a company, can be found in the Law on Companies ["Official Gazette of the RS" no. 36/2011, 99/2011, 83/2014 – other law, 5/2015, 44/2018, 95/2018, 91/2019 and 109/2021], which indicates that partnership is an important segment of today's economy, and that the legal basis of the contract is in the joining of efforts, labor and funds. Therefore, two or more persons joined their resources, work, effort and part of their property in order to achieve a benefit that should be shared between the partners.

From here, we understand that the Roman *societas* is still present today, and the partners are unlimitedly jointly and severally liable with all their assets for the company's obligations [Art. 93, Law on Companies<sup>1</sup> and contract on the establishment of a partnership company (the contract of partnership) means that a written form is necessary in order to produce the legal consequences of the incurred obligations. What should be contained in the contract as the founding act of the company is information about the partners and their residence, the name of the partnership company and its headquarters, including the predominant activity [Art. 94, p.1, p. 1 – 3, Law on Companies].

Considering that in Rome *societas* could be concluded for all businesses, for one activity or only for one business, it could be said that today the indication of the predominant activity has its roots in the Roman era. Another relict, it seems, can be determined: the type and value of the stakes and the data on each partner's share [Art. 94, p.1, p. 4, Law on Companies]. For each type of Roman partnership, the partner's stake was known, how much and what each partner brought in, as well as the method of division of the profits. It is still the same today: the partners contribute stakes of equal value (although the lawmaker allows it to be determined differently by the contract), such as money, work, labor, services, but none of them has the right to reduce their contribution without the necessary consent of the other partners, no matter how many of them there are [Art. 96, p. 1, 2 and 4, Law on Companies]. Partners also acquire shares in the company proportional to their contributions [Art. 96, p. 3, Law on Companies], and with this property they are fully responsible for the company's profit or loss, and the Roman rule is confirmed: one of the partners in relation to the division of loss and profit participates in a different fraction (quota, percentage), from there we can say that there is a reception of Roman law.



## Book of Proceedings

Today's business conducting, in accordance with the Law, implies that each partner has the authority to perform actions that include the regular business of the company, and all other actions that do not belong to the legal norms of "regular business" are the subject of the contract of partnership, as the Law itself states that they can be performed if there is the consent of all partners [Art. 101, p. 1 and 2, Law on Companies]. What the law clearly provides is that in exceptional cases, i.e. if there are specifically named persons who have the right to conduct the business in the contract partnership, then the other partners do not have the same right – authorization to conduct the business [Art. 101, p. 3, Law on Companies].

Conducting the business can be considered as one of the bases for acquiring rights and obligations in a partnership. It is indisputable that each partner has the right to act independently, if he has the authority of conducting the business [Art. 102, p. 2., p. 2, Law on Companies], although he is obliged (has an obligation) to act in accordance with the instructions given by each partner to whom the authority belongs, except in cases where inappropriate instructions are made [Art. 102, p. 3, Law on Companies]. As a possibility, the law also leaves a right based on the authorization of the other partner: he can object to undertaking a certain conduct of business. If the other partner objects, then the conduct cannot be undertaken [Art. 102, p. 1, Law on Companies] unless this kind of action can be (or is) harmful for the society, and the partner whose permission was necessary for such, was unavailable [Art. 102, p. 2., p. 1, Law on Companies].

The authorization, in accordance with the Law, can be transferred to another partner or a third party, for which the consent of all partners of the company is necessary [Art. 103, p. 1, Law on Companies]. This transfer, again, is the basis of the rights and obligations that would arise upon this transfer. Therefore, a partner has the right to transfer his authorization for business to any person, but he is responsible for the actions like he had undertaken them by himself [Art. 103, p. 2, Law on Companies]. The person to whom the authority is transferred, the representative, has the obligation to respect all the limitations of the given authorization, regardless of whether they are established by the partner's contract. A representative who exceeds his authority is liable for damages [Jovanović, Trajković, 2011, pp. 265].

The rights and obligations created on the basis of the authorization for conducting the business are also reflected upon its termination. Namely, the authorization can end if the partner cancels his authorization only if there is a justified reason for this, and it can also be revoked. In the first case, the partner, beforehand, has the obligation to notify all other partners of his intention to cancel the authorization for conducting the business in writing, all in order to enable the other partners to undertake or organize the undertaking of actions that are within the scope of the company's regular business [Art. 104, p. 1. and 2, Law on Companies]. Compensation for damages that would be caused by not acting in this manner would represent the obligation of the party that did not comply with this legal solution [Art. 104, p. 3, Law on Companies].

The cancellation that was given in a bad time, constitutes a reception from the Roman legal rules. There are two ways to end the authorization by revocation: if there are justified reasons (the partner's inability to manage the company's affairs, the partner's actions constitute a breach of duty towards the company) and a court decision made on the basis of a lawsuit. The latter points to the possibility of the Roman reception of the *actio pro socio*, which would, for example, settle the partner's claims if the partner retained the "gravy" only for himself, and all of this, now, entails the deprivation of authority, and not just infamy as it was then. This means that in the *societas* of the Roman law, relations between members were regulated in accordance with *ius fraternitatis*, based on the principles of solidarity and mutual trust between members, which in case of their violation was sanctioned by moral condemnation infamy. For the realization of the rights and obligations from the partnership, there was an *actio pro socio* suit, on the basis of which the convicted person is charged with moral condemnation (*infamia*) in addition to property punishment [Gaius, Inst., 4,182.; D. 3, 2, 1].

As far as other rights are concerned, the following should be mentioned: the right to reimbursement of costs and the right to distribute profits; the right to make decisions in a partnership company; the right of information. The right to reimbursement of expenses implies the reimbursement of all necessary expenses that the partner had during the conduction of business of the partnership company [Art. 106, Law on Companies]. The distribution of profits today, just like in Roman law, is done in equal parts [Art. 107, Law on Companies] so it can be concluded that there is a reception of Roman legal rules. Deciding in partnership





## Book of Proceedings

company, a right that belongs to all partners, must be unanimous, unless otherwise stipulated by the contract. This "otherwise stipulated by the contract" leaves space to regulate decision-making in the company differently: all decisions or certain decisions to be made by majority vote.

Each partner has one vote, and for the decision to be effective, the consent of all partners is necessary [Art. 110, Law on Companies]. The right to information is included in the obligations, however contradictory it may sound: the partner who is authorized to conduct a business for partnership company is obliged to inform all other partners about the business of the company, to provide information about the company's business at the request of another partner, and to submit financial reports and other documentation to all partners [Art. 108, p. 1, Law on Companies]. Everything said about the right to information, on the other hand, also represents the right that belong to other partners, which clarifies the contradiction - the partner has the right to be personally informed about the state of the company's operations, the right to access and copying the business books and other documents, on his own expense [Art. 108, p. 2, Law on Companies]. The same rights can be exercised by the partner through the court [Art. 108, p. 3, Law on Companies].

From here, we can say, the Roman reception is noticeable, along with the existence of a large legal adaptation to the needs of today's society. That adaptation aligned with today's needs is reflected in the obligation to respect the prohibition of competition [Art. 75 and 109, Law on Companies] which is backed by a procedural tool - a lawsuit, in case of violation of the obligations [Art. 76, Law on Companies].

The Roman influence on today's partnership, and therefore on the contract of partnership, which is a condition for the creation of a partnership company, is also reflected in the termination of the partnership: death of a partner, changes in status, bankruptcy of the partnership company, liquidation of the partnership company. Today, a partnership company is terminated with the deletion of a partner who is a legal entity from the registry responsible for company records (Serbian Business Register Agency), resignation of a partner, exclusion of a partner [Art. 116, Law on Companies]. The law allows other cases that would lead to the termination of the company to be arranged and determined in the foundation contract of partnership company, which leads to the conclusion: the influence of Roman legal rules is evident, and there is an unambiguous adaptation to today's social needs.

### ***INSTEAD OF A CONCLUSION***

The contract of partnership has a rich history, it was known in the ancient world before the Romans. Roman legal rules are the basis for the existence of today's contract of partnership and the partnership companies, which, like then, is a necessary and important part of today's business, economy and entrepreneurship. The existence of receptions of Roman law in numerous segments such as the origin of the contract of partnership, the origin of the partnership, the rights and obligations of the partners, the termination of the agreement are notable, which leads us to the conclusion that the Roman *societas* still lives today, of course not in its initial form, but adapted to contemporary times and supported by legal regulations. *Societas* of Roman law, institute of complex nature, contributed to the positive law that retained the fundamental characteristics of the same contracts even though many years have passed.

From this we conclude that the Roman state and Roman law gave solutions that, for reasons of rationality and superiority, the contemporary law takes them over. Perhaps, in a certain sense, it is questionable that the provisions of the contract are not included in the Law on Obligations in Republic of Serbia, as is the case, for example, in the Republic of North Macedonia. Although the position of Republic of Serbia is that the contract of partnership is placed within the Law on Companies is sufficient, we believe that it is necessary to recommend the introduction of separate articles within the Law on Obligations, in order to: confirmation of the importance of this contract more firmly in the economy and entrepreneurship, avoid possible doubts during its conclusion in written form, facilitated legal classification throughout the court in case of violation of contractual provisions.



## Book of Proceedings

Finally, the Roman *societas* and its life today is also evident in today's form of legal companies - a limited partnership, for which the provisions of the Law on Companies intended for a partnership are applied, and this is a sufficient reason for such a conclusion. As a confirmation, we cite the legal definition of a limited partnership from Article 125 of the current law: a limited partnership is a company that has at least two members, at least one of whom is liable for the obligations of the company, jointly and severally liable (complementary), and at least one is liable limited to the amount of the unpaid amount, i.e. unentered stake (limited partner). We underline the importance of partnerships today in the scope of the legal profession, and the tendency to create a partnership in law firms is a finesse in today's lawyers profession, which confirms that partnerships belong in.

## REFERENCES

- Atanasovska Cvetković, A. (2023). Istorija države i prava. Visoka škola za poslovnu ekonomiju i preduzetništvo, Beograd.
- Atanasovska Cvetković, A., Jovanović A. (2022). Nasledovanjeto i nasledovanjeto na vinoto vo rimskoto pravo. Godišen zbornik, Praven fakultet Štip, Univerzitet „Goce Delčev“ Štip, R.S. Makedonija, god. 12, Vol. 12.
- Atanasovska Cvetković, A. (2021). Rimskiot emptio venditio (dogovor za kupoprodajba) vo francuskiot Code civile od 1804 godina. Godišen zbornik, Praven fakultet Štip, Univerzitet „Goce Delčev“ Štip, R.S. Makedonija, Vol. 11.
- Atanasovska Cvetković, A. (2020). Rimskiot Mandatum (dogovor za polnomošno) vo Srpskiot građanski zakonik na Hadžić. Godišen zbornik, Praven fakultet Štip, Univerzitet „Goce Delčev“ Štip, R.S. Makedonija, Vol. 10.
- Bujuklić, Ž. (2010). Forum Romanorum. Pravni fakultet u Beogradu.
- Buckland, W. W. (1921). A text-book of roman law from Augustus to Justinian. Cambridge.
- Dabić, Lj. (2015). Poslovođenje ortaklukom i njegovo zastupanje (upravljanje ortaklukom). *Pravo i privreda*, 4–6, 672-783.
- Gavrić, G., Čukanović Karavidić, M., Pesić D. (2020). Employee motivation and cultural influence, *International Review*, 1-2, 82-87.
- General Code of Property for Montenegro from 1888. Available at: [https://www.harmonius.org/sr/pravni-izvori/jugoistocna-evropa/privatno-pravo/crna-gora/Opsti\\_imovinski\\_zakonik\\_CG.pdf](https://www.harmonius.org/sr/pravni-izvori/jugoistocna-evropa/privatno-pravo/crna-gora/Opsti_imovinski_zakonik_CG.pdf)
- Gilbart, W., J. (1874). Lectures od the history and principles of ancient commerce. London.
- Jovanović, A., Atanasovska Cvetković, A. (2022). Krivičnopravna zaštita zarobljenika i njihov položaj kroz istoriju. *Civitas*, 12(2), 268-287.
- Jovanovic, A., Atanasovska Cvetkovic, A. (2022). Wine as an agricultural and food product: a historical and legal approach. *Ekonomika poljoprivrede*, 69(2), 517-532.
- Jovanović A., Trajković, M. (2011). Zastupanje privrednih društava, Međunarodni časopis za ekonomsku teoriju i praksu i društvena pitanja. *Ekonomika*, 75(2), 261-266.
- Konstantinović, M. (1969). Obligacije i ugovori – Skica za zakonik o obligacijama i ugovorima, Beograd.
- Law on Companies "Official Gazette of the RS" no. 36/2011, 99/2011, 83/2014 – other law, 5/2015, 44/2018, 95/2018, 91/2019 and 109/2021
- Nolit (1982). urednici: Basta, D., N., Stanojević O., Simonović, S., Gaj Institucije, Beograd.
- Polojac, M. (2005). Podela dobiti i gubitka među ortacima rimsko pravo i moderna rešenja. *Anali Pravnog fakulteta Univerziteta u Beogradu*, 53(2), 130-144.
- Polojac, M. (2006). Rimski societas in the recent publications. *Anali Pravnog fakulteta Univerziteta u Beogradu*, 54(2), 177-204.





**Book of Proceedings**

Romac, A. (1973). Izvori rimskog prava. Pravni fakultet u Zagrebu.

Romac, A. (1987). Rimsko pravo. Pravni fakultet u Zagrebu.

Sanfilippo, C. (1996). Istituzioni di diritto romano. Rubbettino.

Serbian Civil Code (1844). Available at: [https://www.harmonius.org/sr/pravni-izvori/jugoistocna-evropa/privatno-pravo/srbija/Srpski\\_gradjanski\\_zakonik\\_1844.pdf](https://www.harmonius.org/sr/pravni-izvori/jugoistocna-evropa/privatno-pravo/srbija/Srpski_gradjanski_zakonik_1844.pdf)

Višić, M. (1985). Zakonici drevne Mesopotamije. Slobodan Mašić, Beograd.

Zakon o obligacionim odnosima, "Official Gazette of SFRJ", no. 29/78, 39/85, 45/89 - decision of the Court of Justice and 57/89, "Official Gazette FRY", no. 31/93, "Official Gazette SCG", no. 1/2003 - Constitutional Charter and "Official Gazette of the RS", no. 18/2020 “

Zimmermann R. (1996). The Law of Obligations, Roman Foundations of the Civilian Tradition. Oxford.



Book of Proceedings

***DETERMINING THE APPLICABLE LAW FOR CROSS-BORDER  
INFRINGEMENT OF PERSONALITY RIGHTS IN THE MEDIA***

*Jelena Vljanić<sup>1</sup>  
Živorad Rašević<sup>2</sup>  
Snežana Plavšić Prelević<sup>3</sup>*

**ABSTRACT**

*The significance of applicable law for infringements of personal rights through the media in private international law is crucial. In cases where the violation of personal rights occurs across different jurisdictions, determining which legal system governs the matter becomes essential. Private international law provides guidelines for identifying the applicable law in such situations. In this paper, we will look at the issue of determining the applicable law for violation of personal rights through the media, by first pointing out the concept and importance of personal rights, the ways in which personal rights can be violated in the media environment, and the issue of determining the applicable law at the European Union and national level in this matter.*

**Key words:** *personality rights, international private law, conflict of laws*

**JEL Classification:** *K10, K15, K41*

**INTRODUCTION**

Violation of personal rights through the media, and especially the Internet, is attracting more and more attention. The Internet has become the most important means of communication, replacing email, telephone, and to some extent face-to-face interaction. The expansion of the Internet is so intense that it is often forgotten that it is a relatively new invention. The conflict of laws arising from the violation of personal rights has always been complex, since it implies a conflict between such important social values as, on the one hand, freedom of expression and access to information, and protection of reputation and privacy on the other. The ubiquity of the Internet has led to more frequent and intense conflicts of this type.

Conflicts of law related to infringements of personal rights, especially those occurring through the Internet, have been characterized as "conflicts on steroids." Indeed, conflicts of law in this area are complex as they involve multiple factors, such as significant differences between states in substantive law, jurisdiction, and choice of applicable law. The first question that arises is in which country a legal proceeding can be initiated to protect one's personal rights. This question pertains to international jurisdiction. In most cases, it is possible to sue the wrongdoer in their country of residence, which is the general basis of jurisdiction. General jurisdiction is a widely accepted principle in theory and practice because it satisfies the criteria of predictability and legal certainty. It leads to proceedings in the country whose legal system the defendant is typically most familiar with and also favors the principles of freedom of speech that the party expressing the information is acquainted with and generally subjected to. Consequently, this approach receives broad support in media and other internet businesses (Krivokapić, 2016, p.424). However, there are also specific grounds for jurisdiction, and it is possible to initiate proceedings in the country where the harmful action took place. If the place of the harmful action is also

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, jelena.vljanic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, rasevic71@gmail.com

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, snezanaprelevic@yahoo.com



## Book of Proceedings

the domicile of the injured party, it is likely that the injured party will prefer to initiate proceedings in their own country. Additionally, the place of the harmful action may be in a country that prioritizes the protection of privacy over freedom of expression in terms of legal protection. This would encourage the injured party to initiate proceedings in that country.

The second significant question that arises is the determination of applicable law: the law of which country will be applied to resolve the case. When determining the applicable law, conflict-of-law rules are used. These are special rules aimed at selecting, among numerous relationships that a private law matter has with different countries, one as the decisive factor and thereby guiding the competent court or authority to the relevant law. Considering that each legal relationship has its own specificities, the legislator, when creating conflict-of-law rules for different types of relationships, selects different connecting factors that are deemed decisive in an attempt to assign the applicability of the law most closely related to the given set of facts. Each country has its own internal rules for determining the applicable law (excluding the harmonization of rules through international conventions), resulting in a significant diversity of conflict-of-law norms. The focus of this paper is precisely the choice of applicable law in cases of infringement of personal rights in the media environment.

### ***PERSONAL RIGHTS AND THE MEDIA***

It is necessary to point out the difference between the concepts of personal rights and human rights. Human rights are rights that a person possesses because he is a human being, that is, they are rights that are acquired by birth. They arise from natural law, unlike personal rights which are contextual, which means that a certain person is entitled to certain personal rights as a citizen of a certain country, nation or state. The rights of personality are designed as a kind of "barrier" to protect the individual's freedom from potential abuses, both by the state and by political and social organizations and individuals.

The Constitution of the Republic of Serbia ("Official Gazette of the RS", no. 98/2006 and 115/2021) recognizes the following personal rights: the right to dignity and free personal development (Article 23 of the Constitution); the right to life (Article 24); the right to inviolability of physical and mental integrity (Article 25); the right to freedom and security (Article 27); freedom of movement and residence (Article 39); confidentiality of correspondence and other means of communication (Article 41); the right to personal data protection (Article 41); freedom of thought, conscience, and religion (Article 43); freedom of thought and expression (Article 46). This last freedom is particularly endangered in the virtual space, considering the speed of information dissemination. The right to freedom of thought and expression is not absolute, and states can restrict it in certain situations, such as for the protection of national security or when this right is used to spread hate speech and/or discrimination against others. However, states often abuse their role by violating the right to freedom of thought and expression, for example, by blocking certain online content, restricting access to specific media or social networks, and using similar methods. It is noted that the COVID-19 pandemic has further endangered freedom of expression in the virtual space. States have abused restrictive measures aimed at protecting public health to further limit various personal freedoms, including freedom of expression, leading to an expansion of censorship and surveillance (Castro et al, 2020, p.6).

The right to privacy is closely related to the right to freedom of expression, and it is also at risk in the era of digital technologies. The right to privacy encompasses several seemingly diverse rights, including the right to respect for private and family life, inviolability of the home and correspondence, as well as the honor and reputation of an individual (Paunović et al, 2020, p. 181). Abuses often occur on internet news portals that, in many cases, do not adhere to regulations and publish information that can infringe on an individual's privacy or damage their reputation, thereby violating journalistic ethics. As the European Court of Human Rights noted in the case of *Novaya Gazeta and Borodyanskiy v. Russia*, "In a world in which the individual is confronted with vast quantities of information circulated via traditional and electronic media and involving an ever-growing number of players, monitoring compliance with journalistic ethics



## Book of Proceedings

takes on added importance." (ECHR, Case of Novaya Gazeta and Borodyanskiy v. Russia, 2013). Additionally, numerous websites and applications used on the Internet require permission to access user information, acquiring a wealth of personal data, which users often grant automatically without considering potential risks. A similar situation arises with the use of "cookies" installed on a user's device, allowing websites and applications to display targeted advertisements based on the user's previous searches. These are just some examples of how personal rights are threatened in the media space.

Another element regarding the protection of personal rights in the media environment is respect for the prohibition of discrimination (Rašević, 2014, p.90). Furthermore, the relationship between the right to privacy and the prohibition of discrimination receives great attention, partly due to significantly different attitudes regarding the level of danger posed by this phenomenon in different countries, varying understandings of the responsibilities of internet service providers, and legal uncertainty resulting from the extensive dissemination of this form of communication. Solutions include, in addition to self-regulation by internet service providers, information filtering, hotlines, warnings, and the inevitable application of conflict-of-law rules in litigation involving this conflict between freedom of information and personal protection.

We will present a practical example to shed light on the issue. In the case of *Butler v. Adoption Media* (LLC486 F. Supp. 2d 1022, N.D.Cal. 2007), the factual background was as follows: An internet service provider from Arizona refused to post profiles with information about registered same-sex partners from California on their website, which advertised married couples interested in adopting children. This was contrary to their advertising policy, which included only heterosexual couples. Such conduct was not in violation of Arizona's laws, but it violated California's anti-discrimination legislation. In response to the lawsuit, the California court first chose domestic law as the applicable law based on *lex domicilii* and the place of discrimination and then proceeded to assess and compare the potential harm that would occur to the state whose law would not be applied to the specific matter. The court concluded that not applying California's law would cause greater harm to that state than not applying Arizona's law, as "Arizona's laws do not require, nor expressly permit, discrimination against same-sex couples," and the internet service provider could "easily identify clients residing in California and adapt to California law without violating Arizona's rights." (p. 90)

Personal rights are essentially immaterial and non-territorial in nature. This fact poses difficulties in applying certain territorial criteria when establishing jurisdiction over claims related to the violation of personal rights in the digital environment, such as the place where the harm occurred (De Miguel Asensio, 2022). Another characteristic of these rights is that they are considered fundamental, basic rights, falling under the right to respect for private and family life (Article 8 of the European Convention on Human Rights) and Article 7 of the Charter of Fundamental Rights of the European Union. They need to be balanced with other fundamental rights and freedoms, such as the freedom of expression and information (Article 10 of the ECHR and Article 11 of the Charter).

Two elements together (cumulatively) define the concept of the media: on one hand, their characteristic of massiveness stems from the fact that they are not intended for a pre-defined closed circle of individuals but for an undefined audience, and on the other hand, their characteristic of being transmitted through technical means to an indefinite number of people - print media, cassettes, floppy disks, CD-ROMs, radio, television... Therefore, information that violates a personal right but does not meet these characteristics, either because it is intended for a specific, defined group of individuals (for example, at a protest gathering) or because it is disseminated through means other than those mentioned (such as through letters or megaphones), will not be considered a violation through the media, and specific collision resolutions for such infringements of personal rights will not be applicable, but rather the general collision regime for violations of personal rights (Vodinelić, 2003, p.75).

The internet is also a type of media but of a different nature than conventional media such as print and television. Specifically, information disseminated through conventional media still encounters certain territorial limitations - the media are always pre-limited in terms of the target audience, although these recipients are not individually predetermined. The media determine who will even have the opportunity to receive certain information, and the scope of dissemination is always limited. The limited distribution also



**Book of Proceedings**

applies to satellite broadcasts since satellites cover only specific territories due to the shape of the Earth. Furthermore, the media not only determine who will come into contact with the information but also its content, considering that they can influence it through their editorial policies. With the Internet, things are significantly different - the person disseminating information over the Internet cannot in any way control who will come into contact with it, cannot predefine the circle of potential users, and cannot influence the content of the information because each individual chooses what they will access from the internet, there is no editor. Therefore, unlike the directed audience of conventional media, with the Internet, the audience directs itself (Vodinelić, 2003, p.79).

***ON THE DETERMINATION OF THE APPLICABLE LAW FOR VIOLATIONS OF PERSONALITY RIGHTS THROUGH THE MEDIA***

The principles for determining the applicable law in cases of violations of personal rights through the media may vary depending on the legal system and relevant international instruments. However, some general principles that are often applied in this context include, firstly, the principle of the place of the harmful event. This principle is based on the idea that the law of the country where the harm occurred will be applied. This means that the laws of that country will apply to cases where the harm or violation of personal rights arises from the publication of information in that country. Secondly, there is also the principle of the country of publication. This principle is applied when the information is published in a specific country and the harm or violation of personal rights occurs as a result of that publication. According to this principle, the applicable law may be the law of the country where the information is published. Thirdly, according to the principle of the domicile of the injured party, the applicable law may be the law of the country where the injured party has their domicile. This option is often used when the injured party is not sufficiently informed about where the information will be published or by whom. Finally, there is also the principle of closest connection. This principle focuses on identifying the country that has the closest connection to the dispute. This may involve factors such as the nationality of the parties, the place of conducting business activities, or the location of the media outlet publishing the information.

In general, determining the applicable law for infringements of personal rights through the media involves considering various factors. One key factor is the balancing of interests between the injured party and the media outlet or publisher. The injured party is often given preference in order to protect their personal rights. The choice of applicable law can be complex, as it involves considering different jurisdictions and potential conflicts of laws. The place where the damage occurs is often considered as a connecting factor, as it is assumed that the impact of media content is most significant in the place where the harm is suffered. Ultimately, the goal is to strike a balance between protecting the rights of the injured party and ensuring the freedom of expression of media outlets.

However, there have been criticisms of using the "place of damage" as the sole connecting factor, as it can be unpredictable and may have implications for freedom of expression. Critics argue that it places an undue burden on media outlets and publishers. However, there are arguments that favor the injured party over the media outlet that publishes information about them. When media outlets publish information about someone, they can anticipate where the content they publish would have the most significant impact on an individual and cause harm. On the other hand, the injured party is often unaware that content violating their rights will be published, let alone who will publish such content or where the publisher is located or resides. Thus, a connecting factor that favors the injured party restores balance in this relationship and is more appropriate than connecting factors that favor the wrongdoer, such as the wrongdoer's location or residence (Vrbljanac, 2019, p.419). As a kind of compromise in doctrine, proposals for conflict rules based on the place of damage have found their place, combined with a corrective approach where the law of the state of habitual residence of the wrongdoer applies if the wrongdoer could not foresee that their action would have consequences in the state where the damage occurred (von Hein, 2010).





**Book of Proceedings**

***DETERMINING APPLICABLE LAW AT THE EUROPEAN UNION LEVEL***

Initially, personal rights violations were intended to be included in the scope of Regulation Rome II (Vrbljanac, 2019, p.411). However, they were eventually excluded due to the inability to reach a compromise regarding the appropriate connection of the conflict rule. In the preliminary draft of the Proposal for Regulation Rome II in 2002, the European Commission proposed that the law applicable to personal rights violations be the law of the country of habitual residence of the injured party. Such a proposal was supported by the argument that it would resolve the issue that arises when determining the applicable jurisdiction for personal rights violations. In the Shevill case, the EU Court clarified the application of the provision on determining international jurisdiction from the Brussels I bis Regulation, or the then Brussels I Regulation, in cases of personal rights violations through traditional media (Jurisdiction in internet defamation cases and CJEU's policy choices). In this case, British citizen Shevill and several trading companies sued French company Presse Alliance SA for damages resulting from the publication of a newspaper article that caused reputational harm to the plaintiffs (Case Fiona Shevill, Ixora Trading Inc., Chequepoint SARL, and Chequepoint International Ltd v Presse Alliance SA, EU:C:1995:61, para. 2.).

Presse Alliance SA published an article in its newspaper about a drug crackdown operation carried out in one of the exchange offices of a French company. The article mentioned several companies that were trading partners of that company, as well as Ms. Shevill, who worked at the mentioned exchange office in France for three months before returning to England. As a result, all the mentioned companies, along with Ms. Shevill, considered the controversial newspaper article to be a reputational harm since it created an impression among readers that the plaintiffs were part of a drug smuggling network involved in money laundering. Consequently, the plaintiffs filed a lawsuit in an English court against Presse Alliance SA for reputational harm and sought compensation for copies of the newspaper distributed not only in France but also in other European countries, including England and Wales, which caused reputational harm. Presse Alliance SA objected to the jurisdiction of the English court, arguing that the harmful event within the meaning of Article 7(2) of the Regulation (former Article 5(3) of the Convention) did not occur in England - the newspapers in question were mainly distributed in France, and their distribution in the United Kingdom was minimal. Thus, the interpretation of the term "place where the harmful event occurred" under the said provision of the Regulation was raised as a question to determine which courts had jurisdiction to decide on the claim for compensation for reputational harm that occurred in several member states due to the distribution of the newspaper article. It was disputed whether the said term should be interpreted as the place where the newspapers were printed and put into circulation, the place where certain individuals read those newspapers, or the place where the plaintiff enjoys personal reputation. (para.17).

The court, in a previous judgment in the case of Bier v. Mines de Potasse d'Alsace, established a rule according to which the "place where the harmful event occurred" is interpreted as the place of the harmful action and its harmful consequences. In this case, the EU Court first determined that the court of the publisher's registered office is certainly competent, considering that the harmful event originated from there. However, the Court further states that, as a rule, this place will coincide with the general basis of jurisdiction, but the claimant should also have the possibility to initiate proceedings in the place where the harmful consequences occurred, otherwise Article 5(3) of the Convention would be meaningless. According to the Court's interpretation, such a place is where the harmful action has produced harmful effects on the injured party. Therefore, the EU Court considers that the expression "place where the harmful event occurred" in the case of reputational harm through a newspaper article distributed in multiple Member States should be interpreted in a way that allows the injured party to bring a lawsuit against the publisher before the courts of the Member State where the publisher has its registered office, as well as before the courts of each Member State where the publication is distributed and where, according to the claimant's allegation, the reputation has been harmed. Accordingly, the initial courts will have jurisdiction to decide on the compensation for the entire damage caused by the reputational harm, while the subsequent courts will have jurisdiction to decide on the compensation for the damage caused only in the state where the proceedings were initiated.





## Book of Proceedings

Determining the law of the state in which the injured party is habitually resident, the Commission wanted to avoid splitting claims for compensation in a way that the rights of different states where the harmful content is accessible would be relevant only to the portion of damage suffered in that state (Vrbljanac, 2019, p.412). However, this proposal by the Commission faced strong opposition from the media lobby, which argued, among other things, that there could be situations where courts would have to accept a lawsuit against a publisher based in the court's state under foreign law, even though the publisher acted in accordance with the rules in force in the court's state, and no copies of the publication were distributed in the injured party's habitual residence state. In addition, as a criticism of the connecting factor of the injured party's residence, the potential difficulty of determining the habitual residence of well-known individuals was also mentioned. After amending the conflict rule by the Commission, which was again criticized by the media lobby, the European Parliament amended the conflict rule at the first reading. According to the proposal of the European Parliament, the law applicable to violations of personality rights and privacy is the law of the state in which the most significant element or elements of the violation or damage occur or are likely to occur (European Parliament, 2003). The application of the aforementioned law can be avoided in favor of applying the law of the state with which the dispute is obviously more closely connected, as indicated by circumstances such as the state for which the publication or broadcasting is intended, the language of the publication, data on the quantity of sales or the scope of the audience in a particular state, considered in relation to the total quantity of sales and audience, or a combination of these circumstances. It was also stipulated that this rule, *mutatis mutandis*, should apply to publications on the Internet.

The proposal of the European Parliament was a major turnaround compared to the initially proposed rule, favoring the media, which would have caused an imbalance among the opposing parties, and the Commission refused to accept it. It considered that it favored the publisher and did not reflect the approach accepted in most member states. As a result, from the amended proposal of the Regulation of the European Parliament and Council on the Law Applicable to Non-Contractual Obligations ("Rome II"), media and similar torts were excluded, and Article 6 was deleted, while other privacy violations were subjected to the general rule in Article 5 (Amendment 57, Amended proposal for the Rome II Regulation, p. 6). Subsequently, the Council adopted a Common Position in 2006 regarding the acceptance of the Regulation of the European Parliament and Council on the Law Applicable to Non-Contractual Obligations (Council, 2006) in which it was suggested that the mentioned exclusion should not be limited only to violations committed by the media but should apply to all violations of personality rights and privacy (Council, 2006, Art. 1 (2) (g)), and the reason for this was the inability to reach an agreement on the definition of media.

### ***DETERMINING THE APPLICABLE LAW IN DOMESTIC LAW***

Currently, there are no specific conflict rules in domestic law regarding the existence, content, and protection of personal rights. The *de lege ferenda* solution in Article 175 of the Private International Law Act (Zakon o međunarodnom privatnom pravu) regulates liability for the infringement of personal rights through the media, concerning the right to reply to violations of personal rights through mass media and the processing of personal data. Specifically, paragraph 1 of the mentioned article establishes that for non-contractual liability for damages resulting from the infringement of personal rights through mass media, particularly through the press, internet, radio, television, or other public information means, the following laws are relevant at the choice of the injured party: the law of the state in which the responsible party has habitual residence; the law of the state in which the injured party has habitual residence, provided that the responsible party could reasonably foresee that the damage would occur on the territory of that state; or the law of the state in which the damage has occurred or is likely to occur, provided that the responsible party could reasonably foresee that the damage would occur or could occur in that state.

Here we see a balancing of interests between the injured party and the wrongdoer, with a preference given to the injured party by allowing them the right to choose the applicable law. The injured party can



## Book of Proceedings

choose among multiple laws, but consideration is also given to the potential disadvantage of the wrongdoer, particularly in cases involving the dissemination of information over the internet, where the wrongdoer may not know where the damage could occur. It would be unfair to the wrongdoer if one of the available choices for the injured party is simply the place where the damage occurred without any conditions. Therefore, the requirement that the wrongdoer could reasonably foresee that the damage would occur or could occur helps restore balance in this relationship.

Until then, this legal gap should be filled by an extensive interpretation of Article 28 of the Law on Conflict of Laws with the Laws of Other Countries (*Zakon o rešavanju sukoba zakona sa propisima drugih zemalja*), which determines the applicable law for non-contractual liability for damages based on "the law of the place where the action occurred or the law of the place where the consequence occurred, depending on which of the two laws is more favorable to the injured party." The current domestic legal solution clearly favors the injured party by seeking favorable outcomes among the alternatives, which appears to be a fair solution at first glance. On the other hand, serious objections can be raised against it: the solution is not comprehensive as it does not encompass non-delinquent means of protection, specifically negative and declaratory claims; the expressions used for connecting points in the cited article are rather vague and unsuited to the nature of the violation of personal rights; a fair balance of interests between the wrongdoer and the injured party has not been established, which can disproportionately increase the liability of the wrongdoer and jeopardize the purpose of sanctions; although seemingly flexible at first glance, it provides much fewer possibilities for adaptation to specific situations due to the lack of the closest connection clause (Rašević, 2014, p.91).

## CONCLUSION

Injuries to personal rights through the media in private international law pose a particularly challenging problem. We have demonstrated that there is a legal gap in domestic legislation regarding the violation of personal rights in the media environment, which is being filled through an extensive interpretation of Article 28 of the Law on Conflict of Laws. The increasing legal uncertainty is becoming more pressing, especially as technological advancements have enabled more frequent violations of personal rights with a foreign element. As key shortcomings of domestic positive private international law in the field of regulating personal legal relationships, the following should be highlighted: an unacceptably limited number of options when choosing connecting factors and excessive favoring of the injured party. It seems that *de lege ferenda* solutions provide more options for achieving collisional fairness, through the establishment of clauses that ensure the closest, close, and sufficient connection, as well as connecting factors that have proven to be important (*lex domicilii*, *lex causae*, choice of applicable law by the parties), and not just the place of the delict, the determination of which poses significant difficulties in personal legal relationships with a foreign element.

## REFERENCES

Case Fiona Shevill (1995). *Ixora Trading Inc., Chequepoint SARL, and Chequepoint International Ltd v Presse Alliance SA*, EU:C:1995:61.

Castro, C., Ferreira, F.A. and Nunes, P. (2020). October. Digital technologies and tourism as drivers of economic growth in Europe and Central Asia. In: *International Conference on Tourism, Technology and Systems* (341-350). Singapore: Springer Singapore.

Common position adopted by the Council on 25 September 2006 with a view to the adoption of a Regulation of the European Parliament and of the Council on the law applicable to non-contractual



**Book of Proceedings**

obligations, <https://www.consilium.europa.eu/en/documents-publications/public-register/public-register-search/results/?AllLanguagesSearch=False&OnlyPublicDocuments=False&DocumentNumber=9751%2F06&DocumentLanguage=EN>,

EcHR, Case of Novaya Gazeta and Borodyanskiy v. Russia

European Parliament legislative resolution on the proposal for a regulation of the European Parliament and of the Council on the law applicable to non-contractual obligations (Rome II) (COM(2003)0427 - C5-0338/2003 - 2003/0168(COD)), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52005AP0284>,

Krivokapić, Đ.B. (2016). Sukob zakona i nadležnosti koji proizlazi iz povrede reputacije putem Interneta. Универзитет у Београду.

Ministarstvo pravde Republike Srbije, Nacrt Zakona o međunarodnom privatnom pravu, <https://www.mpravde.gov.rs/files/Nacrt%20ZMPP%20-%20Ministarstvo.doc>

Rašević, Ž. (2014). Zabrana diskriminacije u privatnom pravu. *Zadužbina Andrejević, Beograd*,

Regulation of the European Parliament and of the Council on the law applicable to non-contractual obligations, <https://www.consilium.europa.eu/en/documents-publications/public-register/public-register-search/results/?AllLanguagesSearch=False&OnlyPublicDocuments=False&DocumentNumber=9751%2F06&DocumentLanguage=EN>

The Constitution of the Republic of Serbia ("Official Gazette of the RS", no. 98/2006 and 115/2021)

Vodinec, V. V. (2003). Međunarodno privatno pravo ličnosti. Fakultet za poslovno pravo, Beograd

Von Hein on Rome II and Defamation. (2010). <https://conflictoflaws.net/2010/von-hein-on-rome-ii-and-defamation/>

Vrbljanac, D. (2019). Pravo mjerodavno za povrede prava osobnosti u novom ZMPP-u: je li prihvaćeno rješenje najbolje? *Godišnjak Akademije pravnih znanosti Hrvatske*, 10(1), 409-423.

Zakon o rešavanju sukoba zakona sa propisima drugih zemalja, "Sl. list SFRJ", br. 43/82 i 72/82 - ispr., "Sl. list SRJ", br. 46/96 i "Sl. glasnik RS", br. 46/2006 - dr. Zakon



Book of Proceedings

***THE INTERPRETATION OF LAWS AND LEGAL GAPS***

*Sandra Pajić Šavija*<sup>1</sup>

***ABSTRACT***

*In legal theory, the interpretation of law is usually defined as an activity aimed at determining real meaning, the meaning of a legal norm. Interpreting legal norms is not often simple and it demands the application of various instruments for interpretation. The situation is more complex in a case when determined factual state cannot be subsumed under an existing legal norm, that is, in the situations when so-called legal gaps occur. A legal gap exists in the situations when some social relationship is not regulated by a general legal norm. The reason for that is that law regulates social relations that are constantly changing, and it is necessary to determine factual state in each concrete case and accordingly, determine the true meaning of a legal norm for that concrete case. Precisely due to the evident divergence between law and reality, the subject of interpretation needs to have a certain extent of freedom in interpreting legal norms. The fact is that there is not a perfect legislator and that gaps in law are unavoidable. Gaps in law are necessary due to the fact that law has a task to regulate real relations in society, that law, that is, legal order on one hand, is static, while on the other hand, social relations are dynamic. The entity that is called upon to apply law, most often a court, may not refuse to resolve a dispute by referring to the fact that such situation is not regulated by a legal norm. However, in those situations, the issue of manner of filling legal gaps arises, considering that judicial function then has the feature of law creation, and what are the boundaries of judicial creation of rights? Judicial activity oriented towards the creation of a legal norm for a concrete case in regard to which there is a legal gap must not go beyond the application of law, that is, turn into the free creation of rights.*

***Key words:*** *the application of law, interpretation of laws, legal gaps, filling legal gaps, analogy.*

***JEL Classification:*** *K0, K00, K10*

***INTRODUCTION***

A legal order is commonly defined as a part of social order that is regulated by law. The main aim and meaning of law is precisely to regulate real relationships in a society, that is, human behaviour. Although it seems that different objects are denoted under the term law in different languages, still "if we compare the objects that are designated as "law" in the most different peoples and in the most different time periods, then it primarily follows that all of them manifest as the orders of human behaviour" (Kelzen, 2000, p.34). In that sense, the normative part of law order, consisting of legal norms, that is, legal acts, usually differs from the factual part of the law order, consisting of behaviour in accordance with legal norms.

Accordingly, in order to be able to talk about the efficiency of the legal order, the validity of legal norms itself, which is reflected in having to behave in the manner enacted by a legal norm, is not sufficient, but it is also necessary for the legal norms to be effective as well, which is reflected in real behaviour of legal persons in accordance with valid legal norms. In that sense, law is defined as a coercive order (Kelzen, 1951, p.32). However, in order to provide human behaviour in accordance with legal norms, legal norms need to be interpreted. Human behaviour, that is, the behaviour of legal persons in accordance with legal norms, that is, the rules contained within legal norms, represents the application of law.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, sandra.savija@vspep.edu.rs



## Book of Proceedings

The very process of the application of law is very complex as it requires previous interpretation of a legal norm, that is, determining the meaning of a legal norm. Although the interpretation of law is not reserved exclusively for jurists, nevertheless their interpretation is most vital. "Whether he acts as a judge or a statute drafter, he is provided with a framework of general ideas in which we have to fit his decision and his task is to apply those general legal principles, and not to question them. No matter how much he is interested in the future implications of his decisions, he can judge them only in the context of all the other acknowledged principles of law that are given to him. It is essential for legal thinking and just decisions for a jurist to strive towards making the whole of the system consistent" (Hajek, 2002, p. 67).

The interpretation of legal norms is not often easy and demands the use of various interpretation instruments. The situation is more complex in a case when determined factual state cannot be subsumed under an existing legal norm, that is, in the situations when so-called legal gaps occur. In legal theory, there are different positions regarding whether each application of law also implies the interpretation of law, or the interpretation of law is exclusively limited to the situations when legal norm is ambiguous and indefinite. Furthermore, there are no unified positions regarding the subject of the interpretation of law either, that is, whether only general legal norms or individual legal norms as well are the subject of interpretation, as well as relating to who occupies the role of legal interpreter, that is, whether the interpretation of law is exclusively reserved for government agencies, all of them or only courts, that is, whether the interpretation of law given by legal science is also acknowledged as well as when given by non-government entities?

### ***THE CONCEPT, TOPIC AND THE SUBJECTS OF THE INTERPRETATION OF LAW***

In order to determine the concept of the interpretation of law, first it is necessary to determine the concept of interpretation in general. Interpretation implies an activity that is oriented towards determining the sense, that is, the meaning of a material occurrence. In that sense, interpretation assumes the existence of at least two subjects. On one hand, it is the subject in the role of the creator of certain material occurrence, and on the other hand, it is the subject of interpretation. "Interpretation as an activity is constantly present in people's lives because it thus determines the meaning of either natural or social phenomenon. It is a type of spiritual activity that is present everywhere we meet spiritual creations" (Vukadinović, 2005, p. 194). When it comes to the interpretation of law, in legal theory, the interpretation of law is usually defined as an activity aimed at determining real meaning, the meaning of law, namely, legal norm.

R. Lukić thus defines interpretation in general as "an activity whereby the meaning (sense) of a material phenomenon which is used to communicate the said meaning, is determined" (Lukić, 1961, p. 5). He points out that the interpretation of a legal norm "is nothing else than determining the sense of a norm, the sense which is not always easy to discover, and at first glance at that" (Lukić, 1995, p. 223). N. Visković similarly defines the interpretation of law as "spiritual activity which uncovers possible meanings of legal norms and within them hypotheses, searches, delict determination and sanctions, and decides which of those meanings is the best" (Visković, 2001, p. 248). According to H. Kelzen, interpretation is "a spiritual procedure which follows law application process in its movement from higher towards lower level" (Kelzen, 1951, p. 266).

Unlike the very determination of the concept of the interpretation of law in regard to which, as we have seen, there is more or less consensus in legal theory, it is not the case when it comes to the determination of the subject of the interpretation of law itself. Although it seems to us that the very name of the interpretation of law points to the subject of interpretation as well and that in that regard, there should not be any doubts, still in legal theory, there is not a unified answer in that regard. However, it is not enough to say that the subject of the interpretation of law are legal norms. It is primarily because a legal norm has





## Book of Proceedings

a complex structure and encompasses the factual part (the hypothesis of disposition and the hypothesis of sanction) and the normative part (disposition and sanction).

Furthermore, legal norms are contained within legal acts, that is, systemized within legal provisions, and bearing in mind a complex structure of legal norm, it is clear, for a start, that we cannot limit the subject of interpretation in any way to legal provisions. On the other hand, the fact pointed out at the very beginning should be considered, and which is simultaneously the topic of this paper, and it is that besides explicit legal norms, that is, the norms which explicitly regulate certain conditions, there are also the conditions that are not explicitly regulated by legal norms, i.e. legal gaps. Starting from the fact that whether the subject of interpretation are explicit legal norms or legal gaps, in legal theory, I distinguish the interpretation in a narrow sense, when a legal norm is the subject of interpretation, from the interpretation in a broad sense, when a legal gap is the subject of interpretation, that is, several interrelated legal norms.

Accordingly, we reach the conclusion that legal norms are always the subject of interpretation. However, bearing in mind diverse divisions of legal norms, and especially the division into general and individual legal norms, there has been a long debate in legal theory regarding whether the subject of the interpretation of law should be exclusively limited to general legal norms. Furthermore, the interpretation of law has often been limited solely to law as the most significant source of rights, which is certainly wrong given that law is the most significant source of rights, but certainly not the only one. We believe that the subject of the interpretation of law should not be taken in such a narrow sense, in the sense that only general legal norms are encompassed by the interpretation of law.

Also, interpretation has often been limited solely to written legal norms, that is, customary, unwritten rules were not the subject of interpretation, because it was based on a subjective theory of interpretation based on a lawmaker's will as the only true meaning of a legal norm, and considering that the existence of such will cannot be determined in customary norms, they were left beyond the domain of interpretation. However, the position of legal science nowadays is that it is not justifiable to limit the interpretation of law solely to written norms, and in that case, customary norms are also the subject of interpretation, especially in the countries where a custom appears as the source of law. In legal theory, the prevailing position today is that all legal norms are the subject of interpretation, general and individual ones, written and unwritten, and at times the subject of interpretation extends to human actions as well (Paund, 2000, p.264-265).

When it comes to interpretation subjects in legal theory, the interpretation of law has long been reserved exclusively for government agencies, especially a legislator and a judge, as well as legal science. However, in the process of the application of law in the role of a legal interpreter, diverse subjects appear, and here we primarily refer to physical and legal persons, that is, non-government entities. The fact is that the interpretation of law cannot be exclusively reserved to government agencies, a legislator and judges, and legal science, and that there are other subject as well which appear in the roles of the interpreters of legal norms, although their interpretation does not have the same force as the interpretation by legal science and government agencies. Unlike the interpretation done by government agencies within their jurisdiction and which is of a binding character, the interpretation done by non-government entities does not have legally binding force. Accordingly, regarding interpretation subjects, we differentiate between the interpretation by government agencies and non-government entities.

When it comes to the interpretation done by government agencies, the interpretation done by a legislative body and judicial interpretation, which certainly represents the most important type of the interpretation of law, especially stands out, given that a judge, in most cases, appears as the final legal interpreter. Unlike a judge whose task is to apply, that is, interpret law, a legislator's primary role is not to interpret but to create rights. A legislator in the role of the interpreter of rights certainly contradicts the very fact that the interpretation of law assumes the existence of two subjects, a legal norm creator and a legal norm interpreter. Although it seems, at first that interpretation of norms by their creator, legislator, contradicts the interpretation concept itself, still this type of interpretation is possible, and sometimes even desirable.

The need for this type of authentic interpretation arises in situations where the norm created by the legislator is vague, and it is necessary for the legislator to clarify the true meaning of that norm, so that the





## Book of Proceedings

subjects to whom it refers could behave according to that legal norm. Although authentic interpretation is commonly related to the interpretation given by a legislator, the interpretation by other subjects in their interpretation of the norm they created could also be included in the concept of authentic interpretation. The main problem of authentic interpretation is reflected in its surpassing the interpretation boundaries in its true sense, because interpretation, that is, specifying and clarifying the legal norm by its creator often results in the creation of a completely new legal norm. In that sense, "the authentic interpretation of one law is, as a rule, provided by a new law, whereby a new legal norm is created" (Lukić, Košutić, 2005, p.375). A norm, that is, a law whereby a vague norm is interpreted is designated as an interpretative norm, that is, interpretative law.

We have already mentioned that the interpretation by a court has special significance because its primary role is application, and not the creation of rights. Possible creation of rights by a court is reflected in passing individual legal acts as a result of the interpretation, that is, application of a general legal norm to an individual case. A judge's primary task is to resolve disputes, and the main cause of disputes is precisely disagreement, that is, different interpretation of a legal norm. In that sense, a judge appears as the final arbiter who is supposed to resolve the given dispute, so the interpretation provided by a court is final and accurate. Besides courts, administrative bodies are also called upon to apply law, that is, interpret law.

The interpretation by administrative bodies also has binding force, but judicial interpretation is certainly greater in force, given that all the other interpretations are exclusively valid if courts agree on them, explicitly or implicitly. This means that a court can often appear as the final interpreter, that is, in the role of an interpreter of not only laws and other general legal acts, but also administrative acts, in relation to the interpretation by the administrative bodies as well, in the case of an administrative dispute.

Besides administrative bodies, non-government entities also appear in the role of legal interpreters. Their need for legal norms' interpretation is considerably greater and more frequent compared to the interpretation by government agencies, given that every behaviour regulated by a legal norm requires its interpretation as well. In that sense, we can differentiate between the situation in which non-government entities interpret legal norms created by some other subjects, most commonly government agencies, and with the aim of their application, while on the other hand, non-government entities can appear in the role of the interpreter of their own norms they themselves created (statute, contract etc.) and then it is the authentic interpretation by non-government entities.

In relation to the interpretation of law by government agencies, the interpretation done by non-government entities has less legal force and certainly does not have the same force and relevance as the interpretation by government agencies. It is mainly due to the fact that non-government entities do not have legal knowledge and experience which is certainly a prerequisite for the interpretation of law. It, however, does not diminish the significance of the interpretation of legal norms by non-government entities given that this type of interpretation is necessary and required in order for legal persons to be able to behave in accordance with legal norms. In the situations when non-government entities cannot uncover the sense and true meaning of a legal norm by themselves, they can turn to professionals for help, that is, primarily jurists, lawyers and the like.

And, in the end, we will remark on scientific or doctrinal interpretation, that is, the interpretation of law by legal science. Unlike previous types of interpretations, all of which have the aim of direct law application given that both government agencies and non-government entities interpret norms with the aim of their application and realisation, it is not the case with the interpretation of law done by legal science. Namely, interpretation by legal science is done independently from the application of law, that is, the interpretation of rights is one of the main functions of legal science. The aim of legal science, regardless of positive law disciplines or theoretical legal science, is determining the true sense of legal norms, that is, discovering their contents and meaning. In that sense, the entire legal science is demonstrated as an instrument for interpretation.

Considering that legal science is called to interpret law, doctrinal interpretation has enormous importance. It is due to the fact that the interpretation of legal science primarily implies the opinions of prominent



## Book of Proceedings

professionals within certain areas of law. Although the interpretation by legal science is not related to direct application of law and does not have binding legal force, still the interpretation by legal science indirectly influences law application itself, as the subjects which apply law directly, and here we primarily refer to government agencies, often respect the opinions of legal science. Surely, the impact of legal science on the interpretation of law certainly needs to have boundaries as overwhelming acceptance of doctrinal interpretation would turn legal science into the very creator of law, as the case was in Roman law. Besides these dangers posed by an overwhelming influence of legal science on the interpretation of law, and the interpretation of legal science itself has certain shortcomings.

Those shortcomings of doctrinal interpretation reflect in the fact that regardless of high expertise, the interpretation by legal science is most often abstract and generally independent of the application of a legal norm to a concrete case, while on the other hand, precisely that theoretical approach represents the lack of scientific interpretation that as such remains away from practice. "The interpretation done by legal science can do nothing more than determine potential meanings of a legal norm. As the cognition of its subject, it cannot make a decision between the possibilities it has shown, it has to relinquish that decision to a legal body which is, according to legal order, authorised to apply law" (Kelzen, 2000, p.271).

### ***INSTRUMENTS FOR INTERPRETATION***

Discovering the true meaning of a legal norm is not often a simple process and it requires the use of various interpretation instruments. Although interpretation instruments are numerous and diverse, the most important instruments used in the interpretation of law process are: language, logic, legal system, the history of the creation of a norm and a norm's aim. Considering interpretation instruments, we can speak of linguistic, logical, systematic, historical and purposive the interpretation of law.

Linguistic interpretation of law is the first and main instrument of the interpretation of legal norms because language appears as the main type of the expression of rights. In that sense, language represents "the main and the most convenient instrument for expressing meaning" (Lukić, 1974, p. 331). The aim of linguistic interpretation is to primarily discover linguistic meaning of a legal norm with the help of linguistic rules. However, linguistic interpretation is not often enough because the linguistic meaning of a legal norm does not often match its true meaning. The linguistic meaning of a legal norm represents the meaning acquired through the use of linguistic rules, that is, linguistic interpretation.

The issue with linguistic interpretation, or more precisely determining the linguistic meaning of a language norm, is reflected in the fact that there is not a perfect creator of a legal norm that is familiar with all linguistic rules (lexical, grammatical, syntactic and punctuation). While determining the linguistic meaning of a legal norm, it is important to adhere to certain rules of linguistic interpretation. The first one is that each linguistic sign used in a norm has its own meaning and is not redundant, and the second main rule is that each sign, in case there are several, ought to be ascribed that meaning which is normal, that is, the one which is the first and main according to rules of meaning. Determining linguistic meaning represents only the first step in the interpretation of law, given that the task of the interpretation of a legal norm is not determining linguistic meaning, but true meaning of a legal norm.

The most important instrument whereby the true meaning of a legal norm is determined is logical interpretation. The main aim of logical interpretation is to uncover the true meaning of a legal norm with the help of laws of logic. The most important rules of logical interpretation are argumentum a contrario-the argument whereby it is concluded that there is a contrary implicit qualification of other behaviour based on explicit legal qualification of one type of behaviour, analogy-reasoning by similarity and argumentum a fortiori (argumentum a minori ad maius-reasoning from the smaller scale argument to the larger one and argumentum a maiori ad minus-reasoning from the larger scale argument to the smaller one).

This interpretation only indicates one of the possible meanings of a legal norm, but it is not often sufficient in order to discover the true meaning of a legal norm, so it needs to be combined with other instruments



## Book of Proceedings

for interpretation. One of those interpretations is also systematic interpretation which implies uncovering the true sense of a legal norm by linking the elements of a legal norm that are contained in various provisions, as we have already at the beginning indicated that a legal norm is not the same as a legal provision. Furthermore, the other type of systematic interpretation implies determining the true meaning of a legal norm based on the position that the norm occupies in a general system of legal norms, that is, by relating the legal norm that is being interpreted with other legal norms which constitute legal system.

This type of interpretation is based on the idea that there is a connection between one part of a legal norm and the other part of other legal norm, as well as, between a legal norm and legal system (Harašić, 2009). As a sort of auxiliary instrument for interpretation, historical interpretation is also used, which consists of examining social conditions which caused the creation of a certain legal norm implying general social order that preceded the norm, and then the procedure of introduction and eventually the changes during the duration of the norm itself. Lastly, purposive or teleological interpretation has special importance for determining the true sense of a legal norm. The point of purposive interpretation is determining the true sense of a legal norm through uncovering the aim that is to be obtained with that norm. Depending on what is considered the aim of a legal norm, i.e. whether it is the goal that the legislator had in mind when creating the legal norm or whether it is the goal that the norm should achieve at a given social moment, we can talk about subjective and objective purposive interpretation.

Considering that legal norms necessarily follow social changes, it goes in favour of the fact that in determining the aims of a legal norm, the current social aims need to be considered, and not the aim the legislator himself had in mind during the creation of the norm. Such approach certainly means that objective purposive meaning is preferable. All the stated methods are significant for uncovering the true sense of a legal norm, but every procedure of the interpretation of a legal norm does not necessarily mean the use of all interpretation methods. The choice of interpretation method will certainly depend on the circumstances of a concrete case.

### ***LEGAL GAPS AND THEIR INTERPRETATION***

The fact is that there is not a perfect legislator and that gaps in law are unavoidable. A legal gap exists in the situations when some social relationship is not regulated by a general legal norm, i.e. "which is regulated by an individual (unconditional) norm, and it has not previously been regulated by a general (conditional) norm" (Lukić, 1995, p. 171-172). Gaps in law are necessary due to the fact that law has a task to regulate real relations in society, that law, that is, legal order on one hand, is static, while on the other hand, social relations are dynamic. Therefore, it is possible that the gap exists because the legislator himself, when creating a general legal norm, may overlook some social relationship that needs to be regulated, or because, due to the dynamics of social relationships, he is not able to foresee everything. In the first case, we talk about previous legal gaps, while in the second case, we talk about a subsequent legal gap.

Traditional legal theory's position is that there are no gaps in law, that is, even in cases in which there is not a concrete norm, those are apparent gaps and they can be filled with the application of general legal principles. In such situations "the application of an individual legal norm is not possible, but the application of legal order and that is the application of law is possible" (Kelzen, 2000, p. 195). Thus, Kelzen, for instance, negates the existence of gaps in law as "the valid law is logically always applicable, since it does not have "gaps" in that sense" (Kelzen, 2000, p. 197). Such approach is understandable if one bears in mind its theory about the hierarchy of legal norms, that is, the understanding of the basic norm representing the basis of validity of the legal norms that belong to a legal order. However, he does not negate the possibility of technical gaps in law which may arise due to the vagueness of a legal norm itself or due to the fact that a legislator oversaw an element of a legal norm.

Today's theory's position is that the existence of gaps in law cannot be denied, that they are the necessity of legal order, but also there is the question of their filling. The entity that is called upon to apply law, most



## Book of Proceedings

often a court, may not refuse to resolve a dispute by referring to the fact that such situation is not regulated by a legal norm. However, in those situations, the issue of the manner of filling legal gaps arises, considering that judicial function then has the feature of law creation, and what are the boundaries of judicial creation of rights?

### ***FILLING LEGAL GAPS***

Considering that filling legal gaps surpasses the boundaries of law application and enters the domain of law creation, it is possible for a legislator to undertake the legal gap filling, that is, when in practice, there is a social relation that is not regulated by a legal norm, that relation needs to be encompassed by an existing general legal norm. However, it happens more frequently that a court or some other law applying entity is in a situation when it is necessary to resolve a dispute for which there is not an established legal norm. In such situations, the law applying entity has a possibility to use diverse instruments for filling legal gaps. The first and the main instrument used is analogy. Certainly, other instruments for interpretation are also important for filling legal gaps, and when it is not possible to remove, i.e., to fill the gap in that way, there is also the possibility of potential application of customary rules, and ultimately the creation of a legal norm for a concrete case as well, whereby general legal principles on which entire legal order rests certainly need to be respected.

It has already been mentioned that analogy is the most frequently used method of interpretation when it comes to filling legal gaps. Analogy is also called the interpretation by similarity because it is based on the assumption that if two cases are similar in some important characteristics, then it is inferred that there is similarity in other characteristics as well. In the case of a legal gap, it means that the norm that regulates a certain case will be applied to the other case as well, for which there is no legal norm, based on the similarity between the regulated and legally unregulated case.

When a rule applied to a case in respect of which there is a legal gap is derived from a specific rule already contained in the law, this is the so-called legal analogy. Besides legal, there is also the so-called legal analogy which implies the application of legal principles derived from a series of concrete rules whereby concrete situations are regulated. Accordingly, legal analogy is the application of one norm referring to a certain case and the case in respect of which there is a legal gap, while legal analogy is the application of a general principle to a case that represents a legal gap.

The argument *a contrario* or the reasoning of contrary is also related to analogy. Unlike analogy, through the application of *a contrario* argument, a legal gap is filled in a way so that the contrary norm is to be applied to all the cases that are not encompassed by a norm, to which they are similar. It means that a norm is interpreted through the reasoning of contrary in such a way that if there is a situation represented as a legal gap, and which is similar to the situation encompassed by it, the norm which is either different in the contents of that norm or is of utterly contrary contents, is applied.

In conclusion, a possibility of filling legal gaps with general legal principles ought to be mentioned. It means that it is assumed that even if a legislator has not prescribed a concrete legal norm for a certain situation, that the case can be subsumed into a more general abstract norm, that is, a general legal principle. This practically means that if we start from the position that every case is encompassed by general principles, that there are no legal gaps as all the cases legislator has not especially standardized are subsumed into general legal principles. In the case when a legal gap is filled with a general legal principle which is not strictly contained in law but is derived from several concrete norms, it is actually filling legal gaps by using the so-called legal analogy. When it comes to general legal principles that courts frequently refer to, those are the principle of legality, the principle of the rule of law and others. In any case, regardless of the manner of filling a legal gap by a court, there is a danger that a judge himself acts beyond the boundaries of his jurisdiction while trying to find, that is, create an adequate norm for a case with regard to which there is a gap.



## Book of Proceedings

The main goal of the rule of law is to limit the government authority and bind it in advance through laws so that it does no harm. As a rule, discretionary power is precisely given with the opposite goal: to provide the given government body with appropriate freedom of decision and activity, so that it may do good which is appropriate for each individual case as such, which is, due to its generality that prevents individualization, condemned in advance by law.“ (Čavoški, 2005, p. 88) More precisely, there is a danger that judicial interpretation of rights in such situations escalates into the creation of rights which is again in conflict with some basic legal principles that the entire legal order rests on, such as the principle of legality, the principle of the rule of law, the principle of separation of powers, etc. Therefore, it is important that “courts, through analogy, may introduce a new legal rule, but not new legal force, into the legal system“ (Bagio, 2014, p. 104).

## *CONCLUSION*

The interpretation of law is a necessary and significant stage in the process of the application of law. Without the adequate interpretation of a legal norm, its application is not possible either. The existing instruments and rules of interpretation certainly aim at facilitating the application of law, that is, determining the true meaning of a legal norm. However, there is not a consistent procedure when it comes to the application of the mentioned interpretation methods. The reason for that is that law regulates social relations that are constantly changing, and it is necessary to determine factual state in each concrete case and accordingly, determine the true meaning of a legal norm for that concrete case.

Precisely due to the evident divergence between law and reality, the subject of interpretation needs to have a certain extent of freedom in interpreting legal norms. That freedom is particularly emphasised in the situations representing legal gaps. However, special care should be taken that judicial activity aimed at creating a legal norm for a concrete case does not cross into the free creation of rights in such situations. Too much freedom in the interpretation of laws, especially in the case of a legal gap, leads towards the danger of violating basic principles of the rule of law.

## *REFERENCES*

- Biagio, A. (2014). On the Interpretation of Law and Legal Gaps: A Comparative Overview of the Delicate Trade-Off Between Legal Rules and Judicial Creativity in Louisiana and Italy. In: Tulane European and Civil Law Forum, 29, 101-123.
- Hajek, F. (2002). Pravo, zakonodavstvo i sloboda. JP Službeni list SRJ-CID, Podgorica, Beograd.
- Harašić, Ž. (2009). Dometi sistematskog tumačenja u pravu. U: Zbornik radova Pravnog fakulteta u Splitu, 46(2), 315-335.
- Kelzen, H. (2000). Čista teorija prava. Gutenbergova galaksija, Beograd.
- Kelzen, H. (1951). Opšta teorija prava i države. Arhiv za pravne i društvene nauke, Beograd.
- Lukić, R. (1961). Tumačenje prava. Savremena administracija, Beograd.
- Lukić, R. (1995). Teorija države i prava, II Teorija prava. Zavod za udžbenike i nastavna sredstva, Beograd.
- Lukić, R., Košutić, B. (2005). Uvod u pravo. Pravni fakultet Univerziteta u Beogradu, Beograd.
- Lukić, R. (1974). Uvod u pravo. Naučna knjiga, Beograd.
- Paund, R. (2000). Jurisprudencija, knjiga II. CID, Podgorica.



**Book of Proceedings**

Čavoški, K. (2005). Pravo kao umeće slobode – Ogled o vladavini prava. Službeni glasnik, Beograd.

Visković, N. (2001). Teorija države i prava. Birotehnika, Zagreb.

Vukadinović, G. (2005). Teorija države i prava II. Futura publikacije, Novi Sad.





Book of Proceedings

***WOMEN AND THE ACQUISITION OF THE RIGHT TO  
INDEPENDENTLY UNDERTAKE LEGAL TRANSACTIONS***

*Snežana Prelević Plavšić<sup>1</sup>*

*Živorad Rašević<sup>2</sup>*

*Danijela Despotović<sup>3</sup>*

**ABSTRACT**

*This paper provides a detailed analysis of the legal status of women throughout different epochs, with a focus on the factors that have influenced their legal status, both positively and negatively. Special attention is given to examining the acquisition of women's rights to independently undertake legal transactions and procedural actions, as well as the creation of a legal environment that promotes legal equality. The aim is for women to be fully equal to men and to have the right to all privileges and rights available to them. This paper also focuses on the instrumentalization of the principle of legal equality as a means to achieve this goal. A comprehensive analysis explores how women's legal position has evolved over time and how various social and legal factors have influenced this process.*

**Key words:** *the principle of legal equality, the legal capacity of women*

**JEL Classification:** *K38*

**INTRODUCTION**

The paper examines the concept of legal equality, its historical evolution, and its significance for the rule of law and human rights from the perspective of women's position. Legal equality is a political and social principle that entails treating all individuals equally under the law, regardless of their social status, rights, possessions, or any other relevant characteristic. This principle was proclaimed in the Universal Declaration of Human Rights (UDHR) by the United Nations in 1948, which states that "all human beings are born free and equal in dignity and rights" (The Universal Declaration of Human Rights (UDHR), <https://www.un.org/en/about-us/universal-declaration-of-human-rights> ). The principle of legal equality is considered crucial for the realization of the rule of law and a just legal system.

However, the application of this principle has not always been present and has required long-lasting struggles throughout history. One example is Roman law, upon which continental-European legal systems are based. Roman law encompassed various categories of people who had different legal and business capacities depending on their social status within the family and the empire. There were privileged groups of free inhabitants of the empire, such as Roman citizens and Latins, but also less privileged groups, including peregrini (foreigners), persons alieni iuris (subject to another's authority), women with a particular legal status, individuals under guardianship, and slaves who were treated as objects of law or property of free individuals. Many Roman jurists, such as Gaius, Papinian, Ulpian, and Justinian, wrote about these categories of people.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, snezaprelevic@yahoo.com

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, rasevic71@gmail.com

<sup>3</sup> Faculty of Law for Commerce and Judiciary, University Business Academy, Novi Sad, danijelamnikolic@gmail.com



## Book of Proceedings

During the Roman Empire, women were particularly discriminated against in terms of their legal capacity. They were under the tutelage (tutela) or guardianship (manus) of a man, usually their father or husband, who had the right to manage their property and represent their interests. Their legal capacity was limited compared to men, so they had fewer opportunities to enter into contracts, inherit property, initiate legal proceedings, or testify in court. This is evidenced by the following quote from Justinian's Digest: "Women cannot be plaintiffs or defendants without a legal representative" (Justinian, [https://droitromain.univ-grenoble-alpes.fr/Anglica/D3\\_Scott.htm#I](https://droitromain.univ-grenoble-alpes.fr/Anglica/D3_Scott.htm#I) ).

Today, the concept of equality before the law is understood more broadly than formal equality, which only entails the prohibition of direct discrimination. It also includes protection against hidden (indirect or systemic) discrimination, which occurs when certain conditions or criteria are imposed on a group of people that put them at a disadvantage compared to other groups. Additionally, the concept of equality before the law encompasses affirmative measures aimed at improving the position of marginalized or vulnerable groups in society. In this way, the aim is to achieve not only formal but also substantive or material equality before the law. Many contemporary authors, such as Rawls, Dworkin, Sen, and Nussbaum, have written about these aspects of equality (Rawls, 1971; Dworkin, 2000; Sen, 2009; Nussbaum, 2011).

From the above, it can be concluded that the concept of legal equality is dynamic and evolves in line with changes in society and the legal system. It represents one of the fundamental principles of the rule of law and human rights, which requires constant attention and monitoring to ensure its respect and implementation in practice.

### ***THE LEGAL STATUS OF WOMEN IN ANCIENT TIMES***

In primitive societies, women were highly valued and respected primarily for their naturally predetermined and indispensable role in the continuation of the species. With the discovery of the principles underlying reproduction, the domination of men begins, and the social role of women is reduced to a biological one - childbirth (Vezel, 1983).

One of the earliest legal codes in the ancient Near East that regulated the position of women was the Sumerian Code of Ur-Nammu, considered the oldest preserved legal code in history and the first code of cuneiform law. The Code of Ur-Nammu was established either by the Sumerian ruler Ur-Nammu, the founder of the Third Dynasty of Ur, or his son Shulgi, around 2050 BCE. In certain provisions of the Code, women are described as dark spirits and wanton mistresses, exclusively burdened with punishable acts of adultery and black magic (Festic, 1998). This code is preserved on clay tablets that are currently housed in the Louvre Museum in France.

The Code of Hammurabi (created in the final decades of Hammurabi's rule) recognizes women's legal and business capacity. A woman could receive fields, gardens, and houses as gifts that her descendants could not dispute even after her husband's death. Female children were also equal to males in terms of inheritance. However, women were under considerable authority of their husbands (Code of Hammurabi, <http://ucionicaistorije.files.wordpress.com/2011/11/d185d0b0d0bcd183d180d0b0d0b1d0b8d198d0b5d0b2-d0b7d0b0d0bad0bed0bdd0b8d0ba.pdf> ). This code is one of the most well-known sources for studying the position of women in the ancient Near East.

In ancient times, women in Egypt held a high position and rights in society. They were equal to men before the law and had the ability to manage their own property, choose their partners, and divorce at will. Their position did not change upon entering marriage. They retained their surnames and could enter into a contract for cohabitation before marriage. Such freedom and independence were unusual in the ancient world and caused astonishment among the Greeks who visited Egypt. Matić (2011) states that "Herodotus was scandalized by the rights enjoyed by Egyptian women" (p. 313).



## Book of Proceedings

Women in Egypt were also able to hold high positions in the state and religion. Several women became pharaohs, military commanders, viziers, scribes, and high priestesses. Among them were Ahotep, who unified Egypt and defended it against the Hyksos, Hatshepsut, who built numerous temples and expanded trade, Tuya, who had great influence at the court of her son Ramesses II, and Nebet, who served as a vizier and judge. Matić (2011) emphasizes that "Egyptian women, three millennia ago, could be pharaohs, military commanders, viziers, scribes, and high priestesses" (pp. 314-315).

Women in Egypt were valued and respected for their role in the family and society. They were responsible for household chores, child-rearing, and maintaining ancestral worship. They also participated in trade, crafts, and agriculture. Egyptian women were educated and could read and write hieroglyphs. They engaged in arts, music, and dance and enjoyed entertainment and leisure. They dressed beautifully and adorned themselves with jewelry and cosmetics. They took pride in their beauty and dignity. Matić (2011) describes that "Women in Egypt were educated and literate... They engaged in arts... They dressed beautifully..." (pp. 316-317).

Under the influence of Greek civilization and later Christianity, Egyptian women gradually lost their rights. Ptolemy Philopator (221-205 BCE) reduced the position of Egyptian women to that of Greek women, imposing a guardian for every legal transaction. Thus, equality between men and women in the land of the pharaohs disappeared, which was one of the fundamental values of this civilization that has not been achieved in any country in the world until World War I, or to this day when it comes to the spiritual sphere, considering that positions such as Pope, Patriarch, Rabbi, Imam, and even ordinary priests are exclusively male, unlike Egyptian women who could hold the position of high priestess just like men. Although Egypt had developed trade with Mediterranean countries, unfortunately, the Egyptian society where women had an exceptional position did not have a decisive influence on the development of Western civilization as the ideas of ancient Greeks did, which became the foundation of European modern thought through Rome and later Byzantium, since it took twenty centuries to decipher and translate the Egyptian script.

In ancient Greece, despite many ideas that led to the progress of civilization, the position of women was rather unfavorable. Instead of women, decisions were made by the father (kirios) or brother, and later by the husband or legal guardian who took care of her and represented her interests. Unlike women in Egypt, Greek women did not choose their own husbands, nor did they have an equal position in marriage. They had no property of their own, lacked inheritance rights, the right to vote, or any influence in public and political life. A husband could divorce his wife without significant cause, in which case she would only retain her dowry.

The right to vote in ancient Athens was a privilege for a small number of people. Only adult men who were wealthy and born in Athens could participate in decision-making. Other segments of the population, such as women, children, slaves, and foreigners, were excluded from political life. Solon's laws from the 6th century BCE regulated the rights and duties of citizens but treated women only as members of the family (Obrenić, 2014, p. 26). For example, women could not inherit property or divorce their husbands without their consent. They were also not allowed to be witnesses in court or sue someone for injustice.

Women in ancient Athens had no role in public life. Their task was to take care of the household and children, especially daughters who had to learn how to be good wives and mothers. They had no access to education or culture, as it was believed that they lacked the capacity for philosophy and art. Most philosophers despised them and considered them inferior to men. However, there were those who had a different opinion. Socrates conversed with women in public places and valued their wisdom. Plato advocated for gender equality and argued that women could be rulers if they were educated like men. Pythagoras also accepted women in his school and taught them mathematics and music (Radović, 2006, p. 587). Therefore, women in ancient Athens were not completely ignored, but they had very limited rights and opportunities. For example, one of the few women who stood out in public was Aspasia, the mistress and advisor of Pericles, who was the most powerful politician in Athens. She was known for her eloquence and intelligence and influenced many philosophers and statesmen.

In the works of Greek writers, women are described as faithful wives and devoted mothers. Greek tragedies, developed from the cult of the god Dionysus, present a gallery of female characters. It is believed



## Book of Proceedings

that Euripides was the first to raise the question of women's emancipation and introduced moral conflicts due to gender differences into poetry. However, the famous Dionysian theater was intended exclusively for men, and male actors with masks played the female roles of Aeschylus, Sophocles, and Euripides (Atanasijević, 2019, pp. 86-105). There are opinions (Kito, Morus) that Athenian women could also attend the theater. Such conclusions are drawn indirectly, through the interpretation of Plato's critique of poetry, Aristophanes' *Frogs*, and others (Kito, H. D. F., 1963, p. 283).

Aristotle, whom some sociologists refer to as the founder of patriarchal theory, advocated the view that men and women have different abilities that predispose them to different roles - the former to rule and the latter to submit.

Athens was the cultural center of the ancient world but did not provide women with the opportunity for quality institutional education. Their position was almost servile, although the city was named after Athena, the goddess of wisdom and art, the protector of rights and justice. Many monuments on the Acropolis testify to her influence and respect. However, the most educated class of women in Athens were hetairai, who were free and independent of men. They despised marriage and were the only women allowed to engage in extramarital sexual relationships. Hetairai were educated in so-called "schools for courtesans," where they learned about philosophy, literature, music, and art. They provided not only sexual pleasures but also entertainment and intellectual experiences to their clients. Some of them were more famous for their philosophical debates than for their sexual services. Many famous figures from the ancient world were associated with hetairai, such as Themistocles, Demosthenes, Herodotus, Pericles, Sophocles, Alexander the Great, Ptolemy I, and Ptolemy II (Dunderski, 2003, pp. 29-30). Statues of hetairai adorned public buildings, and temples were erected in their honor. One of the most famous hetairai was Phryne, who served as a model for Praxiteles' sculpture of the Knidian Aphrodite (4th century BCE). This statue marked the beginning of a new era in the depiction of not only the male but also the female body.

Although Hellenic women did not enjoy political rights nor were they recognized as citizens, their status and social position varied from polis to polis. In the context of women's roles in ancient Greece, Spartan women had a certain privilege compared to Athenian women. In Sparta, women were granted greater autonomy and the opportunity for education in physical skills, which was uncommon in other Greek city-states.

Spartan women were trained in athletic disciplines and military skills from an early age. This type of education aimed at creating physically strong and war-capable individuals, both men and women. Although it was not their primary role, Spartan women were prepared to support and contribute to the war efforts of the Spartan state and could even replace their spouses on the battlefield if necessary.

In Sparta, there was a training system called the "agoge," which involved strict military discipline and education for young Spartans. This training system was also available to Spartan women, which was exceptional in ancient society. Lycurgus, the legislator of the Spartan state in the 9th century BCE, implemented a series of laws aimed at preventing the segregation and passivity of women, encouraging their participation in public life and military training.

However, it should be noted that the views of Aristotle, an influential ancient philosopher, reflected a contrasting perspective on the role of women in society. He believed that excessive freedom and the role of women in public life could lead to the disintegration and instability of society. Aristotle supported traditional gender-specific roles in which women were subordinate to men.

In Roman law, which had a significant influence on European continental legal systems, women were *de iure* considered subjects of rights. However, *de facto*, women were often subordinate and held the status of *person alieni iuris*, that is, persons under someone else's authority, either the head of the household (*pater familias*) or the husband (in the case of marriage with *manus*). Within the family, a woman held the position of a daughter (*filiae loco*). If she was not under her father's authority, married, or divorced, a woman required the consent of a tutor for any legal transaction until 41 or 54 CE when the *Lex Claudia* abolished *tutelage* for all female citizens of Rome, except freedwomen.

A woman's entry into marriage occurred with the consent of the *pater familias*, usually when the woman reached adulthood, around the age of twelve, which aligned with the onset of the reproductive



## Book of Proceedings

period. The primary role of a woman in society was to be a good mother and a faithful wife dedicated to the family. Therefore, women's education was often neglected, and their legal status did not allow for their inclusion in the public sphere. There are no sources indicating that any woman professionally practiced law or studied law.

As recorded in the saying attributed to Cato, "If you allow them to be equal to men, do you think they will be satisfied? As soon as they are equal to us, they will become our rulers!" (Cato according to Bogunović, 2012, p. 539), there was a fear that women's equality with men would lead to their assumption of power. This attitude reflects the patriarchal culture and stereotypical gender roles present in Roman society at that time.

The myth of the Roman woman is deeply rooted in the legend of the founding of Rome. According to mythology, the Vestal Virgin Rhea Silvia gave birth to divine twins, Romulus and Remus, who were later found and nursed by a she-wolf, enabling their survival. In Roman mythology, the goddess Justitia was revered as the personification of justice and righteousness. Interestingly, similar to ancient Greece, a female deity symbolizes justice while women often suffered injustices in everyday life.

In the history of the Roman Empire, there was never a woman at the helm of power, except for Galla Placidia, who served as regent for her son and ruled over the Western Roman Empire for twelve years (first half of the 5th century CE). Galla Placidia was the daughter of the Roman Emperor Theodosius I and his second wife, Galla. Her case represents an exception in historical context, as men dominated the political arena of the Roman Empire.

In Roman society, matrons (*mater familias*) held an exceptionally important legal status. They were women who were heads of households and had significant responsibility in managing the household and overseeing property. Legally speaking, a matron was *sui iuris*, meaning she was an independent legal person capable of conducting legal actions and entering into contracts. She had the right to own property, manage it, acquire and transfer property rights, as well as engage in legal transactions.

On the other hand, the Vestal Virgins were members of a highly respected priestly community dedicated to the goddess Vesta, the protector of the hearth and home. Since obtaining fire was difficult in primitive communities, it was necessary to keep it in one place, where the flame would burn constantly. They were obligated to vow their virginity and dedicate themselves to serving the goddess. Legally speaking, the Vestal Virgins were *sui iuris* and had complete legal capacity. They were not under paternal authority and were not assigned guardians. However, their lives were under strict supervision of the Pontifex Maximus, who had the power to impose punishments, including the death penalty, for their improper behavior or violation of the vow of virginity.

These data indicate the complexity of the legal status and social role of Roman women. Matrons had a significant legal position as heads of households, while the Vestal Virgins, although emancipated, had to adhere to strict rules and vows as priestesses. Both of these statuses reflect specific aspects of Roman legal and religious tradition.

The role of the Vestal Virgins in Roman society had significant political and social implications, as evidenced by their privileges and active participation in public events. The Vestal Virgins possessed certain privileges that allowed them to influence political decisions and the legal sphere of Rome. For example, they had the right to overturn the decisions of magistrates through intercession, the ability to save condemned individuals from execution, and the responsibility of safeguarding important legal documents.

There are several historical cases that illustrate the political role of the Vestal Virgins. During Sulla's dictatorship, the Vestal Virgins saved the life of young Julius Caesar. They also intervened to secure the pardon of Messalina, the wife of Emperor Claudius, who had been sentenced to hanging for her inappropriate behavior. During the empire, Emperor Vitellius entrusted a written message to the priestesses, which was intended to reach Vespasian's generals. The inclusion of the Vestal Virgins in the delegation that negotiated with Septimius Severus during the military coup in 193 AD also highlights their active role in political events.

It is important to note that these are examples documented in historical sources. They illustrate that the Vestal Virgins had access to the political and legal life of Rome, and they had the ability to influence





## Book of Proceedings

certain decisions. It is also mentioned that Julius Caesar even entrusted his will to the Vestal Virgins shortly before his death, which became a common practice after the reign of Emperor Augustus. The presented information demonstrates that the Vestal Virgins had a significant political role and authority within the Roman state.

Some Roman women decided not to accept the traditional role that society imposed on them and sought active participation in political life. Although they were limited by legal instruments, they used their social influence and manipulation to achieve political goals. Agrippina the Younger, the daughter of Germanicus and Agrippina the Elder, was one of the most influential figures in Roman politics during the first century of the Principate. She was an ambitious and capable woman who used her influence to secure powerful positions for herself and pursue her political interests.

The ideal behavior of Roman women was directed towards virtue, morality, loyalty, and obedience, and their role was expected to revolve around supporting their husbands and raising a family. However, there are examples of women who managed to rise above these traditional expectations and achieve significant social influence. Cornelia, the wife of Tiberius Gracchus and mother of the famous Gaius and Tiberius Gracchus, was an educated and intelligent woman who had political influence and made independent decisions. She was respected not only for her role as a mother and wife but also for her personal achievements and abilities.

Inheriting the imperial title in Rome had a significant impact on the role of princesses and their position in society. Marriage to a princeps' daughter was of great importance as it often meant the transmission of the imperial title to the offspring. Therefore, members of ruling families often intermarried to ensure the continuity of rule.

Livia Drusilla, the second wife of Augustus, played a significant role in the political life of that era. However, her character is surrounded by controversies. There are accusations that she was involved in the murder of some family members, including the children of her previous husband Mark Antony. Although the claims are insufficiently proven, there is speculation that she even poisoned her husband Octavian with figs. Livia had a strong influence on her husband's political decisions and served as his advisor. Due to her abilities and intelligence, she was respected and held the title of Augusta, which represented a novelty in Roman political life and was equivalent to the title *Pater Patriae*.

Livias' influence and her role as an advisor to Augustus serve as an example of a woman who managed to achieve significant political influence in Rome. In addition to her extraordinary beauty, Livia was intelligent, capable, and sharp-witted. Although her character and actions are considered controversial, it is undeniable that she played an important role in the political life of that era.

The position of women in ancient Slavic families is a topic that is poorly documented in historical sources, making it difficult for a more detailed study. However, there are certain customs and practices that provide us with insight into their position.

According to the oldest custom of Slavic pagan tribes, the abduction of a girl was a form of marriage agreement. This practice replaced the custom of bride purchase. From this, we can conclude that the woman's will to enter into marriage did not have a significant influence (Nikolić, 2000, pp. 174-175).

Slavic families were governed by a patriarchal structure, but the influence of the heads of the households on its members was not as pronounced as in ancient Rome. Nevertheless, women, as was common in most societies of the Ancient Era, were excluded from inheritance (Nikolić, 2000, p. 177). This opinion arose from the belief that men were the ones who fought for new territorial expansions and cultivated the land. Therefore, granting inheritance rights to women would mean transferring land to members of other families through marriage.

These facts indicate that Slavic women were limited in their rights and status, particularly regarding inheritance and decision-making in marriage. However, it should be noted that these conclusions are based on a limited number of available sources.

The role of women in the Ancient Era, particularly from a legal and business perspective, was mostly limited to the traditional roles of mother and wife. Restrictions applied to political life, education, and legal





## Book of Proceedings

autonomy. Legal sources indicate that women were often excluded from political life and had very limited educational opportunities.

One of the key limitations was the subordinate position of women to men, as well as the legal practice that often excluded women from inheritance, transferring property and inheritance solely to male heirs. Despite this, there are known examples of women who managed to stand out and achieve greater independence and influence. Pharaohs like Hatshepsut and Cleopatra in Egypt not only ruled independently but also displayed exceptional political power. However, most women who did not have access to the throne sought to exert influence through their sons or husbands.

The Byzantine Empress Theodora, a former circus performer and courtesan, married Prince Justinian, later the emperor, and actively participated in politics. Theodora advocated for changes in the legal framework concerning women, and her support for the enactment of laws recognizing women's rights to property, inheritance, and divorce contributed to the improvement of women's legal status at that time (Matotek, <http://povijest.net/2018/?p=1456>).

It is important to emphasize that, despite exceptions, the role of women in the Ancient Era was limited to traditional parental and marital roles, with few legal or business opportunities for independent decision-making. Legal sources provide insight into these limitations and the challenges women faced during that time.

### ***THE LEGAL STATUS OF WOMEN IN THE MIDDLE AGES***

The Middle Ages, often described as a dark period in human history, was characterized by the strong influence of the Church. Education was inaccessible to the majority of the population, leading to easy acceptance of the dogmas of the clergy. The clergy held a high social position and was almost the sole source of education during that time. In contrast to the ancient period, which valued the body and sexuality, the Middle Ages expressed contempt for the body, especially the female body, considering it susceptible to the influence of evil and the devil.

The development of cities and the emergence of new job opportunities somewhat contributed to the emancipation of women during that time, although there was no equality in terms of rights and rewards compared to men. For example, inheritance rights often favored male heirs, while women were excluded from inheriting property or were limited to certain forms of inheritance. In addition, women were often deprived of the right to education, political participation, and ownership of property (Kruks, 1995). Certain freedoms, albeit not in the sense of modern civil liberties, were enjoyed by noblewomen and a narrow circle of privileged women. However, women from the middle and lower classes still remained under strong patriarchal influence.

Legal sources from that period indicate that women were legally subordinate to men, and their legal status was often significantly limited. In many legal systems, patriarchal authority prevailed, and women were deprived of property inheritance rights or had limited opportunities to acquire or retain property. Additionally, the legal framework did not provide equal opportunities for education and professional development for women, depriving them of participation in broader social and political life.

In the realm of legal proceedings, women faced challenges. They were often excluded from participating in legal matters and were not considered reliable witnesses in court. In some cases, women were unable to act as legal guardians or representatives and were subject to the authority and decisions of male family members or guardians.

In the 12th century, influenced by the Church, the marriage ceremony began to be performed publicly, and the consent of both partners was sought, aiming to solidify the social position and importance of marriage. This development indicates some progress in recognizing the will and involvement of women in the process of marriage. The practice of arranged marriages was common, and divorce was usually difficult for women, while men had more flexibility in ending marriages.



## Book of Proceedings

On the other hand, prostitution thrived during that period, and the failure of certain rulers to suppress this phenomenon led Saint Augustine to conclude that the suppression of prostitution would lead to the corrupting of society due to lustful desires (Lewinsohn, 1959, p. 150). In response to this issue, brothels were established under the patronage of the Church in some regions.

Certain documents relating to financial reports of the Templars reveal that there were thirty thousand prostitutes to support during one year (Lewinsohn, 1959, p. 150). These data reflect the widespread prevalence of prostitution during that period and indicate that this practice was common and supported by certain social groups.

However, the Inquisition was not interested in the sinners in brothels or the honorable citizens who visited them; their focus was on women accused of making pacts with the devil. In the fourteenth and fifteenth centuries, with church and papal blessings, the witch-hunt began across Europe and reached its peak in the sixteenth and seventeenth centuries. With the enactment of laws in 1532 during the reign of Emperor Charles V, the witch-hunt gained its legal framework and fell under the jurisdiction of the state.

There is no definitive explanation for this mass persecution, which many consider to be one of the greatest crimes against women (80-90% of those persecuted and convicted were women). In addition to preexisting phenomena such as mental illness, drug use, and ancient beliefs, the reasons can be found in the knowledge possessed by certain women in the fields of medicine and contraception, the negative attitude of educated doctors towards folk medicine, midwives, and other healers, as well as accusations that women were "responsible" for crop failures, livestock problems, disasters, illnesses, and deaths. Some also believe that the sexual fantasies of celibate church inquisitors played a role in this illogical and cruel approach to justice (Küng, 2005, pp. 74-75).

On the other hand, paradoxically, women found the greatest freedom of development within the walls of monasteries. In aristocratic circles, monasteries provided women with refuge from unwanted marriages and pregnancies, or the decision to enter a monastery was motivated by a desire to preserve family wealth. For women of lower social status, monasteries offered an escape from poverty and social exclusion. Entering a monastery did not necessarily mean severing family ties, and through the cultivation of physical and spiritual purity, women were granted greater respect and prestige in society. Mastering the skills of reading and writing allowed the nuns to have their voices heard beyond the monastery walls.

The monastery environment provided women with a secure space for personal and spiritual development. They had the opportunity to dedicate themselves to intellectual progress, express their thoughts, record their experiences, and even contribute to the cultural heritage of that time.

It is important to note that this freedom of development was confined within the framework of the monastery, where women still adhered to strict rules of monastic life. However, compared to other social contexts of that time, the monastery offered women more room for independence, education, and self-expression than they had in the secular world (Patsavos, 2017).

Despite social limitations, the Middle Ages saw the emergence of women whose ambitions surpassed the traditional roles of motherhood and homemaking imposed by society. One remarkable example is Trotula, the founder of the first medieval center for scientific research outside the influence of the Church. Trotula de Ruggiero was an exceptionally renowned and recognized physician of her time and beyond.

Trotula gained a reputation as one of the most esteemed medical experts of her era. Her work "Mulieres Salernitanae" (Women of Salerno) was significant and made a valuable contribution to medical science. This book covered various medical topics, including gynecology, pediatrics, and general medicine, and was recognized as an authoritative source of knowledge at that time (Tuttle, 1976, pp. 61-71).

It is important to emphasize that Trotula's work and achievements garnered attention and recognition in the medical world, acknowledging her expertise and knowledge. Her work is also a testament to the potential of women to rise above societal limitations and achieve extraordinary success in their fields of interest.



**Book of Proceedings**

***CONCLUSION***

In the 17th and 18th centuries, Europe faced a transition from a feudal to a capitalist order. One of the key challenges during this period was the conservative legal system that hindered changes and adaptation to new social circumstances. To overcome these obstacles, there was a revival of ancient thought about the existence of enduring natural rights, known as "ius naturales," which are considered universal rights belonging to all human beings (Weston, <https://www.britannica.com/topic/human-rights/Natural-law-transformed-into-natural-rights>).

Under the influence of rationalist philosophers such as Descartes, Bacon, and Hobbes, modern natural law theorists developed the concept of natural rights, but with a crucial difference from previous theories. Instead of basing natural rights on the givenness of nature (as argued by Aristotle, Cicero, Gaius, and Ulpian) or as a divine gift (as preached by Thomas Aquinas), natural law theorists emphasized that these rights are found in human reason, specifically in the capacity for thinking and reasoning (ratio) (Stroll et al., <https://www.britannica.com/topic/Western-philosophy/Philosophy-of-nature>).

According to philosophers like Hugo Grotius, Samuel Pufendorf, Charles Montesquieu, Jean-Jacques Rousseau, and Jean Domat, in order to achieve equality before the law, the law must be based on written reason, on principles and rules that are clearly defined and applicable to all (Straumann, 2015). This concept of a legal system grounded in human reason as the basis for the recognition and protection of natural rights represents a crucial point in the development of modern legal thought.

The development of the concept of natural rights and written reason, as emphasized by natural law theorists, had a significant impact on the legal status of women.

Previous society often imposed traditional roles of motherhood and homemaking on women, resulting in their limited rights and social exclusion. However, the idea of universal natural rights belonging to all human beings, including women, sparked a redefinition of their legal status.

The concept of equality before the law, based on human reason, opened up discussions about women's rights and their equality with men. The understanding that natural rights are inherent to all individuals, regardless of gender, empowered the women's rights movement and the fight for their recognition.

Mastering the skills of reading and writing, which became more accessible to women through educational reforms inspired by the concept of natural rights and reason, allowed nuns and other educated women to have their voices heard beyond the confines of the monastery. This contributed to greater respect and prestige for women in society and paved the way for further emancipation.

However, it is important to note that despite these theoretical efforts, the actual legal status of women in practice did not always reflect the principles of natural rights and equality. Limitations and prejudices against women still persisted, and progress was gradual and faced resistance from traditional norms.

In any case, the concept of natural rights and written reason had a significant impact on empowering women and developing their legal status during the 17th and 18th centuries, laying the foundation for further reforms and the fight for gender equality in the centuries to come.

Ideas of human rights and equality before the law gradually expanded legal systems and led to the recognition of women's rights to engage in legal actions and proceedings independently, as well as rights that were previously reserved for men, such as property rights. This process is the result of the evolution of legal norms and efforts to achieve equal rights and justice for all members of society. Through legal reforms and the struggle for gender equality, women have gradually gained access to legal autonomy and the ability to make legal decisions regardless of their gender, which represents an important step toward achieving equality and fairness in society.



Book of Proceedings

**REFERENCES**

- Atanasijević, K. (2019). *Žene u Euripidovim tragedijama, Žene u Eshilovim i Sofoklovim tragedijama. Etika Feminizma, Oglеди br. 11*. Helsinški odbor za ljudska prava, Beograd.
- Barrett, A. (1996). *Agrippina, Sex, Power and Politics in Early Empire*. London.
- Bogunović, M. (2012). *Žena u rimskom pravu – subjekt ili objekt prava? Zbornik radova Pravnog fakulteta*, Novi Sad, 46(2), 539-550.
- Bujkulić, Ž. (2009). *Forum romanum, rimska država, pravo, religija i mitovi*. Pravni fakultet u Beogradu.
- Dixon, S. (2007). *Cornelia, Mother of Gracii*. Routledge, London.
- Dunderski, S. (2003). *Svetlo u tami pedagoškog maskulinuma (shvatanja o vaspitanju žena u pedagoškim učenjima u prošlosti)*. Tampograf, Novi Sad.
- Dworkin, R. (2000). *Sovereign Virtue: The Theory and Practice of Equality*. Harvard University Press, Cambridge.
- Festić, R. (1998). *Stari kodeksi, Editio Iuristica*. Vijeće postdiplomskog studija Pravnog fakulteta, Sarajevo.
- Hamurabijev zakonik. Available at:  
<http://ucionicaistorije.files.wordpress.com/2011/11/d185d0b0d0bcd183d180d0b0d0b1d0b8d198d0b5d0b2-d0b7d0b0d0bad0bed0bdd0b8d0ba.pdf>,
- Huseinspahić, A. (2011). *Tutela mulierum i pravni položaj žene u starom vijeku. Anali Pravnog fakulteta Univerziteta u Zenici*, 4(8), 201-234.
- Justinijan, *Digesta*, knjiga 3, naslov 1, zakon 1. [https://droitromain.univ-grenoble-alpes.fr/Anglica/D3\\_Scott.htm#I](https://droitromain.univ-grenoble-alpes.fr/Anglica/D3_Scott.htm#I)
- Kito, H. D. F. (1963). *Grci*. Matica Srpska, Novi Sad,
- Kruks, S. (1995). *Law and the Sexes in the Middle Ages*. Cambridge University Press.
- Küng, H. (2005). *Women in Christianity*. Continuum Press, London.
- Lewinsohn, R. (1959). *Historija seksualnosti. Zora/Naprijed*, Zagreb.
- Matić, M. (2011). *Položaj žene u starom Egiptu. Strani pravni život* 55(3), 311-319.
- Matotek, V. (2018). *Prava žena kroz povijest*. <http://povijest.net/2018/?p=1456> ,
- Nikolić, D. (2000). *Drevnorusko slovensko pravo, drugo izdanje*. Beograd, Službeni list.
- Nussbaum, M. (2011). *Creating Capabilities: The Human Development Approach*. Harvard University Press, Cambridge.
- Obrenić, D. (2014). *Pravo glasa žena, Neko je rekao feminizam?, Kako je feminizam uticao na žene XXI veka*, Heinrich Böll Stiftung, Regionalna kancelarija za Jugoistočnu Evropu, Novi Sad.
- Patsavos, L. (2017). *Women and the Early Church*. In *The Oxford Handbook of Early Christian Archaeology*, Oxford University Press, 518-533.
- Peyre, H. (1949). *The Influence of Eighteenth Century Ideas on the French Revolution. Journal of the History of Ideas*, 10(1), 63–87.
- Radović, V. (2006). *Pedagoška i filozofska misao o ženi i vaspitanju ženske dece od antičke Grčke do početka 20. veka. Pedagoška stvarnost*, 52(7-8).
- Rawls, J. (1971). *A Theory of Justice*. Harvard University Press, Cambridge.



**Book of Proceedings**

Romac, A. (1973). Izvori rimskog prava. Pravni fakultet u Zagrebu.

Sen, A. (2009). The Idea of Justice. Harvard University Press, Cambridge.

Straumann, B. (2015). Roman Law in the State of Nature. Cambridge University Press.

Stroll, A., William Levi, A., Wolin, R. Philosophy of nature. <https://www.britannica.com/topic/Western-philosophy/Philosophy-of-nature>,

The Universal Declaration of Human Rights (UDHR). <https://www.un.org/en/about-us/universal-declaration-of-human-rights>,

Tuttle, E. F. (1976). The „Trotula“ and old dame trot: a note on the lady of Salerno. *Bulletin of the History of Medicine*, 50(1), 61-71.

Vezel, U. (1983). Mit o matrijarhatu. Prosveta, Beograd.

Weston, B. Natural law transformed into natural rights. <https://www.britannica.com/topic/human-rights/Natural-law-transformed-into-natural-rights>.



Book of Proceedings

***INFLUENCE OF POLITICAL RISK AND COUNTRY RISK ON  
THE CAPITAL ALLOCATION OF INSURANCE COMPANIES***

*Marija Lukić<sup>1</sup>  
Tatjana Piljan<sup>2</sup>*

***ABSTRACT***

*The subject of this paper is the analysis of the influence of political risk and country risk on the capital allocation of insurance companies. The goal of the work is to find key problems in the domain of capital allocation of insurance companies, as well as possible ways to overcome them, using special methods and techniques that are concrete, applicable, and verified. The aim of the paper is to highlight the importance of the role of country risk and political risk on capital allocation and to explain how risks are overcome in the International Business System of insurance companies. Insurance companies represent a very important part of the financial system and their role in the economic development of the country is very important. The specialty of these institutions is in the collection of income in advance, on the basis of premiums collected, but also on the basis of the funds they placed on the capital market. Investors who have an important influence on the financial system, especially institutional investors, are primarily insurance companies. In fulfilling their obligations, insurance companies accumulate financial assets and place them on the financial market for the purpose of creating new value, for the owners, but also for society as a whole. Insurance companies influence important components in the economy of every country.*

**Key words:** *insurance companies, capital allocation, political risk, country risk, financial system.*

**JEL Classification:** *G22, G23, C88*

***INTRODUCTION***

The issue of capital allocation of an insurance company is closely related to the concept of "capital adequacy". An insurance company is expected to be confident in providing protection and security to the insured. This is achieved by ensuring the prescribed margin of solvency by law, with the simultaneous aspiration to satisfy the interest of clients, i.e. shareholders by enabling the growth of the value of the shares themselves. A higher capital requirement reduces the possibility of insolvency, but also the interest in investing in an insurance company. For the above reasons, it is important to take into consideration exactly how the costs related to owning personal capital should be allocated to individual types of insurance. The assessment of the value of the company's personal capital, intended for each individual business line or project that the company undertakes, is capital allocation.

The paper discusses the role of capital allocation in relation to the maximization of value for the shareholders of an insurance company. Special attention is paid to the concept of "capital-returns", within which the risk-adjusted return on capital (RAROC) and the economic value added (EVA) appear as a strong basis for making management decisions. ) financial and non-financial companies.

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, marija.lukic@vspep.edu.rs

<sup>2</sup> Higher Business School of Vocational Studies "Prof. dr. Radomir Bojković" Kruševac, Srbija, tatjana.piljan@visokaposlovnaskola.edu.rs





## Book of Proceedings

Given the multiple role of insurance companies on the development and state of the national economy and the need to protect the interests of policyholders as much as possible, certain solvency standards have been established. Through the analysis of the problems of capital allocation of insurance companies, the theoretical assumptions have been answered to the question of how capital allocation problems can be overcome and how they can be improved. By neutralizing the real from the expected risk realizations by the company, an additional amount of funds is required in the form of a solvency margin as a guaranteed fulfillment of the insurance company's obligation.

Taking into account the highly expressed specificity of the research subject through the processing of literature in the work, the following were used: analysis, comparative analysis, synthesis, deduction, induction, actuarial approach and methods of data collection (methods of document analysis).

Globalization has brought about a change in the economic environment, which has also led to a change in the roles of economic entities. Globalization affects the creation of a unique world system in which the most significant function belongs to insurance companies, which are bearers of investment and financial functions in the global market. The exposed problem of capital transfer of insurance companies aims to maximize returns while minimizing the risk of investment projects. What is particularly emphasized is the influence of country risk and political risk in the decision-making process on international investment. Taking into account country risk and political risk is equally important, both for potential investors and for the countries to which the capital is allocated, because in addition to the fact that by placing funds, insurance companies will have the opportunity to make a profit, a much more important side of international investment, from the aspect of potential of the host countries, is contained in the attractiveness of the country suitable for foreign investors, because the economic progress of the country is in the increase of the degree of investment, financial and economic functions that it achieves.

Domestic economies, driven by the creation of high rates of economic growth and rapid economic development, have led to the emergence of a new category called globalization. There is no universal definition of globalization, but considering those that exist, each one can be attributed to its focus and concentration on one or fewer aspects that it covers. Globalization represents the intensification and dynamization of social and economic relations beyond state borders, which results in increasing and closely related mutual influences of global and local events (Beker, 2005). When we say globalization, we mean the process that affects the connection and intensification of the cooperation between economic entities at the world level, which aims to improve the performance of companies. The aspect from the economic side in terms of globalization implies free markets and liberalism in economic science with a minimized function of the state, i.e. economic policy in the sense of regulating freely formed, flawlessly functioning market mechanisms, whereby this phenomenon is supported by three basic institutional pillars in the international economy, namely the International Monetary Fund (IMF), the International Bank for Reconstruction and Development (IBRD) and the World Bank trade organization (WTO). The emergence of globalization caused a change in the existing economic environment, which led to a change in the functions of economic entities. Due to the emergence and development of globalization, which aims to generate a single world system, insurance companies play the most important role as bearers of investment and financial activities on the global market. Those companies operate in a large number of countries and manage and control production, which takes place in those countries, where there is a parent company that realizes ownership and therefore control over the operations of its affiliates.

Insurance companies have a justified role as financial and institutional carriers, because globalization is the international integration of goods, technologies, labor and capital, and these companies, due to their size and organizational structure, volume of business and amount of capital, to the greatest extent meet the conditions for the transfer of goods, labor, technology and capital to be highly efficient. These companies were created due to the existence of market imperfections in the national markets of products, factors of production and financial markets and they look at market imperfections and mistakes as opportunities to make a profit in all national markets where these imperfections are present. One of the key questions for every insurance company is, which is the most relevant investment alternative to which the company should strive to adhere, and on the basis of which the capital will be used most productively.



**Book of Proceedings**

***INTERNATIONAL ASSESSMENT OF CAPITAL ALLOCATION***

Less developed or underdeveloped countries in the conditions of globalization, due to low productivity and underdevelopment of the economy, are dependent on international financial institutions and large world companies, which are in the role of investors or creditors. With these funds, the growth and development of these economies occurs, while on the other hand, insurance companies also realize certain benefits. Insurance companies, in order to avoid political control in the home country, establish their headquarters in countries where financial and fiscal control is very liberal. But, if this is not the case, then investors decide to allocate capital to a specific country through the establishment of their branches in order to make a profit. As we talk about the investment and business of companies in the modern globalized environment, which has a high degree of risk and the possibility of crises, then we should not ignore the fact that in the last few years there has been a visible decrease in the volume of international investments, which is explained by the decrease in the ability of insurance companies to invest due to the drop in profits, frequent impairment of liquidity and significantly higher capital prices, which was influenced by the last world economic crisis and, on the other hand, by the increased aversion to risk in recent years due to the onset of the crisis, which leads to a reduced willingness of companies to invest.

There are two problems: the first problems concern the provision of capital, i.e. the problems of financing the company; the second problem, one should devote as much attention and time to the efficient selection of the most profitable alternative in which to invest.

By carrying out these activities, it is important that the end result is the maximum profit that can be achieved under the given business conditions, where, roughly speaking, the profit should be the difference between the cost of capital and the return on capital. There are different motives that lead investors, i.e. insurance companies, to make decisions about capital allocation itself. Such as high profit rates, subsidies from the host country, lower tax rates, lower risk, cheap labor, the possibility of extracting profits from those countries, conquering new markets, the absence of obstacles to entering the markets of the host countries, etc. When making decisions regarding international capital allocation, there are certain types of risks. It means the political risk and the risk of the country in which future investors, i.e. insurance companies to be ready to invest. The degree of risk, return and cost of capital of the company are in a correlative relationship. If the definition of risk is "deviation of returns from those we expected", then it can be said that risk is the probability of the occurrence of some unwanted event (James, 2007). Consequently, there was a need to quantify risk in order for financial professionals to be more efficient in managing finances. The effect of investing financial resources is quantified by the expected rates of return, where, if the spectrum of possible returns is greater, the unpredictability of the actual return is also greater, and considering that, it is concluded that it is a risky investment (Human, 2023). An investor with experience and knowledge avoids risk if he has the opportunity, i.e. between two alternatives with the same expected return, he always chooses the one with a lower degree of expected risk. This is known as investor risk aversion, where it does not mean avoiding risk at all costs, but unwillingness to accept additional risk if it is not compensated by additional expected returns (e.g. risk premium) (Mikerević, 2010). As a condition for acceptance and investment, investors will demand a higher and higher expected rate of return for each riskier variant. As an alternative to such investments, there are available placements in projects with very low risk or completely risk-free projects, from the aspect of realizing the expected returns. These are e.g. purchase of government bonds in the USA, that is, bonds of the central banks of the economically strongest countries, the only drawback of which is the low rate of return (3-4% on an annual basis).

The connection between risk and the required rate of return, in financial theory, is designated as risk-return interdependence and is an axiom in financial theory. That would be in the case of e.g. if they would invest in government securities. The expected return from the investment grows proportionally to the level of risk that the investment alternative carries with it. This leaves the choice for investors to invest in alternatives with a lower level of risk and low rates of return or to invest in high-risk but profitable investments. The choice depends on the level of investor aversion. We agree that most investors want to invest financial



## Book of Proceedings

resources in low-risk alternatives with high returns, but even if, due to market imperfections, such alternatives exist, they disappear very quickly considering the functioning of the market and the behavior of investors. If an asset were to appear on the market that entails high expected rates of return that can be realized without additional risk, all investors would want to buy that asset. An increase in demand, in accordance with the basic laws of the market, will lead to an increase in the price of certain assets, which will result in a lower rate of return. Therefore, interest in investing in this alternative will decrease, because with increasing prices comes a decrease in expected rates of return. This leads to the conclusion that the expected return is proportional to a certain degree of risk, i.e., "When the investor determines the riskiness of the asset, the market allows the price of the asset to be adjusted to the objective return by which the asset compensates the investor for the anticipated risk" (Mikerević, 2010). Risk is an objective category that follows all domains of human activity and can never be avoided. From the point of view of business events, risk is a normal occurrence, so a rational investor should assess whether the expected return on investment is sufficient to compensate for the risk that the project carries. Assessing the expected risk comes down to measuring the level of uncertainty - the chance or probability of an unwanted outcome. In solving the problem, the law of probability and statistics are of great help, where several ways of measuring and expressing risk have been developed. In addition to the business, financial and overall risk that accompany the operations of insurance companies, in the process of international investment the most well-known risks that insurance companies face during international investment are: country risk, political risk, credit risk, currency risk (i.e. exchange rate risk) and technological risk.

### ***COUNTRY RISK***

The interdependence of parts of the world economy is becoming more pronounced, and successful companies are increasingly improving their internal flexibility and external openness with the constant expansion of the market. Due to international cooperation, insurance companies are aware of the risks they face in the international environment. Therefore, adequate techniques of defense against those risks and ways of managing those risks have been developed in order to eliminate them or reduce them to a tolerable level. Given that insurance companies are focused on the allocation of capital to foreign countries, host countries, each of these insurance companies anticipates the risks that may occur if they decide to invest in a certain country. Risk forecasting and assessment are integral parts of international investment planning policy. Therefore, risk assessment implies: identifying risks, ranking risks, assessing the impact of business operations on risks and determining priorities. Risk factors should be taken into account when making international investment decisions. After that, study the risks that will accompany that international investment and evaluate their impact so that companies can make an adequate decision regarding the dilemma of whether to invest in a country or not.

Before making a final decision on international investment, it is necessary to analyze some segments of the functioning of the economic, political and legal system of the host country. Frequently discussed questions are questions related to the initial amount, the duration of the project's exploitation and the sum of the residual value of the project, the price of products and services that will be sold if this international project is realized, the amount of inflation, how the opening of another affiliation of the insurance company will affect the net cash inflow, what will happen in case of failure, etc. Questions are also raised regarding the level of tax rates for foreign investments in the country in which the investment is made, the question of tax benefits is raised, and one of the perhaps key questions such as, for example, how stable is the government of the host country that promises all these conditions (Petrović, 2010).

Insurance companies must constantly monitor the business environment. This means that every insurance company, during its investment activities, looks at the economic system and business environment of the country in which it decides to invest. More precisely, every investor first looks at country risk and, as part of it, political risk. Country risk is a broader term than political risk, therefore the analysis of country risk implies the analysis of potential economic and political risks. There are a large number of definitions of



## Book of Proceedings

country risk, but by looking at the given definitions, country risk can be defined as the overall risk faced by an investor when he decides to invest in a country, where in addition to political risk, it also includes risks related to rebellions and strikes.

Over time, understandings of country risk have changed depending on theorists, and the stages in which the world economy has functioned. At the time of the international credit crisis, during the nineties of the last century, the country's risk had the possibility to be expressed by the ratio of debt repayment or the relationship between the inflow of capital and payments based on the settlement of the debts of a country. The division of country risk according to Longueville implies two forms, sovereignty risk, which represents the risk of expropriation and the introduction of measures related to restrictions in terms of profits as well as the return of capital, and transfer risk, which implies the inability of the Central Bank to mobilize the required amounts of foreign exchange reserves for converting funds in local currency into foreign means of payment (Longueville, 2021).

Given that country risk is unavoidable, it does not mean that it is the same for all countries. Depending on the level of risk aversion, international investors decide on a project in accordance with the risk they are willing to accept and the return expected in accordance with it. What is valid as a rule when it comes to country risk is that in countries in transition this risk is much higher compared to developed countries. Due to the possibility of a significant deviation or absence of the actual yield from the expected one, due to the risk of the country, an adequate risk assessment must be done. The country risk assessment comes down to an assessment of the investment climate of a country. Country risk is low when there are stable economic conditions in a country, there is favorable customs, foreign trade and foreign exchange treatment of foreign investments, there is political and social stability, when the government of that country has a positive attitude towards foreign investments, when the retransfer of funds and profits is enabled and when previous investments were made that developed the infrastructure of that country. A major contribution to risk assessment is provided by the position of agencies that regularly publish country risk data.

According to the methodology of the Euromoney agency, the most significant factors affecting the country's risk are (<http://www.euromoneyplc.com/> , 2023):

- Economic indicators – with 25%,
- Political risk – with 25% - opinions of analysts, brokers, insurance, bankers,
- Debt indicators – with 10% (external debt: GDP, analysis of the country's balance of payments),
- Unpaid or deferred debts – with 10%,
- Credit rating – with 10% (Moody's, Standard and Poor's),
- Access to bank financing – with 5%,
- Access to short-term sources - with 5%,
- Access to international bond and credit markets - with 5%.

The resource for the economic progress of every country is in attracting foreign investments, given that underdeveloped and developing countries do not have enough domestic capital, which would be used for initial investments in the domestic economy. In order to attract foreign investments, it is necessary for the mentioned countries to arrange the economic environment in such a way as to make the country more attractive and desirable to foreign investors. In order to succeed in this, it is necessary to reduce the country's risk to the lowest possible level, and then all other risks as well. When investing in foreign projects, every rational investor, at the moment of making a decision on capital allocation, looks primarily at the risks of different countries, compares them and then makes the first selection between countries, after which he further narrows the choice by looking at other types of risks and other factors that affect making investment decisions. Likewise, if there is an increase in country risk that exceeds the permitted limits, many domestic and foreign investors will decide to reallocate their capital to other countries. Given that we are talking about the modern globalized conditions in which business is done today, capital allocation is not a particular problem for investors, because today there is a greater number of investment options available to investors than before, and this is largely due to the process of globalization. Therefore,



## Book of Proceedings

the aspiration of the countries is aimed at reducing the risks prevailing in them in order to attract the necessary capital for their further development.

The term ERP - equity risk premium is very important for this topic. ERP represents the country risk premium, where it is an integral part of the total risk premium per share. The risk premium of a share is defined as the return that an investor expects to receive based on an investment in a share at a certain risk to which he is exposed by investing in that share. As it has already been pointed out, that a good part of the total risk is the risk of the country, then according to the category of ERP, we will try to quantify this type of risk. There are two approaches, based on which country risk premiums can be assessed and measured. The first approach involves monitoring historical series of data, which refer to the movement of premiums, where it is assumed that they will behave similarly in the future. This approach is based on the observation and analysis of series of data on the level of previous premiums, and based on this, conclusions are drawn about the level of the same premiums in the future, with the general view that there will not be any significant changes in the future, both in terms of the factors affecting the level premiums as well as factors that affect changes in business. Another approach estimates the value of ERP in the future by looking at trends in dividends, future returns, GDP, inflation, and other macroeconomic and microeconomic variables.

## ***POLITICAL RISK***

Political risk is a sub-risk of country risk. In order to define it successfully, the factors should be taken into account, as well as their level of influence and action, as well as the consequences that follow through its influence. Globally defined, political risk means any activity of the state that results in a decrease in the value and capital of the company. This risk includes the risk of the introduction of some unexpected regulations and measures of a country by the government of that country, which may endanger the continuity of business and/or the volume of business of the insurance company in that country. Political risk is a consequence of the state's activities and should not be equated with the risk of terrorism, kidnapping or abductions. But, in order not to broaden the definition of political risk, it is mainly meant to refer to harmful activities of the state in the country where certain projects are implemented. We can distinguish between the macro and micro level of political risk. Macro influence has an even influence on all participants in a certain market, and micro influence refers to a particular company or a particular economic branch. Experts from the International Institute for Risk Management (MIUR) believe that it is necessary to make two basic distinctions related to the definition of political risk (<http://www.irmi.com/expert/articles/2000/wagner10.aspx>, 2023). The first difference is the difference by the company and refers to the definition of the company's risk specific to a given country. The second difference relates to the types of risk and includes two types of risk: country risk and instability risk.

## ***OTHER RISKS***

### **Transfer risk**

It mainly occurs in countries that have major problems with trade and balance of payments in foreign relations. This risk most often arises when the government of a certain country runs out of foreign currency and is unable to obtain it through foreign direct investments or borrowing, and then limits the transfer of foreign currency from the country and thus solves its problem (Piljan, 2018). This situation is called "blocked funds" in the economy and in theory from the point of view of insurance companies. When the state finds itself in such a situation, it resorts to immediate measures to control exchange and transfer. Foreign companies operating in such countries may be affected in two ways by the above measures, namely:

1. profit and capital cannot be freely transferred to the parent company;





## Book of Proceedings

2. raw materials, machines, spare parts cannot be freely imported into a certain country.

### **Nepotism and corruption**

When deciding whether to invest in a certain country, an insurance company should not ignore the level of corruption and nepotism in that country. Corruption is more and more present in everyday life and there is no need to make efforts to explain this phenomenon.

Nepotism is a certain behavior of an individual who possesses economic, military, political or other power that influences other individuals or groups in order to have a certain benefit for his relatives, family members, friends.

### **Intellectual property rights**

Globalized business conditions have created the conditions for intellectual property to gain more and more importance, whereby it becomes the most important resource of well-to-do companies. Therefore, it must be properly protected. Intellectual property rights allow the use of patented technology and other products such as various software programs, specific products and processes, and on the other hand, this right can also provide the use of products for entertainment, film, music, art - in different segments, whereby all of them protected by copyright (Martinović, 2010). If a certain company, when investing in a certain country, is threatened with the risk of not being able to protect intellectual property rights, then this most likely results in giving up capital investment in that country.

### **Poverty**

Poverty is a problem of every country, and in some countries it is significantly pronounced. The basis of this problem lies in foreign investments, whereby the arrival of foreign companies will significantly reduce unemployment and thereby increase the standard of the existing population (Vujičić, 2013). The pursuit of social well-being should represent one of the basic postulates on which the program of every ruling political party is based, and attracting foreign capital would mean one step closer to this overly idealized state.

### **Internet fraud**

The improvement of technique and technology and the electronic way of doing business affect the increase in the number of these types of fraud. Insurance companies can significantly protect themselves from this risk by strengthening and constantly improving their internal information system (Piljan, 2017). The degree of political risk is an important consideration when making decisions about investing in a particular country. That is why there are several agencies in the world that provide information on the political risk profiles of individual countries. The most important in that area are:

— Agency for Political Risk Assessment (Political Risk Services - PRS)

— Business Environment Risk Intelligence Agency (BERI)

The Agency for the Assessment of Political Risk was founded in 1979 and is recognized worldwide as an original system for measuring and quantifying risk. This Agency has two subsystems: Political Risk Services - PRS and ICRG - International Risk Guide - Guide for international country risk.

The final product of this Agency is a country risk study that requires a detailed and thorough investigation of the factors that affect a country's risk. As part of that research, results are obtained that include the assessment of political, economic and financial risk, and at the end, the overall risk is assessed, which is a combination of all three types of the mentioned risks.





## Book of Proceedings

### *DISCUSSION*

Insurance companies driven by high profit rates create and develop strategies for rapid growth and development of their companies and branches in other countries, making efficient capital allocation. In a dynamic and globalized business environment, over time there have been changes in the way of international capital investment, which is why the intensity of international investment changes in line with changes in the global investment climate.

It is a well-known fact that companies cannot directly control and change the economic environment in which they want to operate. But there are certain measures and techniques that can be used to assess the level of risk. Determining the level of political risk should serve as a tool for insurance companies to be more successful in allocating capital in international business. Considering that, the main objective of risk determination is threefold:

1. Identifying countries that clearly highlight warning signals about sudden jumps in political risk, in order to carry out personal protection, reducing the scope of activities and investments in that country, i.e. refused to invest in a certain country;
2. Identifying countries where changes in the political environment can be predicted and expected with high probability, be they positive or negative;
3. Identifying countries that are generally politically unstable and risky, but not of such a degree of risk that they would be dismissed without consideration.

Given the possibility of analyzing given types of political risk and the possibility of measuring them and using strategies to eliminate them, insurance companies have the possibility of efficient capital allocation in modern globalized business conditions. Every country carries its own guilt for its failure, i.e. if he is unable to win over investors and record his personal growth and development. The decline of political risk, country risk and other types of risk specific to a given country contributes to the regulation of the economic environment of a given country, which will ultimately result in the attraction of foreign capital, which will again result in the growth of macroeconomic variables of a given country.

### *CONCLUSION*

Insurance companies provide a guarantee for the settlement of assumed obligations under each individual insurance policy with the total amount of personal capital. Therefore, capital allocation in insurance is only a hypothetical distribution of the company's resources among its parts. Allocation is thus not an end in itself, but provides support for a number of decision-making processes, such as price formation, performance measurement or risk management. The development of capital allocation techniques in insurance is directed towards the adoption of the most rational assumptions that reflect the more specific characteristics of the insurance activity and taking the effects of risk diversification.

When solving the problem of capital allocation, it is important that the entire capital of insurance companies is available to settle claims, based on any policy or type of insurance. If an insurance company is insolvent on the basis of one or more types of insurance, the entire company risks bankruptcy. The importance of capital allocation for insurance companies is multifaceted. The goal of capital allocation is to determine the value of capital for each type of insurance, based on the amount of capital allocated to a certain type of insurance. Actuarially funded premiums of some types of insurance depend on the total required capital and its allocation to insurance lines. Capital allocation is used to improve the business performance measurement process. Errors that occur during capital allocation result in stagnation in the field of unprofitable business and the loss of profitable business of a particular insurance company in relation to its competitors.



## Book of Proceedings

Country-specific company risk is influenced by state risk and instability risk, and they include: discriminatory regulation, risk of property expropriation, as well as breach of contract, but also sabotage, kidnapping or company boycott, which are not influenced by the state. The degree of country risk is also defined by factors arising from the influence of the state or the risk of instability. That degree is determined by the risks of mass nationalization, regulatory changes or the risk of currency inconvertibility, to which are added risks such as mass labor strikes, protests and demonstrations, as well as civil wars, which represent factors of a general impact nature.

The conclusion related to the ratio of capital-risk allocation is that risk reduction implies a greater volume of investments, while an increase in country risk as the most widely understood, and other types of risk, leads the country to economic stagnation, a decline in economic activity, the creation and increase of the budget deficit, borrowing under unfavorable conditions. Country risk assessment is very important since that risk has a good share in the total risk of a foreign investment project.

## ***REFERENCES***

- Becker, E. (2005). Economic aspects of globalization. *Privredna izgradnja*, 68(3-4), 135-153.
- Human Development Report. (2023). Globalization with a Human Face. UNDP – United Nations, [www.undp.org](http://www.undp.org) (15.06.2023.)
- James, C., Von, H., John, M., Wachowicz, A. (2007). *Fundamentals of Financial Management*. Prentice Hall, New Jersey
- Longueville, G. (2021). Less nouvelles dimensions du risk-pazs. *Banque*, 585, 44.
- Martinović, M. (2010). Supervision based on risk assessment. *Ekonomika*, 56(1), 160-167.
- Mikerević, D. (2010). *Advanced strategic financial management*. Faculty of Economics, Banja Luka.
- Petrović, E., Denčić-Mihajlov, K. (2010). *International Business Finance*. Faculty of Economics, Niš.
- Piljan, I., Cogoljević, D., Piljan, T. (2018). Insurance as a factor in the development of the agricultural sector in the Republic of Serbia. *International Review*, 1-2, 131-138.
- Piljan, T., Piljan, I., Cogoljević, D. (2017). Application of information and communication technologies and the Internet in the distribution of insurance services, *Vojno delo*, 6, 367-373.
- Stojanov, A., Ugrinov, D., Vaić, E. (2010). Financial audit of the public sector - the basis for an active business environment. *Tranzicija*, 25-26, 146-155.
- Vujicic, S. (2013). Innovations in the function of developing competitiveness and efficiency in the Republic of Serbia, 2<sup>nd</sup> International Scientific Conference "Employment, Education and Entrepreneurship", Proceedings, 108-125.
- <http://www.euromoneyplc.com/> (08.06.2023.)
- <http://www.irmi.com/expert/articles/2000/wagner10.aspx> (06.09.2023.)



Book of Proceedings

***MANAGEMENT OF COMPETENCIES AND SKILLS IN THE  
PROJECT TEAM***

*Goran Lapčević*<sup>1</sup>

*Milan Krstić*<sup>2</sup>

*Eugen Popescu*<sup>3</sup>

***ABSTRACT***

*The success of the project largely depends on how the project team is managed, which involves the project leader practicing the functions of classical management along with key elements of their subjective support. All of this is particularly evident when it comes to managing the competencies and skills of the engaged team members, both in terms of the available skills, knowledge, and interests of the team members, as well as task allocation. The authors have concluded that this issue deserves a more detailed consideration, and as such, they undertook appropriate theoretical desktop research on this topic. This paper briefly presents the results of the mentioned research. In this regard, the paper first analyzes competencies and skills, including their differences, then briefly points out the applied research methodology, and finally presents the findings reached by the authors during this research, particularly related to the skills (and competencies) matrix.*

***Key words:*** management, research, competencies, skills, project team, skills matrix

***JEL Classification:*** I20, L20, O22

***INTRODUCTION***

In project management, the first step in project implementation is usually the establishment of the project team, and this has a significant impact on its subsequent realization. In doing so, special attention should be paid to selecting individuals for project implementation primarily based on their skills and abilities, and how these are applied to the project (Cooper, 2021).

An integral part of project management is team management. Managing the project team entails how the team leader performs the functions of classical management (planning, organizing, leading, and controlling) along with key elements of their subjective support (communication, motivation, leadership, and decision-making).

For the successful implementation of project team management, it's important to manage the competencies and skills of the engaged team members. This involves the team leader being aware of the skills, knowledge, and interests possessed by the team members so that appropriate tasks can be assigned to them.

Managing the competencies and skills within the team requires the team leader to continually review assigned tasks based on the available competencies and skills of the team members.

In the case where a team member or the entire team is selected in response to specific skill and knowledge needs identified through discussions with the organization's management, the skills and

---

<sup>1</sup> Business College of Applied Studies „Prof. PhD Radomir Bojković“ Kruševac, Serbia, gorlap@gmail.com

<sup>2</sup> mykrstic@gmail.com

<sup>3</sup> Lucian Blaga University, Sibiu, Romania, eugen.popescu@ulbsibiu.ro



## Book of Proceedings

knowledge of these members should be documented and verified. This allows for potential tasks to be allocated to them in unexpected situations when another team member needs to be replaced. This entails the team leader having discussions with each team member about their skills, knowledge, and interests related to the implied project activities they've been assigned to.

It's important to emphasize to team members that these pieces of information are required so that tasks can be assigned based on their qualifications and interests. In other words, to determine the level of interest each person has in working on the proposed tasks. Therefore, it's useful to inquire about individuals' level of interest in the suggested tasks.

If a team member is not interested in the assigned task, it's crucial to find out the reasons and whether the task can be modified to be more appealing to them. The team leader can identify the reason if they receive an honest response. Certainly, it's much better to know if, and to what extent, a person is interested in the task, as there is always the possibility of considering task restructuring or modification.

To ascertain the state of skills, knowledge, and interests of each team member, one approach is consulting with the functional managers of the team members and/or the individuals who assigned them to the project.

For successful competency and skill management, a skills (or competency) matrix is highly beneficial. This matrix serves as a convenient tool for tracking, comparing, and managing various skills and competencies of project team members. The matrix can be utilized to identify gaps in knowledge, highlight risks associated with these gaps, and facilitate their timely mitigation (COSM, 2021).

## ***RESEARCH MEDODOLOGY***

The research on the topic of managing competencies and skills within a project team was conducted as a theoretical desktop research, based on the exploration of currently available e-literature sources. The research employed multiple individual research methods, including (WME, 2021):

- Analytical method, for breaking down competencies and skills into their constituent parts in order to understand their nature, relationships, causes, and effects.
- Synthetic method, for constructing a matrix composed of the skills (and competencies) of project team members.
- Descriptive method, for describing the skills (and competencies) of project team members, as well as the matrix for their management.
- Comparative method, for comparing different approaches to competency and skill matrices.
- Inductive method, for deriving general conclusions from the introduced assumptions.

## ***COMPETENCE AND SKILS***

The term "competence" can be defined in multiple ways. Interestingly, only the IGI-Global Dictionary (WCCO, 2021) provides as many as 90 different definitions of competence, of which the definition adopted here is that competence is the "ability to respond to individual or societal demands in order to perform an activity or task."

Competence holds special significance for an individual's career development, as it serves as an indicator of expertise within a career hierarchy. It develops through an individual's actions and interactions in both formal and informal educational or professional contexts, and it entails more than just the simple reproduction of acquired knowledge.



## Book of Proceedings

The concept of competence implies that individuals possess various levels of expertise, determined by their knowledge, specific skills, and duties necessary for performing a particular job.

Based on one's position within a specific career hierarchy, a level of expertise is defined for each competence, and this is determined by following (CAFR, 2021):

- Developing – an individual demonstrates minimal use of the competence and is currently in the process of developing it.
- Basic – an individual displays limited use of the competence and requires additional training to independently perform the responsibilities or frequent supervision.
- Intermediate – an individual shows a working (functional) level of expertise that enables them to efficiently apply the competence (has operational or functional authority over the competence).
- Advanced – an individual exhibits a deep level of expertise that allows them to assist, consult, or lead others in the application of the competence.
- Expert – an individual showcases extensive (profound) expertise, being recognized as an authority or primary executor in carrying out the responsibilities related to the competence.

There are multiple approaches to categorizing competencies.

According to the OECD Career Framework, all competencies are grouped into three clusters: Delivery-related Competencies, Interpersonal Competencies, and Strategic Competencies, as shown in Figure 1.

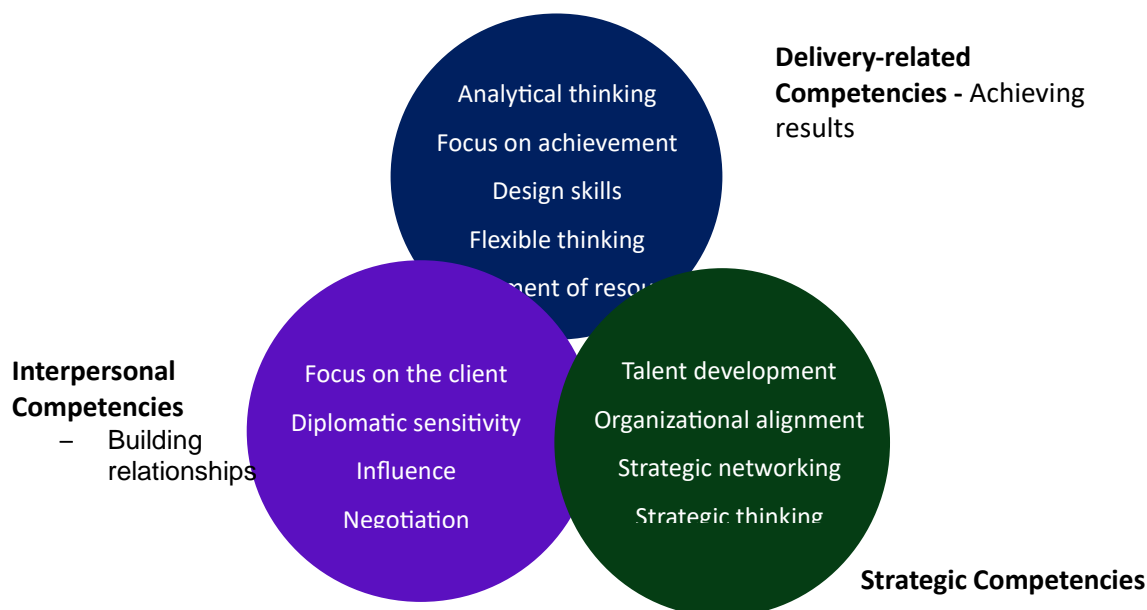


Figure 1. Clusters competence group  
Source: OECD CF, 2014./

In the following text, according to CODE (2021), a list of competencies with their descriptions is presented:

- Responsibility. Clearly defined personal and mutual expectations of others, taking appropriate actions to ensure the fulfillment of obligations in response to changes.
- Analytical Thinking. The ability to break down raw information and problems into manageable components, draw conclusions, and predict obstacles in the decision-making process.



## Book of Proceedings

- **Relationship Building.** The ability to establish, maintain, and nurture formal and/or informal professional relationships within and beyond the organization, sourcing and sharing information, ideas, and issues, seeking advice and support, as well as a commitment to developing mutually beneficial solutions.
- **Business Knowledge.** The ability to seek information about the organization's direction, goals, and environment to add value to the organization, make decisions and recommendations regarding strategy and financial objectives, and awareness of environmental requirements.
- **Business Process Knowledge.** The ability to identify, map, document, monitor, and improve key business processes necessary for achieving successful business outcomes.
- **Advocacy for Change.** The ability to identify opportunities for continuous improvement, proactively respond to them, and mobilize others to support changes, particularly in uncertain circumstances.
- **Collaboration.** The ability to collaborate with other members of formal and informal social groups in achieving a common mission, vision, values, and shared goals, prioritizing the needs and priorities of the team above individual needs and acknowledging contributions and accomplishments of others.
- **Communication.** The ability to clearly and effectively convey business concepts, ideas, emotions, opinions, and conclusions, both verbally and in writing, actively listen, and exhibit empathetic body language.
- **Information Systems Knowledge.** The ability to update and apply knowledge of elements of discrete and integrated information systems (hardware, software, and networks) relevant to the area of responsibility.
- **Initiative.** The ability to voluntarily take the first steps to identify and address existing and potential barriers, problems, and opportunities for overcoming challenges.
- **Leading Others.** The ability to train, educate, and motivate others to fulfill the organization's vision, goals, and commitments, as well as fostering inclusion within a positive team environment.
- **Leading the Organization.** The ability to implement organizational strategy in alignment with strategic directions, along with a clear understanding of internal and external priorities, trends, new technologies, and economic sustainability.
- **Self-Leadership.** The ability to demonstrate self-awareness through accurate assessment and management of one's attitudes, belief systems, strengths, as well as in areas of personal development.
- **Problem Solving.** The ability to anticipate, identify, and define problems, seek root causes, and develop and implement practical and timely solutions for overcoming challenges.
- **Strategic Planning.** The ability to develop plans that meet the strategic needs of the organization (vision, strategy, objectives, priorities, new technologies, trends).
- **Thoroughness.** The ability to focus attention on details and accuracy, define and organize tasks, responsibilities, and priorities, and take ownership of their completion.

*According to* (VEŠ, 2019), a skill can be defined as the "ability to perform a task with specific results within a certain timeframe," or as per (SKI, 2021), it is the "ability, stemming from one's knowledge, practice, the ability to do something well, competent excellence in performance, expertise, or proficiency."

In skills, there exists a certain hierarchy, as depicted in Figure 2, which integrates five levels of skills in parallel (know, practice, perform, solve, and invent) and the roles a person plays at that level (learner, apprentice, specialist, expert, and master).



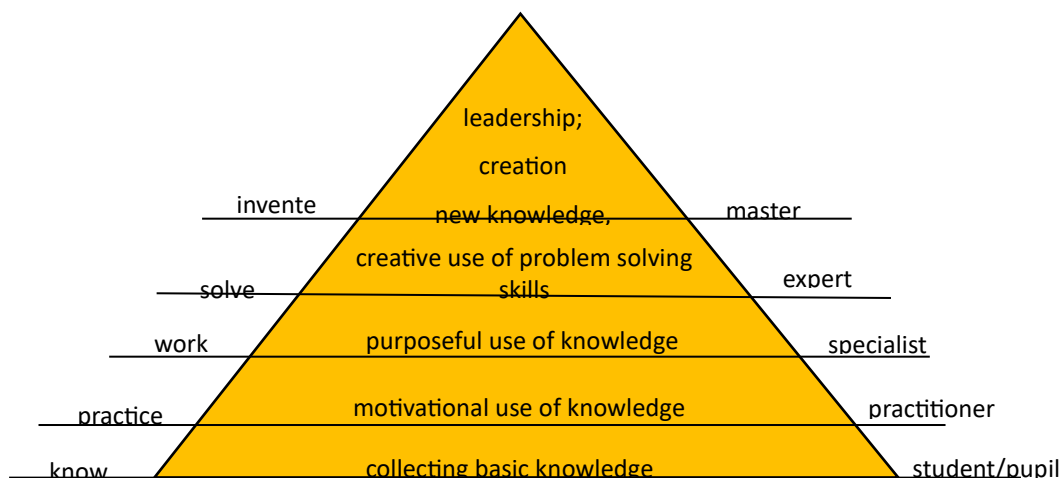


Figure 2. Hierarchy of skills  
Kokcharov, 2015.

Once, a person could master a certain set of skills, and those were sufficient for performing their job throughout their entire career. However, nowadays, it has become almost certain that a person will change jobs during their working life, and often, there are changes in multiple jobs. Today, we have entered the era of lifelong learning, where every individual is compelled to continuously supplement initially acquired skills with new ones over time. (Krstić M., Bojković R, 2009).

As examples of fundamental skills, the following can be listed (COSM, 2021): Teamwork, Writing Skills, Strategic Management, Speaking and Listening Skills, Data Management, Persuasion and Team Influence, Planning and Organization, and more.

## ***DIFFERENCE BETWEEN COMPETENCIES AND SKILLS***

Although it's sometimes not very straightforward to distinguish between competencies and skills, there is still a certain difference between them, and it can be summarized briefly as follows.

Competency is an ability that can develop from talent and/or habit, it can consist of one or more skills. In other words, competency can be considered a category that may encompass skills and sets of skills, and a skill can create a competency. Competency is the knowledge, behavior, or tendencies that lead a person to be successful in a given activity. A competency may consist of skills (one or more) or without skills, talents, knowledge, inclinations, or even innate predispositions. It can be said that competencies only "shine when critical skills and knowledge are imprinted on them," and these are the abilities and resources that, as known, represent strategic advantages in the business world (COSM, 2021). Key competencies within the career framework are presented in Chapter 3.1 Competencies, and as an illustrative example of one of the competencies, writing competency can be mentioned.

A skill is typically a task or ability that is learned and can be improved through talent and/or interest. It can be considered the fundamental metric of a person's ability. Knowledge doesn't directly produce a skill, but a skill can be derived from it. Key skills are presented in Chapter Skill, and as an illustrative example of one of the skills, touch typing skill can be mentioned.



**Book of Proceedings**

***RESULTS AND DISCUSSION***

For successful management of competencies and skills, as well as for confirming the available competencies and skills of individual project team members, it is beneficial to use a skills (or competency) matrix. This matrix represents a table that displays the expertise of team members in specific skills and knowledge, along with their interest in working on tasks (HCMS, 2021).

Skills matrices represent a record of the skills and qualifications of each employee in a matrix format. They are highly practical for displaying and tracking all information in a clear and organized manner regarding the monitoring of key competencies, skills, qualifications, and certifications of staff, both within the project team and throughout the entire organization. Skills matrices are used whenever operational processes are defined or project teams are assembled. They are typically utilized by human resources and operations managers, team leaders, and project managers.

Skills matrices can take one or multiple forms depending on the complexity of the skills present or needed. Each matrix represents a table divided into columns and rows. Usually, employees and/or project team members are listed in the left column, while all the skills required for specific tasks are listed in the top row, although the arrangement can be reversed. Proficiency or certification in a particular area of work or task can be indicated by the presence/absence of a skill (e.g., yes/no), the percentage of skill proficiency (e.g., 45%), skill proficiency level (e.g., 3 levels), etc.

Skills matrices are essential management tools for any data-driven company, especially for project leaders or human resources departments (HR).

In practical terms, there is essentially no difference between skills matrices and competency matrices because they are rooted in the same concept. The difference lies in their usage and scope. A skills matrix primarily contains an assessment of employees' skills, but this is only a small part of the knowledge they possess. A competency matrix, in addition to skills, includes knowledge and attitudes, so it can be considered to encompass a skills matrix.

The most significant advantages of the skills matrix are reflected in the following (Jochem, 2018, SKMA, 2011):

- Identifying the right individuals: It enables the selection of the right people for a job, task, or project.
- Identifying missing competencies: It helps determine which set of skills is lacking in the project team, department, or the organization as a whole.
- Identifying critical tasks and requirements: It allows for the quick and easy identification of critical tasks and current requirements, as they are listed in the top row. A completed matrix immediately shows critical tasks for which very few people are qualified, i.e., "skill gaps," upon which a training plan can be formulated.
- Identifying gaps between employees, project teams, and departments: This follows the well-known statement: "A chain is only as strong as its weakest link," by Thomas Reid in "Essays on the Intellectual Powers of Man," 1786.
- Responding to urgent needs and finding replacements: The matrix is useful for finding a suitable replacement for a project team member in case of their departure or absence (due to illness or an urgent reason), thereby helping to maintain the necessary level of competent staff.
- Monitoring development and progress: A well-maintained skills matrix provides a clear picture of individual and team progress because professional development and skill growth of team members are clearly visible.
- Assisting in finding the right candidate: It expedites the hiring process for team leaders or human resources departments by facilitating the recruitment of individuals with the required skills, making the process more efficient.

## Book of Proceedings

- Versatility and agility: The skills matrix represents an extremely versatile and agile tool that project teams, departments, and managers can use for very specific purposes.
- Identifying key members: It allows for the precise identification of "star" project team members, as they are significant for both the project team and the organization as a whole.

The steps in creating a skill matrix are as follows (SKMA, 2011) :

1. Creating a skills database: The required skills should be collected and grouped into various categories (which can also have subcategories), such as Communication, Management, Technical Skills, Problem-Solving Skills, Data Analysis, Graphic Design, Marketing, etc., thus building a specific skills database.

2. Creating an assessment system: To evaluate those engaged, it's necessary to establish a Skills Assessment System used for ranking levels of competencies or skills, such as: Aware, Novice, Professional, Expert, Leading Expert.

3. Skill assessment of those engaged: Within the Skills Assessment System, several techniques can be applied, such as, for example:

- Self-assessment: The engaged individual assesses each skill personally.
- Manager evaluation: Managers assess the skills of those engaged.
- Team evaluation: All members of the project team evaluate each other.
- Tests or quizzes: Assessment of proficiency levels through prepared questionnaires.

4. Data visualization and insights: Within the skills matrix, there are several data visualization options, such as:

- Skill weighting: Assigning a color and numerical value to each skill for each skill level, for example: beginner - 1, professional - 2, specialist - 3, expert - 4.
- Highlighting potential skill loss: Marking the number of individuals with critical competencies.

Matrica veština													
Projektat:			Podrška uspostavljanju inovacionog centra							Nivoi stručnosti:			
Ukupno broj članova projektnog tima:			8							0 Svestan			
Ukupno veština:			11							1 Početnik			
										2 Profesionalac			
										3 Ekspert			
										4 Vodeći ekspert			
Zadatak, veština ili kompetencija													
RB	Članovi tima	Funkcija u timu	Menadžment projektom	Umrežavanje	I/E Komunikacija	Trening	Sajt	Organizacija događaja	Kreiranje propagandnog materijala	Dokumentovanje projekta	Autsoring	Upravljanje budžetom	Ukupan nivo znanja
1	Petar Petrović	Tim lider	4	4	4	4	3	4	4	3	3	4	92.5%
2	Jovan Jovanović	Nadežan za istraživanja	3	2	2	4	3	3	3	3	4	3	75.0%
3	Milan Milovanović	Nadežan za medijsku kampanju	2	3	4	3	3	3	4	3	1	2	70.0%
4	Bogdan Bogdanović	Nadežan za IT	1	2	1	2	4	2	3	2	3	2	55.0%
5	Ivana Ivanović	Nadežan za dokumentaciju	3	1	2	2	3	3	3	4	3	2	65.0%
6	Novak Novaković	Nadežan za nabavke	1	1	2	1	1	1	2	3	3	3	45.0%
7	Marjan Marjanović	Nadežan za organizaciju događaja	2	3	3	3	3	4	3	3	1	3	70.0%
8	Sima Simić	Stariji asistent	2	2	2	2	2	3	2	3	2	2	55.0%
9	Milar Mitrović	Mlađi asistent	1	0	1	1	1	2	1	0	1	0	20.0%
Procenat pokrivenosti veština			52.8%	50.0%	58.3%	61.1%	63.9%	69.4%	69.4%	69.4%	55.6%	58.3%	

Figure 3. Matrix of skills

Source: Authors

Based on everything mentioned in the previous text, it is possible to create your own skills matrix or fill it out based on ready-made templates available in the literature. The authors particularly emphasize certain skills matrix templates that can be very useful for this purpose. Access to some of the mentioned templates after normal registration is free, such as the template for assessing skills gap in the team or organization (Manders J, 2021), template for assessing the level of knowledge of team members (VSMT,



## Book of Proceedings

2021)/, access to some of the more sophisticated templates is not free, and they can be purchased, like the team member capacity assessment template (Francis G, 2021). Figure 3 presents an example of a realized skills matrix created based on the template (VSMT, 2021) by the authors, designed for a specific project.

### ***CONCLUSION***

The paper briefly presents the results of a conducted theoretical desktop research, which is based on the exploration of available literature in the field of "competency and skill management in project teams." The paper first delves into the issue of competencies and skills, which are often intertwined, causing confusion. Then, the focus shifts to competency and skill management. The research determined that an effective way to manage skills and competencies in a project team is the application of a specific tool - the skills (and competencies) matrix. Therefore, the authors highlight its potential applications and provide an example of a completed skills (and competencies) matrix for a specific project from their own practice.

### ***REFERENCES***

- Brown, L. (2021). What is a Project Team and Who All Are Involved? Retrieved from Project Management: <https://www.invensislearning.com/blog/what-is-a-project-team/>
- CAFR (2021). Career Framework. Retrieved from The University of British Columbia. [www.it.ubc.ca](http://www.it.ubc.ca): <https://careerframework.ubc.ca/competencies/>
- CODE (2021). Competencies and Definitions. Retrieved from The University of British Columbia. [www.it.ubc.ca](http://www.it.ubc.ca): <https://careerframework.ubc.ca/competencies/competencies-and-definitions/#>
- Cooper, A. (2021). Building Your Project Team. Retrieved from <https://www.projectsart.co.uk/team-building/building-your-project-team.php>
- COSM (2021). Competency vs. Skill Matrix. Retrieved from Lessonly by SEIZMIC: <https://www.lessonly.com/competency-skill-matrix/>
- Francis, G. (2021). Skills & Training Matrix Demonstration in Microsoft Excel. Retrieved from <https://www.youtube.com/watch?v=5sb1veIH73g>
- HCSM (2021). How to Create a Skills Matrix. Retrieved from Dummies A Wiley Brand: <https://www.dummies.com/careers/project-management/how-to-create-a-skills-matrix/>
- Jochem (2018). Everything you need to know about skills matrices. Retrieved from AG5 Skills Intelligence Software: <https://www.ag5.com/how-to-create-a-skills-matrix/>
- Kokcharov, I. (2015). Hierarchy of Skills. Retrieved from: <https://www.slideshare.net/igorkokcharov/kokcharov-skillpyramid2015>
- Krstić M., Bojković R. (2009). Obrazovanje tokom čitavog života. V Majska konferencija o strategijskom menadžmentu, Zaječar, Tehnički fakultet Bor, Univerzitet u Beogradu, Zbornik radova, 218-223.
- Manders, J. (2021). Skills matrix template . Retrieved from [www.ag5.com](http://www.ag5.com) .
- OECD (2014). Competency Framework - OECD. Retrieved from Talent.oecd, Learn. Perform.Succeed: [https://www.oecd.org/careers/competency\\_framework\\_en.pdf](https://www.oecd.org/careers/competency_framework_en.pdf)
- Rohrer, C. (2014). When to Use Which User-Experience Research Methods. Retrieved from Nielsen Norman Group: <https://www.nngroup.com/articles/which-ux-research-methods/>
- SKI (2021). Skill. Retrieved from <https://www.dictionary.com/browse/skill>



**Book of Proceedings**

SKMA (2011). Skills Matrix. Retrieved from VALAMIS: <https://www.valamis.com/hub/skills-matrix>

VEŠ (2019). Veština. Retrieved from Wikipedia Slobodna enciklopedija: <https://sr.wikipedia.org/sr-el/Ve%C5%A1tina>

VSMT (2021). Skills Matrix Template. Retrieved from <https://www.valamis.com/resources/publications/skill-matrix-template>

WCCO (2021). What is Competence. Retrieved from IGI Global, Publisher of Timely Knowledge: <https://www.igi-global.com/dictionary/conceptual-framework-assessment-higher-education/4804>

WME (2021). Metodologija. Retrieved from Wikipedia Slobodna enciklopedia : <https://bs.wikipedia.org/wiki/Metodologija>



Book of Proceedings

***ADVANCEMENTS IN HEALTHCARE AND HUMAN RESOURCE  
MANAGEMENT: CHALLENGES AND OPPORTUNITIES IN THE  
AGE OF TECHNOLOGY***

*Usman Iqbal<sup>1</sup>  
Suleman Atique<sup>2</sup>  
Mihajlo Rabrenović<sup>3</sup>*

***ABSTRACT***

*The paper's emphasis is on the crucial roles of healthcare and human resource management in today's technology-driven world, as a part of global entrepreneurial ventures. The authors highlight the rapid advancements in healthcare technologies and explore the connection between healthcare and human resource management. The paper discusses new technologies, such as artificial intelligence, telemedicine, and wearable devices. The paper explains how these technologies have transformed healthcare delivery and patient care. In this paper, the authors address the shortage of healthcare professionals in various regions and discuss the evolving roles of healthcare workers due to technology integration. The text examines the impact of increased administrative tasks on healthcare staff and explores the changing dynamics of HR management in the healthcare sector. The paper emphasizes the critical role of HR in managing the healthcare workforce and discusses how HR strategies can enhance healthcare organizations' performance and employee satisfaction. Strategies are offered for healthcare organizations to address workforce challenges and the importance of continuous training and upskilling for healthcare professionals is discussed.*

**Key words:** human resource management, global entrepreneurship, health care, challenges, opportunities  
**JEL Classification:** I10, M15, O15

***INTRODUCTION***

In the recent period, global entrepreneurial ventures have become significantly related with improvements in human resource management and healthcare delivery (Krstić & Pavlović, 2020). These important sectors are facing big reforms that are changing the way businesses function, serve their employees, and contribute to the well-being of society.

***ADVANCEMENTS IN HEALTHCARE***

**Telemedicine and Telehealth:** The invention of telemedicine and telehealth significantly changed healthcare accessibility. Entrepreneurs have developed platforms and applications that provide a

---

<sup>1</sup> School of Population Health, Faculty of Medicine and Health, University of New South Wales, Sydney, Australia, usman.iqbal85@gmail.com

<sup>2</sup> The Department of Public Health Science, Faculty of Landscape and Society, Norwegian University of Life Sciences, Ås, Norway, suleman.atique@nmbu.no

<sup>3</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, mihajlo.rabrenovic@vspep.edu.rs





## Book of Proceedings

connection between patients and healthcare professionals. This shift enables convenient and cost-effective solutions for remote diagnosis, monitoring, and consultations.

**Artificial Intelligence (AI) in Healthcare:** AI-driven applications have streamlined diagnostic processes, bettered drug discovery, and enhanced patient care. Entrepreneurs are developing AI tools to tailor treatment plans and manage healthcare data more efficiently.

**Genomic Medicine:** The Human Genome Project enabled the path to personalized medicine. Entrepreneurs are using genomic data to provide treatments tailored to an individual's genetic profile.

**Wearable Health Tech:** Wearable devices like smartwatches and fitness trackers are making it possible for patients to monitor their health in real time. These innovations are providing new opportunities for entrepreneurs in healthcare, developing preventative care and wellness management (Krstić, Milojević, Rabrenović, 2023).

### ***ADVANCEMENTS IN HUMAN RESOURCE MANAGEMENT***

**Remote Work Options:** The COVID-19 pandemic intensified the acceptance of remote work (Satria Fauzi Budi, Iqbal, Rabrenović, 2022). Entrepreneurs are producing software and platforms to facilitate remote team cooperation, project management, and HR tasks.

**HR Analytics and Data-Driven Decisions:** Data analytics and machine learning tools are now being used to make informed HR decisions. Entrepreneurs are creating HR software that can predict employee turnover, improve providing of talent, and optimize workforce planning.

**Employee Well-being Activities:** The focus on employee well-being is increasing.

Entrepreneurs are developing solutions for mental health support, stress management, and work-life balance (Rabrenović, Cukanovic Karavidic, Stosic, 2018). These efforts aim to increase employee engagement and productivity.

**Diversity, Equity, and Inclusion (DEI):** Global entrepreneurial ventures are placing greater importance on diversity, equity, and inclusion. Entrepreneurs are developing instruments and strategies to provide a more diverse workforce and an inclusive workplace culture, adapted to societal values and expectations.

### ***IMPACT ON GLOBAL ENTREPRENEURIAL VENTURES***

These improvements in healthcare and human resource management offer a number of benefits for global entrepreneurial ventures. They allow businesses to attract and keep top talent, promote a healthy and productive workforce, and ensure compliance with development of regulations. Moreover, they enable businesses to navigate a competitive landscape by delivering innovative products and services, enhancing customer experiences, and achieving sustainable growth (Radović Marković, Vujičić, 2014).

The connection between healthcare and human resource management with global entrepreneurial ventures is an exciting frontier in today's business world. As these sectors continue to change, entrepreneurs have the opportunity to lead the charge in making the future of healthcare delivery, employee management, and societal well-being. Embracing these improvements can be a defining factor for success on the entrepreneurial horizon.



**Book of Proceedings**

***CHALLENGES IN HEALTHCARE AND HUMAN RESOURCE  
MANAGEMENT IN THE AGE OF TECHNOLOGY***

In the age of intensive technological development, healthcare and human resource management are witnessing significant changes that attract both opportunities and challenges. While technology has the potential to revolutionize these fields, it also poses significant obstacles.

**Data Security and Privacy:** With the fast growth of electronic health records and telehealth platforms, the security of patient data has become a big concern. Cyberattacks and data breaches pose a significant threat to patient privacy and can have legal and ethical consequences.

**Healthcare Inequality:** Although technology can improve healthcare accessibility, it can also worsen disparities. Not everyone has equal access to contemporary devices, such as high-speed internet and smartphones, or the digital literacy necessary to benefit from telemedicine and health apps, leaving vulnerable populations at a disadvantage.

**Regulatory Framework:** The healthcare business is working in a competitive environment and a number of growing laws. Entrepreneurs should know how to deal with these frameworks.

**Cost of Application:** Improvements in healthcare technology are in most cases costly. Small healthcare players may struggle to cover the costs of implementing electronic health records, AI-driven diagnostics, and other tech solutions.

**Cybersecurity Risks:** As human resource management significantly depends on technology for data storage and processing, the risk of data breaches and cyberattacks grows. Delicate employee information, such as personal data and payroll details, is at risk.

**Resistance to Change:** Employees may reject adopting new HR technologies or remote work techniques. Overcoming this and ensuring a smooth transformation to new concepts can be an issue for HR managers and entrepreneurs.

**Data Privacy:** HR specialists handle a great number of personal data. Following data privacy rules is a demanding task for businesses operating globally.

**Skills Gap:** The fast change of technology could result in a skills gap of employees. Entrepreneurs should invest in employee training to ensure that their groups can effectively implement new technologies.

***IMPACT ON HEALTHCARE AND HUMAN RESOURCE MANAGEMENT***

These challenges in healthcare and human resource management, though significant, are not problematic. Entrepreneurs and businesses that deal with these issues proactively can secure a better position and achieve better results. Navigating the issues in the fields of data security, inequality, and compliance requires knowledge and experience in the field of strategic management.

***OPPORTUNITIES IN THE AGE OF TECHNOLOGY***

In the modern times of technology, healthcare and human resource management are facing significant opportunities that provide possibilities for improving these sectors (Pilipović, 2020). Technological changes offer new ways to improve healthcare delivery and optimize human resource procedures.



Book of Proceedings

***OPPORTUNITIES IN HEALTHCARE***

**Telemedicine and Remote Monitoring:** The development of telemedicine and remote monitoring offers opportunities for healthcare players to form a broader patient database. Entrepreneurs can develop software that facilitates virtual consultations and remote patient monitoring, bettering healthcare access and reducing costs.

**Artificial Intelligence (AI) and Machine Learning:** AI-driven capacities present possibilities for early disease diagnosis, future-oriented analytics, and precision medicine. Entrepreneurs can use AI to improve diagnostics, personalize therapy, and for other medical actions, as well as to conduct administrative tasks, in order to achieve enhanced patient results related to outcomes and operational efficiency.

**Wearable Health Devices:** Wearable health technology provides a platform for entrepreneurs to create innovative solutions for tracking and managing personal health. These devices enable real-time monitoring of vital signs, activity levels, and more, empowering individuals to take a proactive role in their health management.

**Genomic Medicine:** Genomic data analysis could be used to enable personalized medicine. Entrepreneurs can develop software that uses genetic information to tailor treatments and medications for individuals, thus improving the effectiveness of healthcare interventions.

***OPPORTUNITIES IN HUMAN RESOURCE MANAGEMENT***

**Remote Work Solutions:** The appearance of remote work creates opportunities for entrepreneurs to develop and market remote work options. Virtual cooperation techniques, project management software, and remote workforce management platforms empower organizations to harness global talent and optimize operational efficiency.

**HR Analytics and Data-Driven Decision-Making:** Data analytics tools provide opportunities to make more informed HR decisions. Entrepreneurs can develop software that predicts employee turnover, enhances talent acquisition, and supports workforce planning, leading to better employee retention and productivity.

**Employee Well-being Programs:** The focus on employee well-being offers opportunities for entrepreneurs to create answers to challenges in the fields of promotion of mental health, stress management, and work-life balance. These programs can boost employee engagement and contribute to a healthier, more productive workforce.

**Diversity, Equity, and Inclusion (DEI):** Entrepreneurs can develop techniques and methods to support diversity, equity, and inclusion in the workplace. DEI initiatives are increasingly seen as a competitive advantage, promoting innovation and attracting a diverse pool of top talent.

***IMPACT ON HEALTHCARE AND HUMAN RESOURCE MANAGEMENT***

The integration of technology in healthcare and human resource management offers some advantages. It enables managers to deliver more efficient and accessible healthcare services, optimize HR operations, and promote a culture of innovation and inclusivity (Stošić, Rabrenović, 2015). By managing these opportunities, businesses can gain a competitive edge, improve patient and employee experiences, and contribute to the advancement of these vital sectors.

The age of technology presents a wealth of opportunities in healthcare and human resource management. Entrepreneurs and organizations that embrace these opportunities stand to benefit from improved patient



## Book of Proceedings

care, enhanced workforce productivity, and a competitive edge in the evolving global landscape. As technology continues to evolve, the potential for innovation and positive change in these sectors remains vast, making them exciting domains for entrepreneurial ventures.

### **CONCLUSION**

In conclusion, the age of technology presents both opportunities and challenges in healthcare and human resource management. Entrepreneurs and HR professionals should navigate these challenges thoughtfully and creatively, using technology as a tool to improve patient care and employee experiences while addressing the complex issues that arise in the digital era. As technology continues to advance, finding innovative solutions to these challenges will be pivotal in ensuring the success and sustainability of businesses in these vital sectors.

### **REFERENCES**

- Krstić, M., Pavlović, N. (2020). Behavioral Economics: New Dimension in Understanding the Real Economic Behavior. In Akkucuk, U. (Eds), Handbook of Research on Sustainable Supply Chain Management for the Global Economy, 281- 298. IGI Global, Hershey.
- Krstić, M. S., Milojević, I., Rabrenović, M. (2023). Sustainable Development and Climate Change Mitigation. In U. Akkucuk (Eds.), Handbook of Research on Quality and Competitiveness in the Healthcare Services Sector, 152-176. IGI Global, Hershey.
- Pilipović, J. (2020). Vrt od slova. Platonova misao i Vergilijeva idilična poezija. Službeni glasnik, Beograd.
- Rabrenović, M. (1995). Pojam organizacije. *Ekonomika poljoprivrede*, 42(1), 51-61.
- Rabrenović, M. (2022). Upravno pravo na prekretnici i pravna priroda upravnih aktivnosti: Osvrt na neke osobenosti nadzora nad delatnošću osiguranja u Srbiji. *Evropska revija za pravo osiguranja*, 21, 9-17.
- Rabrenović, M. (2011). Strategijski menadžment u javnom sektoru, JP „Službeni glasnik“, Beograd.
- Rabrenović, M., Iqbal, U. (2021). Značaj velike količine podataka i veštačke inteligencije za efikasne planove u oblasti zdravstvene zaštite. *Moderne tehnologije, novi i tradicionalni rizici u osiguranju*, Šabac, Zbornik radova, 64-70.
- Rabrenović, M., Cukanovic, Karavidic, M., Stosic, I. (2018), Association of strategic management with vaccination in the terms of globalization. *Int. J. for Quality in Health Care*, 30(3), 234–239.
- Radović Marković, M., Vujičić, S. (2014). Innovative global companies – some case studies. In the Proceedings: Entrepreneurship – Factors Affecting Small-Scale Business Performance and Development, Belgrade, 403-417.
- Satria, F. B. R., Iqbal, U., Rabrenović, M. (2022) Potencijal sektora zdravstvenog osiguranja kao ključnog igrača u eri nakon pandemije. *Tokovi osiguranja*, 38(3), 121-142.
- Stošić, S., Rabrenović, M., Simonović, P. (2018). Who Bears the Burden of increasing Medical Costs? Proceedings.
- Stošić, S., Rabrenović, M. (2016). Health Insurance and Patients' Rights in the European Union. *Strani pravni život*, 2, 185-197.
- Stošić, S., Rabrenović, M. (2015). Mikroekonomski principi u zdravstvenom sektoru – tražnja za zdravstvenim uslugama u Republici Srbiji. *Megatrend revija*, 12(3), 29-48.



Book of Proceedings

***ANALYSIS OF CHANGING TRENDS IN PUBLIC RELATIONS INDUSTRY – PUBLIC RELATION AGENCIES AS LEADERS OF THE FEMALE DOMINANCE IN MANAGEMENT POSITIONS IN CROATIA***

Marina Đukić<sup>1</sup>

Tatjana Iles<sup>2</sup>

Mirela Belaj<sup>3</sup>

**ABSTRACT**

*While the theoretical definition of public relations as a young profession important for maintaining the positive social reputation of organizations and individuals, and the publication of numerous university textbooks and professional books on public relations, were mostly done by men, in the practical realization for many years' women have been predominant (Broom, 2010; Cline et al., 1986; Toth & Grunig, 2009; Topić et al., 2019). Therefore, public relations (PR) are often regarded as a female field although women still face obstacles and limitations regarding their position in the hierarchical organization structures, glass ceiling, pay gap, sexism and discrimination. Although women usually differ in leadership styles, and have no significant differences in leadership skills regards to men, they are still largely absent from managerial positions in in public relations sector. This study aims to analyse management position of women in public relations industry in Croatia particularly regarding the possible difference in specific organizations – public relations agencies, large companies and public institutions. The study sought to answer: The study sought to answer: (1) Do women still dominate in public relations sector in Croatia (2) Are women still underrepresented on managerial positions in public relations industry; (3) Is there any differences in women underrepresentation on managerial positions regards to the type of employment. In order to answer these questions a survey was conducted on a sample of 48 institutions that practice public relations – 20 agencies, 8 large companies and 20 public institutions. Main assumption of the study is that, although the industry is being slow to change, certain positive shifts are present, and the leaders in this sense are public relation agencies.*

**Key words:** public relations, women, managerial positions, public relation agencies

**JEL classification:** D83

**INTRODUCTION**

Available literature on women in public relations confirms that this profession is often regarded as female field. Women began to outnumber man in the industry many decades ago (Cline, 1986). But, scholars have recognized persisting issues that women face such as glass ceiling, pay gap as well as sexism and discrimination (Broom, 2010; Cline et al., 1986; Toth & Grunig, 2009; Topić et al., 2019). On the other hand, research overview showed a greater inclusion of women in global management in general (Stefanović et al., 2012) and also that women possess and develop a greater amount of managerial skills in public relations (Zerfass and al., 2014). More particularly, possession of so-called feminized values of

<sup>1</sup> Academy of Arts and Culture in Osijek, University of J.J. Strossmayer in Osijek, Croatia, mdjukic@aukos.hr

<sup>2</sup> Academy of Arts and Culture in Osijek, University of J.J. Strossmayer in Osijek, Croatia, tatjana.iles@aukos.hr

<sup>3</sup> Sib.hr (SIBOS za promociju i usluge), Osijek, Croatia, belajmirela2@gmail.com





## Book of Proceedings

public relations such as more developed sense of altruism, social sensitivity, two-way communication, listening to interlocutors and empathy in relation to men (Grunig, 2000; Pomper & Jung, 2013) along with "soft" leadership style of management enables greater advancement of women in the workplace and improvement of the company business efficiency (Bahtijarević-Šiber et al., 2008). As scholars are increasingly recognizing these issues, persisting problems or prejudice against women in public relations, although changed with time, still remain which consequently seem to deprive women of career progress and equality of opportunities (Topić et al., 2019; Topić & Tench, 2020).

Guided by the conclusions of previous research on the dominance of women in public relation industry, but still the ubiquitous challenges and obstacles they face, which prevent them from achieving a better business position, and considering the changes that are gradually introduced through legal regulations on gender equality, the main goal of this study is to analyse are women still absent from managerial positions in public relations sector with special focus on agencies, large corporations and public institutions in Croatia.

### ***RESEARCH ON WOMEN IN PUBLIC RELATIONS INDUSTRY***

First larger studies of women in public relations started to appear in 1980-s when so-called feminist analysis of public relation was developed, which is a consequence of two situations, as Papinchak (2005) states: the first was related to the moment when women visibly surpassed the number of men and the second related to the general motivation by the desire for constant growth of roles and the recognition of the exceptional importance of women in this profession. Among first larger feminist analysis of women in public relations was research by Cline et.al (1986) which noticed that women, although they make up the majority of employees in the PR sector, still receive a lower salary than men for the same amount of work done. In addition, women don't have the same opportunities for advancement in the workplace compared to men, and ultimately face the many effects of the glass ceiling. The later refers to the totality of the challenges and limitations faced by women in the working environment, including gender stereotypes (Ružić & Perušić, 2014: 101). Three decades later scholars still recognize unfavourable position of women in public relations (Place & Vardeman-Winter, 2018; Toth & Grunig, 2009; Broom, 2010; Zerfass and al., 2014) to that extent that the same issues that were being reported in the 1980s are returning to the scene during the period 2010-2019 (Topić et al., 2019). Along with discrimination issues especially regarding differences in income between man and women with men holding monopoly on the higher-earning positions (Topić & Tench, 2020; Planinić & Ljubičić, 2020; Polić & Holy, 2020) women are still exposed to gender discrimination at their workplace, primarily in the form of facing sexist statements and deeply socially rooted gender stereotypes (Polić & Holy, 2020).

Still some changing trends in public relations sector is evident. Although there is still significant pay gap between men and women in higher positions, women do manage to "break the glass ceiling" (Topić & Tench, 2020). This is especially the case in recent studies that showed that women in public relations possess and develop a greater amount of managerial skills (Zerfass and al., 2014) accompanied with "soft" leadership style of management that is suitable for public relation sectors as its core business implies persistent, planned and ethically correct communication between all social structures (Kurtić, 2016:19). Namely, women characteristics are increasingly considered advantages in numerous modern business activities (Pološki, 2003: 39), and especially in public relations as a profession that requires the application of certain interpersonal skills such as empathy and sympathy with the target public, which is primarily realized through adaptation to its growing desires and business needs. Stefanović et al. (2012:155) point out, the women breakthrough to top management and management functions which began in the 1980s is followed by a completely new style of leadership that results from the behaviour and experiences that women have acquired as women, and "which was considered unsuitable for leaders for long period of time" (Rosener, 2008). "Feminine" style of business management, which doesn't necessarily belong to the female gender, but it is believed that the majority belongs to it, is considered as a contemporary style of business management, including public relations, in which the development of power comes from character,





## Book of Proceedings

knowledge and skills of the employees, and not from their position in the hierarchical structure of an individual organization (Pološki, 2003: 40). Despite the evidence that there are no significant differences in leadership skills (but only styles), women are still largely absent from managerial positions in the organizations (Place & Vardeman-Winter, 2018; Toth & Grunig, 2009). In European corporations in 2022 women weren't sufficiently represented in making important business decisions, i.e. only 8% of employed women in company boards were also on managerial positions (European Council – Council of European Union, 2022). Earlier studies of public relations showed that women were confined to technician positions whereas men were fulfilling more managerial roles, thus enabling them to progress in their careers (Broom, 1982; Cline et al., 1986). Having in mind that communication management is a strategic management activity that helps secure the long-term functions of an organization in the society, and this requires hiring specialists at a managerial level, e.g., communication managers, rather than communication technicians (Dozier, 1988) recent studies showed significant shifts where female managers in public relations perform more activities compared to men, and for less money, while men are mainly engaged in performing technical work and receive the same, and possibly even higher, salary for this (Toth & Grunig, 2009).

Stefanović et al. (2012) see the reasons for greater involvement of women in global management primarily in less discrimination in society, in the management of differences, the importance of the female style of management for the business of modern companies, but also in an increasing number, the expertise and organization of women, as well as the connection between the share of women in management and the success of the company, which gave rise to a large number of women entrepreneurs. Legal frameworks and recommendations can certainly contribute to a greater number of women in managerial positions in public relations such as UN Convention on the Elimination of All Forms of Discrimination against Women from 2006, Council of Europe Strategy for Gender Equality 2018-2023, European Commissions Strategy for gender equality 2020-2025, which resulted in the Directive on improving gender equality in management boards adopted by the Council of the European Union in 2022. The latter refers to the necessary promotion of women to a higher position in the hierarchical structure of an individual organization (European Parliament and the Council of the European Union, 2022). In other words, by the middle of 2026, all large trading companies at the level of the European Union will have to have a minimum of 40% of employed women, namely in managerial positions (European Parliament and the Council of the European Union, 2022). Legal frameworks are certainly required as a foundation, but a change in management culture in the entire society is also inevitable.

## ***METHOD***

Based on conclusions from previous research on the women dominance in public relations, but with still the ubiquitous challenges and obstacles they face, which prevent them from achieving a better business position, and considering the changes that are gradually introduced through legal regulations on gender equality, the main goal of this paper is to look into the possible changes in the trends of positioning women in higher workplaces (managerial) in public relations. Therefore, three types of organizations in which public relations activities are carried out were specifically considered - public relations agencies, large corporations and public institutions. In addition to exploring the representation of women in management positions, the research sought to determine the gender distribution in the public relations sector as well as the number of employees in most relevant organizations in this sector in Croatia. The study sought to answer: (1) Do women still dominate in public relations sector in Croatia (2) Are women still underrepresented on managerial positions in public relations industry; (3) Is there any differences in women underrepresentation on managerial positions regards to the type of employment.

In order to answer these questions an e-mail survey was conducted on a planned sample of 48 institutions that practice public relations – 20 PR agencies, 8 large companies and 20 public institutions. Using Heath & Coombs (2006: 421-422), classification of public relations practitioners according to which there are four levels of work: entry-level technicians, supervisors, managers, and directors and executive directors,



## Book of Proceedings

along with their deputies and assistants, the focus of this the paper will be an analysis of female managerial position which is a fourth level according to mentioned classification. Main assumption of the study is that, although the industry is being slow to change, certain positive shifts are present, especially regarding the higher number of women on managerial positions, and the leaders in this sense are public relation agencies.

### *SAMPLE*

Sample was selected according to the following guidelines: (1) that public relations specialists, in the narrower sense, can be employed in PR agencies, small, medium and mostly large companies, i.e. corporations and as freelancers, more precisely as freelancers who mostly work from home (Tomić, 2016: 45); (2) the largest number of employees in public relations is in agencies that are considered as independent entities, not tied to the organizational structure of the company or organization for which they work for (Skoko, 2004: 158), and today they are still, at least in transition countries, the most represented on the market; (3) the most developed public relations departments have large corporations that are focused on consumers, but at the same time have an influence on other publics as well (Kotler & Mindak, 1978) (4) public institutions oftentimes have public relations departments, but rarer marketing departments (Kotler & Mindak, 1978; Verčić, 2004). These guidelines directed the research towards public relations agencies, large corporations and public institutions. From each mentioned cluster, 20 sample units were selected according to specific criteria. In the absence of a single review of PR agencies in Croatia, the only available list of agencies in Croatia, published on the Mangjura.hr website (public relations agency) (Kraljević, 2023), was used to select the sample. There are currently 95 acting public relations agencies in Croatia divided in five Croatian regions so four from each region (Zagreb and surroundings, Northern Croatia, Slavonia, Dalmatia and Istria and Primorje) was selected for research considering two criteria: (1) existence of an active website; (2) the longest tradition because it is assumed that they have a larger number of employees compared to newly established agencies. Large corporations were selected by their focus on consumers, but also other public, according to the classification of Kotler & Mindek as forth level of organizations – large (1978), and on the basis 1000 largest companies in Croatia by their business activities list, published on the website Lider Media. The sample consisted of the first 20 companies with the highest realized revenues in 2021 (since the data for 2022 had not been published) (Lider Media, 2021). The assumption was that these companies, in addition to the marketing sector, also have public relations departments, considering Kotler & Mindek (1978) categorization. Twenty public institutions were selected, considering that unlike corporate organizations which are established to make profits, generally are more concerned with the social purpose of their work (serving citizens), rather than market pressures (Liu & Horsley, 2007). The sample was then limited to institutions dealing with political activity because politics encompass the essence of the public sector and as Liu & Horsly (2007: 379) suggest government organizations are defined by political actions and relationships. Related to second level of public relation functioning (Kotler & Mindek, 1978) and based on Verčić (2004: 40) observations, Croatian public institutions usually have public relations departments, but they also engage public relations agencies. According to the List of Public Authorities of the Information Commissioner, the sample of institutions focused on those dealing with public administration and the political system (Povjerenik za informiranje, 2023). The second criterion referred to the selection of institutions according to their legal status, which was determined by the List of Public Authorities (Narodne novine, 46/04), namely judicial bodies, ministries and financial bodies. The sample of 20 public institutions was defined with regard to the estimated media visibility, that is, the institutions of public authority that are most active on their websites and often appear in the media and as such most often communicate with the public. Lee (2001:33) calls the connection between the media and government institutions "public reporting", meaning that a fundamental duty of government officials is to constantly report decisions and actions via the media, to maintain an informed citizenry.



## Book of Proceedings

The data for the survey were collected from February until August 2023 by e-mail questionnaire which consisted of queries about the number of employees in public relations, the existence of public relations departments in large companies and public institutions, gender distribution among employed public relations practitioners and their position in the hierarchical structure. Managerial positions were classified bearing in mind that public relations departments, if they exist in large companies, are most similar to PR agencies in terms of their hierarchical structure, i.e. most of them are shaped according to the line-headquarter management model, where the executive director is the main function. or the president, while the line function consists of deputy directors and PR managers and assistants (Cutlip et al., 2003: 73). The president and executive director were taken as managerial positions in this research. Since the early response was quite low, as showed in similar public relations research (Kent et al., 2006), additional supportive actions were included – follow up calls to agencies, large corporations and public institutions, as suggested in Wu & Taylor (2003: 475) research. Although follow-up calls increased the response rate, only total of 48 respondents completed the survey as planned, among them, all 20 public relations agencies were included, 8 large companies and 20 public institutions. From top 20 large companies according to revenue in 2021, 9 companies didn't respond to e-mails and didn't return phone calls (Prvo plinarsko društvo, Konzum, HEP, Lidl, Crodux, Pliva, Orbica, Privredna banka Zagreb and Tommy) and three companies (SPAAR, Kaufland and MVM CEEnergy Croatia) responded but weren't able to provide the requested data due to their business policy, and do not normally participate in these types of research. During data collection some adjustments were made for public institutions considering that there was no available data for exact number of employees in public relations departments. Since, public institutions in great majority don't have special departments for public relations, and usually use outsourcing of public relation agencies, authors decided to adjust the study by analysing only the gender distribution for leading person that conducts public relations activities – communicates with public, noting while doing so whether its high level positions – managerial (institution officials/leaders) or spokesperson (if it is the only person that conducts this activities for the institution, having in mind that modern public relations workers in public sector have a dual role - they don't only engage in their usual activities characteristic of PR agencies and large companies, but represent a kind of spokespersons and mediators between, for example, elected representatives and the electorate (Cutlip et al., 2000: 495).

## *FINDINGS*

In in the light of growing dominance of women in public relations profession (Gower, 2019) the intention of this study was to examine whether this trend is still present in Croatian public relations sector, bearing in mind the latest research conducted on European level (Topić et.al, 2019; Topić & Tench, 2020). Based on the analysis of 20 PR agencies in Croatia and 8 large corporation and 20 public institutions, gender distribution is still in favour of female practitioners. As expected, the largest number of public relations practitioners in Croatia is found in public relations agencies (159 employees), given that they are considered the primary workplaces of PR practitioners (Tomić, 2016) and in transition countries they still employ the largest number of people in this profession (Skoko, 2004). Although large companies should have well-developed public relations departments, along with marketing (Kotler & Mindak, 1978, Verčić, 2004) in this study out of eight analysed large companies, only four of them have a special public relations department (INA, ZABA, Petrol, A1), three have exclusively a marketing department (Plodine, Medika, Phillip Morris) where a person in charge of public relations works, while one company (Hrvatski Telekom) has an integrated department for corporate communications and marketing. While among the 20 analysed public institutions, 6 of them have public relations departments (30%), 9 (45%) don't, while for the remaining 25% of them the data was not available. Although Verčić (2004: 40) pointed out that the situation in Croatian public institutions isn't in accordance with the trends highlighted by Kotler and Mindek (1978) for organizations of the second category in which there are usually only public relations departments and not marketing departments, she notes gradual changes, as shown by the results of this research.

## Book of Proceedings

Number of employees indicate significantly lower average in large companies (4 employees) (Table 2) compared to an average of eight in agencies (Table 1). However, it should be considered here that two of the analysed large corporations (Hrvatski telekom and Phillip Morris) were unable to state the numerically correct number of employees due to business policy, but instead presented the same as a percentage of male and female employees. Since it is a small sample and the generally low response of companies to the survey, these data cannot be considered relevant, but they can certainly be an incentive for future research.

The dominance of women in public relations was confirmed by observing the gender distribution of a total of 159 employees in the analysed 20 PR agencies in Croatia, where female employees make 67% (106 employees) in regards to 33% (53) of male PR practitioners. Given that the sample includes agencies of all sizes, represented in all 5 Croatian regions, the average number of women employed in public relations agencies is five, while the average number of employed men is slightly less than 3 (2.7) (Table 1). In relation to large corporations, only one public relations agency stated only the gender distribution of employees through a percentage share, and not by number (F.O. Centering, where female PR practitioners are employed to a greater extent).

Table 1. Gender and managerial positions distribution in public relations agencies in Croatia

PR agencies	Female employees	% of total employees	Female managerial positions	% of total employees	Male employees	% of total employees	Male managerial	% of total employees	Total employees
Briefing komunikacije	2	50%	1	25%	2	50%	0	0%	4
Millenium promocija	6	50%	0	0%	6	50%	2	17%	12
Bruketa&Žinić&Grey	34	67%	7	14%	17	33%	5	10%	51
Manjgura	6	75%	0	0%	2	25%	1	13%	8
F.O. Centering		56%	3			44%	3		NA
PR Lady	1	100%	1	100%	0	0%	0	0%	1
OMG Agency	1	100%	1	100%	0	0%	0	0%	1
Traffika	0	0%	0	0%	1	100%	1	100%	1
Adverta	0	0%	0	0%	2	100%	1	50%	2
Reroot	17	57%	0	0%	13	43%	1	3%	30
A2D komunikacije	2	100%	1	50%	0	0%	0	0%	2
HORKA komunikacije	1	50%	1	50%	1	50%	0	0%	2
Dubrovnik Partner	2	100%	1	50%	0	0%	0	0%	2
Media oglasi	14	78%	1	6%	4	22%	2	11%	18
Promo plan	2	100%	2	100%	0	0%	0	0%	2
Angelus komunikacije	1	100%	1	100%	0	0%	0	0%	1
Alphera	4	80%	2	40%	1	20%	0	0%	5
Premium Image	8	73%	1	9%	3	27%	0	0%	11
Atauctus	1	50%	0	0%	1	50%	1	50%	2
Brandier	4	100%	1	25%	0	0%	0	0%	4
TOTAL	106	67%	24	15%	53	33%	17	11%	159
Average number of employees	5,5		1,2		2,7		0,85		8,15

Source: Authors

A similar gender distribution was also observed when looking into public relations employees in large corporations, where women are represented in 76% (26 employees) of the sample, and men in 24% (8

employees), noting that for two large companies, gender distribution was shown only in percentage share (which favours female employees to a greater extent) (Table 2). Although the number of public relations employees in public sector institutions wasn't available and considering that in most cases Croatian government institutions have either spokesperson employed or government official/institution leader is the one who communicates with public, in order to examine the gender distribution in public relations of public institutions authors determined the gender of person that performs public relations activities at general. Findings reveal that it is usually one person that conducts PR activities. As listed in Table 3 55 % are female PR practitioners in public relations institutions in regards to 45% of men. The data would be different if the exact number was available, but the follow up phase of questionnaire showed that if there is more than one person working within PR sector of public institutions it is usually a female.

Table 2. Gender and managerial positions distribution in large corporations in Croatia

Large corporations	Female employees	% of total employees	Female managerial positions	% of total employees	Male employees	%	Male managerial positions	% of total	Total employees
INA	4	67%	0	0%	2	33%	1	17%	6
Hrvatski telekom		40%	0			60%	1		0
ZABA	1	50%	1	50%	1	50%	0	0%	2
Plodine	10	77%	1	8%	3	23%	0	0%	13
Petrol	4	80%	1	20%	1	20%	0	0%	5
Medika	1	100%	1	100%	0	0%	0	0%	1
Philip Morris		90%	1			10%	0		0
A1	6	86%	1	14%	1	14%	0	0%	7
TOTAL	26	76%	6	18%	8	24%	2	6%	34
Average number of employees	4,3	74%	0,8		1,3	26%	0,3		4,3

Source: Authors

Though female dominance in public relations in Croatian agencies, large corporations and public institutions was confirmed, second part of this research seek to find out whether concerns of scholars in previous research regarding female underrepresentation on managerial positions in this sector (Topić and Tench, 2020; Planinić & Ljubičić, 2020; Polić & Holy, 2020) are justified. The data collected from PR agencies indicate a change in the trend of women representation in management positions since they make up to 15% of employees compared to 11% of men. In other words, out of 106 female PR practitioners employed in agencies, 24 of them (that is, 23%) hold a directorial position - company founder or manager. At the same time, out of a total of 53 male employees, 17 of them (or 32%) hold one of the managerial positions (Table 1). From total of 20 analysed PR agencies, in 13 of them women are on management positions. Moreover, in certain agencies such as, for example, Bruketa, Žinić & Grey, there are as many as 7 women managers compared to 5 men. In agencies managed by men, there are at most three men in managerial positions. It should be considered that in most of the analysed agencies, their founders are also managers. It is also interesting that in several agencies, such as Bruketa, Žinić & Grey and F.O. Centering, in which the founders are men, they are managed by women, that is, they are in the highest positions in the hierarchical structure of the agency. Women aren't only allowed into the industry, but the data collected in this research suggest that public relations in Croatia cannot be understood as pink ghetto (Cline et al., 1986), since women are not relegated to the role of technicians, on contrary they do have real influence.



## Book of Proceedings

As shown in Table 2, although the sample for large corporations was small, female PR practitioners are more often found in management positions within the public relations departments. Out of a total of 34 employees in the public relations and related departments, 18% are women in management positions, 6 of them to be exact, while at the same time there are only 2 men (6% in total). In other words, out of the eight companies that participated in the research, in six of them the public relations sectors are managed by women. The reasons for this trend can also be explained by the higher proportion of women in top management at the global level, as observed by Stefanović et al. (2012), but also to the increasing recognition of female managerial skills and "soft" leadership styles as efficient for business development in general (Zerfass and all., 2014). It is also evident that women are more present in the public relations of those companies that deal with traditionally "female" activities such as banking, pharmaceutical and trade activities (Penava, Šehić, 2007), such as the case of Zagrebačka banka (banking), Medika (pharmacy) and Plodine (trade).

Table 3. Gender and managerial positions distribution in public institutions in Croatia

Public institutions	Female managerial positions	Male managerial positions	Function
<b>With PR departments</b>			
Hrvatski sabor	1	0	PR manager
Povjerenik za informiranje	1	0	PR manager
Ministarstvo unutarnjih poslova	1	0	Spokesperson
Ministarstvo pravosuđa i uprave	1	0	Spokesperson
Hrvatska narodna banka	1	0	PR manager
Hrvatski zavod za mirovinsko osiguranje	1	0	Spokesperson
<b>TOTAL with PR departments</b>	<b>6</b>	<b>0</b>	
<b>TOTAL % with PR departments</b>	<b>30%</b>	<b>0%</b>	
<b>Without PR departments</b>			
Državno izborno povjerenstvo	0	1	Institution official
Ured predsjednika RH	0	1	Institution official
Vlada RH	0	1	Institution official
Ustavni sud	0	1	Institution official
Državni inspektorat	0	1	Institution official
Državni zavod za statistiku	1	0	Technician
Ministarstvo zdravstva	0	1	Institution official
Hrvatski zavod za zdravstveno osiguranje	0	1	Institution official
Hrvatski zavod za zapošljavanje	0	1	Institution official
<b>TOTAL without PR departments</b>	<b>1</b>	<b>8</b>	
<b>TOTAL % without PR departments</b>	<b>5%</b>	<b>40%</b>	
<b>No data for PR departments</b>			
Povjerenstvo za odlučivanje o sukobu interesa	1	0	Spokesperson
Vrhovni sud	0	1	Spokesperson
Državno odvjetništvo	1	0	Spokesperson
Ministarstvo vanjskih i europskih poslova	1	0	Spokesperson
Ministarstvo financija	1	0	Spokesperson
<b>TOTAL not known</b>	<b>4</b>	<b>1</b>	
<b>TOTAL % not known</b>	<b>20%</b>	<b>5%</b>	
<b>Total public institutions</b>	<b>11</b>	<b>9</b>	
<b>Total % public institutions</b>	<b>55%</b>	<b>45%</b>	<b>100%</b>

Source: Authors





## Book of Proceedings

However, women are public relations managers of Petrol (transport and energy), Philip Morris (tobacco products) and A1 (telecommunications) companies, which according to research on the issue of women's advancement in their workplace in large companies in Bosnia and Herzegovina, Penava & Šehić (2007) consider traditionally "male" activities in which the most common managers of public relations are men.

Considering the aforementioned specifics of public relations in public institutions, the obtained results on management positions by gender structure are aligned with data for agencies and large corporations. It is evident that in 55% (11 institutions) there are women in management positions, either in a managerial function or as a spokesperson in cases where the only employee performing tasks in the domain of public relations (Table 3). It is interesting that in those public institutions that have public relations departments (30%) there are exclusively women in management positions in the function of PR managers and spokespeople. In contrast, in those institutions that don't have public relations departments (45%, or 9 institutions), only one woman performs PR activities (as a technician), while the other management functions are exclusively men in the function of institutional officials. In public institutions where data was unavailable for PR departments (25%), there are also women in management positions in the function of spokesperson (20%). Although the analysis of management positions in public institutions also included the function of spokesperson, it was viewed from the perspective of the role of the only official communicator with the public within the institution. The research results indicate that even public institutions, although slower and more difficult to change, follow the trends in the public relations sector and the greater positioning of women in top management.

## CONCLUSION

The study confirmed women domination in the practical realization of public relations that has been present for many years was also in Croatian public relations industry. According to the data obtained, most women are certainly employed in public relations agencies, which is to be expected considering that there they can mostly act as PR practitioners, and also establish their own agency and thus achieve and maintain their high position, while in large companies and public institutions, they often need to adapt to the often much more dominant "male" way of leadership. The researches believe that public relations sector can be considered as velvet ghetto due to the dominance of women, but women are not underrepresented on managerial positions as earlier studies have shown. Also, in the research, no major differences were observed in relation to the type of employment - public relations agency, large corporations and public institutions regarding female managerial positions. Due to insufficient large companies' response and limited data from public institutions authors are not able to generalize the data for all Croatian public relations environment. Still, study can be considered as preliminary research that brings overview of certain changes in public relations sector regarding greater enrolment of women in management, and public relations agencies as the leader in this process.

## REFERENCES

- Bahtijarević-Šiber, F., Sikavica, P. i Pološki, N. (2008). *Suvremeni menadžment*. Zagreb: Školska knjiga.
- Broom, G. M. (2010). *Cutlipovi i Centerovi učinkoviti odnosi s javnošću*. Zagreb: Mate.
- Broom, G. M. (1982). A comparison of sex roles in public relations. *Public Relations Review*, 8(3), 7-22.
- Cline, C., Toth, E., Turk, J., Walters, L., Johnson, N., Smith, H. (1986). *The velvet ghetto: The impact of the increasing percentage of women in public relations and business communication*, IABC Foundation.
- Cutlip, S. M., Center, A. H., Broom, G. M. (2000). *Odnosi s javnošću*. Zagreb: Mate
- Dozier, D. M. (1988). Breaking Public Relations Glass Ceiling. *Public Relations Review*, 14(3), 6-14.



## Book of Proceedings

- European Parliament and the Council of the European Union (2022). DIRECTIVE (EU) 2022/2381 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 November 2022 on improving the gender balance among directors of listed companies and related measures (Text with EEA relevance)
- Europska komisija. (2020). *Komunikacija Komisije Europskom parlamentu, Vijeću, Europskom gospodarskom i socijalnom odboru i odboru regija. Unija ravnopravnosti: Strategija za rodnu ravnopravnost 2020. – 2025*. Bruxelles: Europska komisija.
- Europsko vijeće – Vijeće Europske unije. (2023). *Rodna ravnoteža u upravama trgovačkih društava*. URL: <https://www.consilium.europa.eu/hr/policies/gender-balance-corporate-boards/> (accessed: 25.03.2023.)
- Gower, K. K. (2001). Rediscovering Women in Public Relations. *Journalism History*, 27(1), 14-21.
- Grunig, L. A. (2000). Feminist values in public relations. *Journal of public relations research*, 12(1), 49-68.
- Heath, R. L., Coombs, W. T. (2006). *Today's Public Relations – An Introduction*. Thousand Oaks: Sage Publishing.
- Kent, M., Taylor, M., Turcilo, L. (2006). Public relations by newly privatized businesses in Bosnia-Herzegovina. *Public Relations Review*, 32(1), 10–17.
- Lee, M. (2001). Intersectoral differences in public affairs: The duty of public reporting in public administration. *Journal of Public Affairs*, 2(2), 33– 43.
- Lider Media. (2021). 1000 najvećih. URL: <https://lidermedia.hr/1000-najvecih> (accessed: 13.08.2023.)
- Kraljević, L. (2022). Popis (PR) agencija za odnose s javnošću u Hrvatskoj. Available at: <https://manjgura.hr/blog/popis-pr-agencija-za-odnose-s-javnoscu-u-hrvatskoj> (23.5.2023.)
- Kotler, P., Mindak, W. (1978). Marketing and public relations: Should they be partners or rivals? *Journal of marketing*, 42, 13-20.
- Kurtić, N. (2016). *Odnosi s javnostima*. Sarajevo: University press – Magistrat izdanja.
- Liu Fisher, B., Horsley, S. (2007). The Government Communication Decision Wheel: Toward a Public Relations Model for the Public Sector. *Journal of Public Relations Research*, 19(4), 377-393.
- Narodne novine. (2004). Popis tijela javne vlasti. No. 46.
- Papinchak, K. M. (2005). Feminization Theory. In: Heath, R. L. (ed.) *Encyclopedia of Public Relations*. Thousand Oaks: Sage Publishing.
- Place, K. R., Vardeman-Winter, J. (2018). Where are the women? An examination of research on women and leadership in public relations. *Public Relations Review* 44 (1), 165-173.
- Planinić, M. i Ljubičić, R. (2020). Vidljivost i važnost žena u odnosima s javnošću. *Mostariensia: časopis za društvene i humanističke znanosti*, 24 (2) 211-233.
- Polić, M., Holy, M. (2020). EUPRERA REPORT Women in Public Relations in Croatia. *Creative Media and Communications Research*, 2 (1), 1-47.
- Pološki, N. (2003). "Ženski stil" vođenja – empirijsko istraživanje primarnih nositelja u hrvatskim poduzećima. *Ekonomski pregled*, 54(1-2), 38-54.
- Pompper, D., Jung, T. (2013). Outnumbered yet still on top, but for how long? Theorizing about men working in the feminized field of public relations. *Public Relations Review*, 39(5), 497-506
- Povjerenik za informiranje. (2023). Popis tijela javne vlasti. URL: <https://tjv.pristupinfo.hr/> (13.08.2023.)
- Rosener, J. (2008). Ways Women Lead. *Harvard Business Review*, 68, 119 – 120.
- Ružić, V., Perušić, M. (2014). Položaj žena u menadžmentu – novi trendovi u fenomenu staklenog stropa. *Praktični menadžment: stručni časopis za teoriju i praksu menadžmenta*, 5(1), 98-107.
- Skoko, B. (2004). *Hrvatska – identitet, image i promocija*. Zagreb: Školska knjiga.
- Tomić, Z. (2016). *Odnosi s javnošću – teorija i praksa*. Zagreb – Sarajevo: Synopsis.
- Toth, E. L., Grunig, L. A. (2009). The Missing Story of Women in Public Relations. *Journal of public relations research*, 5(3), 153-175.



**Book of Proceedings**

Topić, M., Cunha, M. J. Reigstad, A., Jelen-Sanchez, A., Diers Lawson, A., Polić, M., Moreno, A., Zurbano Berenguer, B., Damian-Gaillard, B., Sanz, P., Fuentes Lara, C., Cesarec Salopek, N., Saitta, E., Cruz, C., Simeunović Bajić, N., Vandenberghe, H., Bibilashvili, L., Kaladze, N. (2019). Women in Public Relations – A Literature review (1982-2019). *EUPRERA Report*, 1(1), Creative Media and Communications Research Ltd. & EUPRERA. Leeds/Brussels.

Topic, M., Tench, R. (2020). Women in Public Relations: A Thematic Analysis of ECM Dana (2009-2019). In: *Women in Public Relations*. Palgrave, London.

Stefanović, V., Cvijanović, D., Vojnović, B. (2012). *Lavirinti menadžmenta*. Monografija. Beograd: Institut za ekonomiku poljoprivrede.

Verčić Tkalac, A. (2004). Marketing i odnosi s javnošću – uloge, granice i odnosi. *Tržište*, 16(1), 39-52.

Wu, M., Taylor, M. (2003). Public relations in Taiwan: Roles, professionalism, and relationship to marketing. *Public Relations Review*, 29, 473–483.

Zerfass, A., Tench, R., Verčić, D., Verhoeven, P., Moreno, A. (2014). *European Communication Monitor 2014*. Bruxelles: EACD i EUPRERA.



Book of Proceedings

***THE IMPACT OF INNOVATIVE VIDEO GAME TECHNOLOGY  
ON THE BUSINESS CLIMATE ON THE CITY OF NOVSKA***

*Marijana Mitrović<sup>1</sup>*

***ABSTRACT***

*The history of technology development is related to the history of the discovery of various techniques and tools. Not a single civilization can work without the development of technology, therefore it can be concluded that technology is as old as society itself. In order for a man to progress and survive throughout history, he was forced to create and use tools, as well as teach new generations. The video game development industry has become the subject of great curiosity, capital and governments, all based on the fact that it is a sector that grows from year to year, unlike some other sectors that during the great crisis of 2008 specifically did not have a noticeable growth. In 2018, the global market value of video games was 134.9 billion US dollars, an increase of 10 percent compared to the previous year. In Croatia, it is important to point out that for the period 2019 - 2021, which was marked by a pandemic, e.g. Nanobit LLC. had a business income of HRK 300,932,790.00. (Analysis of the video game industry 2019 - 2021. Cluster of Croatian producers of video games). Many countries have tried to create a favorable business environment. This is how the City of Novska was designed and tried to position a package of incentive measures and professional education in the field of innovative technologies of video games development. In the paper, the author will explain the Business Incubator Development Project in more detail (PISMO NOVSKA), specializing in the development of video games and its impact on entrepreneurship of the City of Novska.*

**Key words:** *Innovative technologies, video games, impact on entrepreneurship, development, EU funds*

**JEL Classification:** *M20, Z13*

***HISTORY OF VIDEO GAME DEVELOPMENT***

The first computer was made in 1943 during World War II. Then the English created Colossus (computer) - the first programmable computer that was used to decipher the German Enigma, a machine that coded German military and diplomatic messages. After the Second World War, the leadership in technology, production and application of computers was taken over by the Americans. UNIVAC was the first commercial computer produced in 1951, and in 1961 the first computer game Spacewar was created. Further development continued in the 1970s and it changed in relation to its beginning. It started with arcade games, followed by consoles (Pašić, 2019). Today there are eighth generation consoles. After production of consoles, smaller consoles, i.e. player consoles, began to be developed. An example of such is the Nintendo Switch. In the 1990s, the personal computer was developed, followed by games for personal computers, and after the emergence of mobile devices games for mobile devices were created. As the newest type of game, digital games have also been created that are played using virtual reality sets (VR glasses and similar devices).

The video game industry is the fastest growing industry in the world. As Croatia is not that far behind the rest of the world, it can be confirmed that the video game industry in Croatia is one of the fastest growing industries as well. With its growth in the world and in Croatia, it is overtaking the world's leading

---

<sup>1</sup> Smart hint savjetovanje, Novska, Croatia, PhD candidate, smart.hint.info@gmail.com



## Book of Proceedings

industries such as music and film industry (Analysis of the video game industry 2019 - 2021. Cluster of Croatian producers of video games)..

In 2016, the County of Sisak-Moslavina, i.e. the City of Novska, decided to follow innovative trends, so they set up an entrepreneurial incubator of the Sisak Moslavina County – Pismo Novska. Sisak-Moslavina County occupies the area of the Prisava lowland with a complex and diverse marginal belt. The location in the central part of Croatia gives the Sisak-Moslavina County an important role in connecting the Croatian space, especially because it is the Sisak-Moslavina county located at the intersection of two significant road and rail traffic routes; Posavina corridor which connects Zagreb and Slavonski Brod and the transport route that connects Hungary and Podravina with the Croatian coast and the Mediterranean, which gives great economic potential to these areas. Regardless of the strategic position that Sisak - Moslavina County has and the economic value it had in the recent past, it was included in the 1st group of regional self-government units whose value of the development index is less than 75% of the average in the Republic of Croatia - which leads to the conclusion that economic activity in Sisak-Moslavina County is still very weak. The city of Novska, as the location of the business incubator belongs to 4th group of regional self-government units (Investment study SIMORA d.o.o.).

The town of Novska is located in the area of western Slavonia, altitude from 90 m to 467 m, and the highest peak is Zmajevac. Novska covers an area of 319 km<sup>2</sup>. Its geo-traffic location has a special influence on its economic development and has remained its first-class potential to this day (City Novska <https://novska.hr/hr/>).

Until the founding of PISMO Novska, there were mostly companies in the area of the City of Novska that were centered around wood processing or construction. With the founding of the Entrepreneurship Incubator PISMO Novska, the city of Novska had a high 33% unemployment rate in the County (data for 2015 taken from [www.aik-invest.hr](http://www.aik-invest.hr)) and the second place in terms of unemployment in the Republic of Croatia, decided to address primarily the problem of unemployment and the departure of young people from the city of Novska and solve one of the pressing issues which most of the local self-governments were facing with after the economic crisis.

By building business infrastructure, an effort was made to stimulate economic growth in Sisak – Moslavina County and the initiation of a gradual solution to the problem of unemployment.

### ***ESTABLISHMENT OF THE BUSINESS INCUBATOR PISMO NOVSKA AND ITS EQUIPMENT***

In 2016, the Development Agency of Sisak-Moslavina County SI-MO-RA LLC (Further in the text SIMORA) designed the project Creating a stimulating entrepreneurial environment in Sisak-Moslavina county by establishing the Entrepreneurial Incubator PISMO Novska, and applied for co-financing at open public call Development of business infrastructure. The project named 'Creation of stimulating entrepreneurial environment in SMŽ by founding the entrepreneurial incubator PISMO Novska' had for the goal the development of new entrepreneurial infrastructure in the area of the city of Novska, that is, Sisak-Moslavina counties. The business incubator was intended for companies operating in the metal sector industries (metalworking, foundry...) and companies operating in the video game development sector (gaming development). The financing of the project was 100% EU funds, and at the time of the project application neither the City of Novska nor the County of Sisak - Moslavina had knowledge or experience in the gaming sector. Through the project, a business incubator specialized exclusively for companies was to establish trades involved in the development of video games. The goal of the Project was to create in the area of the City of Novska a business environment that will enable the growth of new businesses and companies (Investment study - Form 2 - Development Agency of Sisak-Moslavina County SI-MO-RA LLC). The project lasted 24 months.

Through the project, two buildings with a total area of approximately 2,000 m<sup>2</sup>, which, under more favorable conditions, were given to the so-called tenants of PISMO Novska. The first building (PISMO 1) consists of 16



## Book of Proceedings

offices and a conference hall, approximately 800 m<sup>2</sup>. The offices are equipped with office and IT equipment, so the companies that decide to be the 'tenants' of the incubator can use it for regular business creation and development of video and digital games content. The planned incubation period is 5 years.

In parallel with the reconstruction of PISMO NOVSKA – Building No. 1, there started the reconstruction of the Building PISMO NOVSKA - Building number 2. PISMO 2 was conceived as a place where the creators of games could test their products in a closely specialized equipped studio. Specifically, PISMO 2 Novska is a production hall that is equipped with the latest equipment and technologies necessary for development and testing of gaming products.

Thus it contains (EOJN, Pismo Novska):

- Motion capture studio or Studio for motion recording. It consists of 24 cameras Optitrack PrimeX 41 resolution 2048 x 2048 (4.1 megapixels) that enable optical tracking person or object with 170 LED lights, software, digital motion capture department, set and equipment for hands and feet and devices for synchronization, hardware key, set of markers, bases and adhesive tape and other accompanying equipment. The system also enables detailed recording of movements, for several persons and objects.
- PISMO 2 Novska is also equipped with an additional studio for photogrammetry. It's a studio equipped with a photogrammetric 3D scanner with a total of 170 digital cameras. Photogrammetry process saves the time of creating a 3D model because by analyzing the photos taken and using the program for photogrammetry, it is possible to create a fully textured 3D model very quickly.
- PISMO 2 is also equipped with a music studio for recording and playing music, i.e a multimedia space, a video and music studio that enables simultaneous recording, editing and streaming of all types of video recordings.
- Virtual reality equipment in which it is possible to test your work in the last stage and enables driving simulator, motion simulator in virtual reality, motion simulator - gyroscope, simulator flying, VR full rotation, 360 degree simulator, shooting simulator, and many other possibilities.



*Picture 1. Equipment Pismo incubator  
Source: Private archive of the author*

## ***BUSINESS CLIMATE AND MEASURES OF THE CITY OF NOVSKA***

The city of Novska is very well positioned, taking into account the transport connection (connection by motorway and railway), has a moderate climate and meets all entrepreneurial predispositions. Despite very good geographical traffic conditions, the situation was very bad. In 2015 unemployment in Croatia amounted to 17.4% (285,906 inhabitants, source State Institute for statistics), while in Sisak - Moslavina County it was approx. 33%. The city of Novska was entrepreneurially suitable for companies engaged in





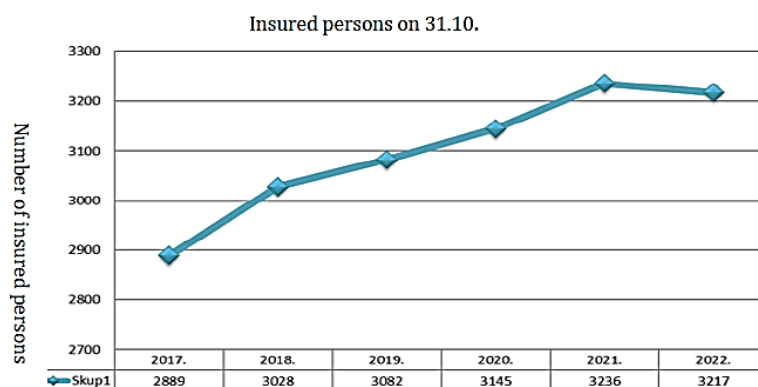
Book of Proceedings

wood processing because it had a long tradition of such companies from which throughout history we can highlight Trokut LLC. The second one related to the significant branch of the metal industry historically stood out company Kozara d.d., which has changed names and owners throughout history, and the current name is Metaflex LLC. During recessions, companies and their operations have not successfully resisted business challenges and continued their business mostly without any greater business success, in fact, more of business stagnation.

With the desire to improve, and in cooperation with the County of Sisak - Moslavina, in addition to the previously prepared Feasibility study, it was necessary to move in the direction of innovative theories where it was expected, through the fastest growing technology, to achieve significant entrepreneurial momentum in a short period of time.

So, for example, the ratio of insured persons and pension beneficiaries over the years amounted to:

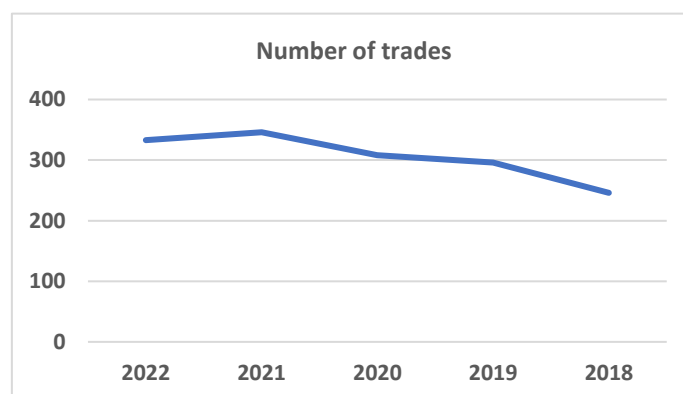
2017.	0.93	2020.	1.01
2018.	0.97	2021.	1.05
2019.	0.99	2022.	1.06



Picture 2. The relationship between insured persons and pension beneficiaries

Source: City of Novska, Administrative Department for Entrepreneurship and Rural Development

Through designed entrepreneurial activities and measures aimed at innovative video production technology through statistical data, there was an increase in the number of trades and companies, that is, a positive entrepreneurial movement (City of Novska, Administrative Department for Economy and Agriculture, Head of department Boženka Spahić).



Picture 3. Number of trades from 2018 to 2022

Source: Croatian Association of Craftsmen

Compared to 2018, an increase in the number of trades and companies in the area of the City of Novska can be clearly seen.



**Book of Proceedings**

***PACKAGE OF ENTREPRENEURIAL MEASURES IN THE CITY OF NOVSKA***

In order to achieve economic growth as soon as possible and reduce unemployment in the area of the City of Novska, a package of measures was designed with the aim of ensuring a better entrepreneurial climate in order to attract new investors. It was also necessary to help existing entrepreneurs, so the package also included measures for existing entrepreneurs.

The measures are still in the program to encourage entrepreneurship, and they are as follows:

Measure/ Incentive 1. Preservation and development of traditional and deficient craft occupations, a measure that has been active for more than 15 years, purpose: preservation and further development of less income traditional and deficit crafts activities, amount of support up to 70% of the investment value, up to 1,327.23 EUR/ 10,000.00 HRK.

Measure/Incentive 2. Submeasure 2.1. Encouraging the development of existing entrepreneurs, purpose: creating conditions for a greater number of sustainable business ventures, amount of support: 0 up to 50% of the investment value for production activities, and a maximum of 1,327.23 EUR/ HRK 10,000.00 or EUR 3,981.68/ HRK 30,000.00 if a new and high-value equipment, which results in new employment 0 to 30% of the investment value for other activities, and up to EUR 929.06/ HRK 7,000.00 or EUR 2,654.46/ HRK 20,000.00 if high-value and new equipment is acquired, which results in new employment.

Measure/Incentive 3. Submeasure 3.2. Co-financing of new employment, measure active from 2021., purpose: stimulation of new employment, growth and development of small and medium enterprises, amount of support - maximum up to EUR 398.17/ HRK 3,000.00 per workplace/to a newly employed person (support is realized in 6 months).

Measure/Incentive 4. Support for strengthening entrepreneurial competencies and competitiveness on the market, measure active for 15 years, purpose: improvement of entrepreneurial knowledge and skills in order to create prerequisites for maintaining and business development of entrepreneurs, and competitiveness on the market through the introduction of various certificates, grant amount: up to 50% of costs, and a maximum of EUR 663.61/ HRK 5,000 per public call.

Measure/Incentive 5. Competitive tourism – newly registered tourist beds, measure active from 2021., purpose: investment in increasing accommodation capacity, amount of support: up to EUR 663.51/ HRK 5,000.00 per bed, and a maximum of EUR 2,654.46/ HRK 20,000.00.

To encourage innovative technology, the following measures have been designed:

***Measures/Incentives for beginner entrepreneurs:***

Measure/Incentive 2. submeasure 2.1. Support for start-up entrepreneurs with realized support from the CES, measure active since 2018, beneficiaries: micro, small and medium-sized enterprises, trades that have a contract with CES and have been operating for less than a year from the moment of publication of the Public Call, amount of support up to a maximum of EUR 2,654.46/ HRK 20,000.00.

Measure/Incentive 2. submeasure 2.2. Support for start-up entrepreneurs with realized support from the CES in sector of the gaming industry, measure active since 2019, beneficiaries: micro, small and medium-sized enterprises, trades that have a contract with CES and have been operating for less than a year from the moment of publication of the Public Call, eligible activities: 58.21 Publishing of computer games; 58.29 Issuance of other software; 59.11 Production of films, video films and television programs; 59.20. Recording activities, sound recordings and publishing of music recordings; 62.01 Computer programming; 62.09 Other services activities related to information technology and computers amount of support up to a maximum of EUR 5,972.53/ HRK 45,000.00.



## Book of Proceedings

Measure/Incentive 3. submeasure 3.1. Support for entrepreneurs - beginners "Biram Novsku", purpose: creating conditions for a greater number of sustainable business ventures, strengthening the economy activities and encouraging the return of the active working population supports the European economy area and the Swiss Confederation, measure active from 2022., beneficiaries: mirko, small and medium-sized enterprises, trades that have a contract with CES for sub-measure of support for self-employment Labor mobility, I choose Croatia and they operate less than years from the moment of publication of the Public Call, amount of support up to a maximum of EUR 2,654.46/ HRK 20,000.00.

Measure/Incentive 4. Support for strengthening entrepreneurial competencies and competitiveness on the market, measure active for 15 years, urpose: improvement of entrepreneurial knowledge and skills in order to create prerequisites for maintaining business development of entrepreneurs, and competitiveness on the market through the introduction of various certificates, grant amount: up to 50% of costs, and a maximum of EUR 663.61/ HRK 5,000 per public call.

Measure/Incentive 5. Competitive tourism – newly registered tourist beds, measure active from 2021., purpose: investment in increasing accommodation capacity, amount of support: up to EUR 663.51/ HRK 5,000.00 per bed, and a maximum of EUR 2,654.46/ HRK20,000.00. (City of Novska, Administrative Department for Economy and Agriculture, Head od department Boženka Spahić)

It is evident from the program that a special measure intended for entrepreneurs has been designed for beginners with the realized support of the CES in the gaming industry sector. With that, they put an emphasis on the planned stimulation of an innovative industry. In combination with self-employment measures of the Croatian Employment Service and the encouraged measures of the City of Novska, newly established companies have approx. HRK 175,000.00/15,000.00 euros available. From an economic and financial point of view, it proved to be very attractive, and a very large number of new companies used it. (a total of 59 users – information from the Croatian Employment Service).

## ***EDUCATION AND NEW VIDEO GAME DEVELOPMENT TECHNICIAN PROGRAM***

### ***Six-month training in the use of Unity real or Blender programs***

As one of the biggest problems, during the founding of PISMA NOVSKA, it turned out that in the area of the City of Novska, and beyond, there is not enough professionally educated staff and competent employees which could match in the business environment of the gaming sector (Development Agency of Sisak-Moslavina County SI-MO-RA LLC).

Namely, the programs Unity real and Blender are key programs for creating video games and it was necessary to be additionally educated to use them for interested potential staff. Interested candidates have acquired through six months of education basic knowledge and skills of how to program, which programming language to choose. Education is mandatory, and in cooperation with the Croatian Employment Service, financial compensation for attendance was provided.

Given that this is a unique education of this type in Croatia, there were often candidates from all over Croatia applying for this programme. This type of education is provided even today with the successful synergy of the Croatian Institute for employment, PISMO Novska and the City of Novska.

### ***Summer gaming camp for elementary school students***

In addition to the training/classes that take place every day in the Business Incubator PISMO Novska, it is very important to highlight the summer camp of elementary school students who, in two weeks acquire basic knowledge of programming, game development and 3D modelling during the summer holidays.



## Book of Proceedings

During the summer camp, the students are accommodated in the dormitory of the Novska High School, and in their free time they organize tourist visits to the sights of the City of Novska.

The summer camp is a great opportunity for students to acquire more knowledge that they will need if they go on to continue their education, if they decide to enroll in the video game development technician course.

### ***Video game development technician high school program***

The innovative technology of video game development is also very popular among young generations. Video games have become the main form of entertainment and have become a daily way of life. Video games are often associated with the negative influences that children experience through play and the violence that can leave lasting consequences on children's psychophysical development (I. Brčić, Utjecaj video igara na djecu, 2020.).

Planning the direction of entrepreneurship, all with the aim of reducing potential harmful impacts, Sisak - Moslavina County, in cooperation with the Faculty of Organization and Informatics, created a curriculum for the new high school major called a video game development technician (Croatian classification framework). The first secondary school from the area of Sisak - Moslavina County, Sisak Technical School, acquired the spatial and professional conditions and successfully obtained consent of the Ministry of Education for teaching the specified course. After that, Novska High School received approval too and was given the opportunity to enroll students in the mentioned course. Due to the great interest of the students, a student dormitory was established within the Novska High School in order to open up the possibility of enrolling children from all over Croatia. The very need for establishment of the student dormitory is a confirmation of interest and success, that is, a sign that the idea itself came out at the local/county level and covered, one could say, the entire area of Croatia.

### ***PLANS FOR THE FUTURE OF THE ENTREPRENEURSHIP OF THE CITY OF NOVSKA***

In order to brand the City of Novska as the center of the gaming industry, in addition to the already established high school and The business incubator PISMA Novska has obtained a location permit for the construction of the Campus of the gaming industry, which will be located in the Enterprise Zone of the City of Novska. Value gaming campus is estimated at 50 million euros. A faculty building, accelerator building, student dormitory building and business incubator for e-sports will be built in the Campus. If education continues, the Center will also have a higher education institution. With its construction, the City Novska will also position itself in the gaming industry on European territory.

### ***CONCLUSION***

The development of innovative technologies is witnessed every day. Today, it is present in all strata of society, in all branches of entrepreneurship (from agriculture to medicine) in everyday life and work. With its development, innovative technology in some situations in society arouses curiosity, and sometimes skepticism and resentment. Every emergence of innovative technology is primarily accompanied by ignorance, and time is necessary for adaptation and education of all key factors.

The gaming industry is one of the innovative industries that can be said to exist in society, accepted in two ways, of very great interest by children who observe it exclusively as a game to displeasure and skepticism on the part of parents. In particular, the part of the business world that is mentioned here



## Book of Proceedings

received the gaming industry very well from a financial point of view, given that it is a very profitable branch industry, as a good source of income.

The influence of innovative video game technology on the entrepreneurship of the City of Novska is very large and can conclude that it extends in several directions.

Synergy and cooperation of local and regional self-government units can be highlighted as the first direction. where through the establishment of the PismoNovska Entrepreneurial Incubator and the creation of a new high school programme technician for the development of video games, by the County of Sisak-Moslavina, it confirms successful coordination and communication at the local and regional level.

Adaptation of local self-government units to the market can be highlighted as another direction need, where, through the investment in the construction of Campus Novska, education and new business units will be made possible for all interested students or entrepreneurs, of which there is an unexpectedly large number.

In the third direction, the development influence can also be highlighted, where the City of Novska, as a small town, with, in the beginning, very limited financial resources, through a well-developed and planned innovative development policy, imposed as one of the main leaders in the Sisak-Moslavina County and the Republic Croatia in innovative video game development technology.

Observing the Entrepreneurial Incubator Pismo Novska as an economic institution, it can be said that it has directly made a very large positive impact on the entrepreneurship of the City of Novska, taking into account all entrepreneurial indicators (a large number of trades opened in the gaming sector, newly employed teachers and co-workers in the student dormitory, the increase in demand for apartments for rent and the rise in real estate prices, etc.). It is estimated that this positive impact will continue if the synergy continues local/regional/national cooperation through the establishment of Campus Novska.

## REFERENCES

Batchelor, J. (2018). GamesIndustry.biz predstavlja... Godina u brojkama 2018. <https://www.gamesindustry.biz/articles/2018-12-17-gamesindustry-biz-presents-the-year-in-numbers-2018>. (27.05.2023.)

Brčić, I. (2020). Utjecaj video igara na djecu. *In Medias Res*, 9(17), 2669-2684. Available at: [hrcak.srce.hr/file/354680](http://hrcak.srce.hr/file/354680). [11.06.2023.]

Business incubator Novska PISMO. <https://inkubator-pismo.eu/>. (10.06.2023.)

City of Novska, Administrative Department for Economy and Agriculture, Head od department Boženka Spahić,

City of Novska <https://novska.hr/>. [10.06.2023.]

Croatian classification framework. Available from <https://hko.srce.hr/registar/standard-zanimanja/detalji/476>. [26.07.2023.]

Croatian Employment Service. Available at <https://www.hzz.hr/>. [26.07.2023.]

Development Agency of Sisak-Moslavina County SI-MO-RA LLC, <https://rk-smz.hr/simora/>. (10.06.2023.)

Digitalna komora HGK. Available at: <https://digitalnakomora.hr/home>. (25.06.2023.)

Durkheim, E. (1972). O podjeli društvenog rada. Prosveta, Beograd.

Elektronički oglasnik javne nabave. Available at: <https://eojn.nn.hr/Oglasnik/>

Haralambos, M., Holborn, M. (2002). Sociologija (teme i perspektive). Golden marketing, Zagreb.



**Book of Proceedings**

Investicijska studija – Obrazac 2 - Razvojna agencija Sisačko-moslavačke županije SI-MO-RA d.o.o., SIMORA d.o.o.

Jušić, B. (1992). Sociologija, organizacija i upravljanje organizacijom. Ekonomski institut, Zagreb.

Klaster hrvatskih proizvođača videoigara (2019). Analiza hrvatske industrije proizvođača videoigara 2019. do 2021. <https://cgda.eu/analiza-industrije-videoigara-2019-2021/>. (27.05.2023)]

Odluka o razvrstavanju jedinica lokalne i područne (regionalne) samouprave prema stupnju razvijenosti, NN 132/2017,

Pašić, M. (2019). Povijesni razvoj računala, retrieved: Medicinska škola Ante Kuzmanića Zadar. Available at:<http://www.medskolazd.hr/media/NastavniSadrzaji/Povijesni%20razvoj%20racunala.pdf> (27.05.2023.)

Regional coordinator of Sisak - Moslavina County, <https://rk-smz.hr/>. (10.06.2023.)

Swedberg, R. (2006). Načela ekonomske sociologije. Mate d.o.o., Zagreb.





Book of Proceedings

***LOBBYING'S EFFECTS ON ORGANIZATIONAL TRANSFORMATION***

*Renata Čupić<sup>1</sup>*

***ABSTRACT***

*Lobbying is a significant activity that can have a major impact on organizations, and understanding the effects of lobbying on organizational structure can help organizations make more informed decisions. It's a current and relevant topic, as organizations increasingly engage in lobbying activities to shape government policies and regulations that affect their operations, and understanding the impact of these activities on organizational structure can help organizations better align their lobbying efforts with their overall business strategy and goals. It can provide insights for organizations that are considering engaging in lobbying activities, or for those that are already engaged in lobbying and want to improve their lobbying efforts. It can also help organizations identify potential risks and opportunities associated with lobbying, such as potential conflicts of interest with stakeholders and the potential impact on the organization's reputation and relationships. The key innovations of this paper is a contribution to the existing body of knowledge on the topic of lobbying and organizations who engages lobbyist for their strategic projects, providing new insights and perspectives on the subject.*

***Key words:*** lobbying, organizational structure, change management, regulation, influencing, UAV

***JEL Classification:*** L22, M54

***INTRODUCTION***

Lobbying as a practice of attempting to influence decisions made by government officials, including legislators, administrators, and executives has developed over time, as it has become increasingly regulated with laws, rules and regulations. The act of lobbying is as old as the government itself. The practice of lobbying can be traced back to ancient civilizations where people would visit the courts of kings, emperors and other rulers to advocate for their interests.

Lobbying can have a significant impact on an organizational structure, as it can influence decision-making and shape the goals and priorities of the organization. Additionally, the distribution of authority and the distribution of resources within the organization may be impacted through lobbying. Lobbying can also lead to changes in the organizational culture and values, as well as the relationships between the organization and its stakeholders. The impact of lobbying on organizational structure can be both positive and negative, depending on the specific circumstances and the goals of the organization.

If the lobbying efforts are successful, it can lead to changes in government policies or regulations that the organization must adapt to. This can be challenging and require the organization to alter their operations, products or services, which can be costly and time-consuming. On the other hand, if the organization is able to successfully lobby for changes that align with their goals and objectives, it can give them a competitive advantage.

Additionally, lobbying can also affect the relationships between the organization and its stakeholders, which can impact the organization's ability to manage change. However, if the organization's lobbying efforts are

---

<sup>1</sup> Telemach, Zagreb, Croatia, PhD candidate, renata.cupic@gmail.com



## Book of Proceedings

perceived as conflicting with the interests of its stakeholders, it may be more difficult to gain support for change initiatives.

The effect of lobbying on organizational structure can vary depending on the specific circumstances and the goals of the organization. Lobbying can be both a challenge and an opportunity for organizations looking to manage change.

Organizations can have their own lobbyists. Many organizations, particularly larger ones, employ in-house lobbyists who are responsible for developing and implementing the organization's lobbying strategy. These lobbyists typically have a deep understanding of the organization's goals, operations, and industry, as well as strong relationships with key decision-makers and influencers in government. Having an in-house lobbyist can be beneficial for organizations as they can provide valuable insights and knowledge about the organization's operations, as well as develop and maintain relationships with government officials. In-house lobbyists can also be cost-effective as they are employees of the organization and do not require additional expenses such as hiring external lobbyists.

During the research period, from the year 2015 until 2016, Croatian expert were contract to support lobbying process for the Romanian IT company Teamnet, as their strategic plan to enter the Croatian Unmanned Aerial Vehicle market. They plan to integrate them as a part of public sector services (boarders, military, safety, emergency, law enforcement, earth sensing) marked as their primary objective and to extend their sales opportunity in the real sector (urban development, agriculture, transportation), as a second objective in a two-year time frame.

Not-known at all in the Croatian market, Teamnet was established in 2001 in Bucharest, Romania with seven employees, grew to eight hundred employees in 2015, in the year of strong company expansion to the new markets, and turnover of more than 100 million €, the company sets a highly risky goal for entering the Croatian market. As a beneficiary of EU funds they had a strict plan for objective achievements.

In the case of objective failure, the company can endure severe consequences: confirming that corruption has strongly integrated in the Romanian business, refunding of EU refunds, closure of market activities, office closing and global reputation destruction. The stakes were great and the company spent a year prior to the office opening looking for partners and experts that can support their objectives. In the year 2015 they opened a branch office in Zagreb. As a part of lobbying team, local communication expert team was dedicated with an advocacy role for creating expertise documents, collecting relevant legal information, creating relevant databases and addressing information needed for change acceptance within all stakeholders.

This paper's goal is to identify, define, and understand the key aspect of how lobbying impacts organizational structure and to analyse the framework that serves as a model for lobbyist activity development.

As part of the data collection procedure for the study for this paper, a variety of qualitative methodologies were employed, mostly from primary sources. Secondary sources included desktop research, books, websites, Croatian and EU legislative documents, professional and scientific publications, official government sites, and others. This data was processed using description, linkage, comparisons, analysis, and interpretation in addition to data obtained throughout the research period.

Prior to delving into the topic itself, the pertinent literature from both abroad and in Croatia was analysed and presented. The main part of the paper includes the definition of lobbying, lobbyist, characteristic and features, following by organizational structure framework and change management process. An important part of the paper refers to interpretation of qualitative research during the lobbying process conducted from the year 2015 until 2016 and the proposal for improving the process framework, while the conclusion summarizes the importance of this research for science, paper originality and contribution for the future research on lobbying and the effect on organizational structure.

The fundamental thesis of this study is based on an examination of the lobbying process, structure, and strategy employed, followed by an analysis of the results, but the actual research challenge is based on the impact of lobbying on organizational structure and the requirement for change management. This article identifies areas for development for the future of lobbyists and the lobbying process as the practice evolved over time and became more prevalent in society.



**Book of Proceedings**

***DISCUSSION***

***Country summary***

Romania is a country located at the crossroads of Central, Eastern and South-eastern Europe in an area of 238,397 km<sup>2</sup> with a population of around 19 million. Romania is the twelfth-largest country in Europe, and the sixth-most populous member state of the European Union. Romania is a developing country, with a high-income economy, ranking 49<sup>th</sup> in the Human Development Index. Romania has been a member of the United Nations since 1955, NATO since 2004 and a full EU member since January 1<sup>st</sup> 2007. Near the end of 2013, The Economist reported Romania again enjoying "booming" economic growth at 4.1% that year, with wages rising faster and a lower unemployment rate than in Britain. Economic growth accelerated in the midst of government liberalisations in opening up new sectors to competition and investment—most notably, energy and telecoms.

***Company summary – strength advantages for chosen lobbying strategy***

Established in 2001, Teamnet Group is one of the most important IT&C integrators in Romania, as well as an influential mentality change advocate in the region's countries. They were renowned in the market for their important investments in improving the GIS technology, Cloud computing, SCADA and Robotics. The Group has been included for seven years in a row in the "Deloitte Technology Fast 50 Central Europe" ranking that lists top companies according to their revenue growth rate. Moreover, Teamnet was the only Romanian company included in the "Big 5" category of the "Deloitte Technology Fast 50 Central Europe" top in the year 2015, holding the fourth place in the ranking. Their regional expansion started in 2010 and, besides their headquarters in Romania they extended business activities to Central and Eastern Europe (CEE), the Middle East and North Africa (MENA).

***UAV REGULATION***

The local regulations regarding UAV differ from one country to another, but the important thing to have in mind was that officials throughout Europe were working in order to develop a regulatory framework for UAV systems. Meanwhile, in order to ensure easy access, the company offered UAV as a Service, which basically means that our UAV users can benefit from all the deliverables obtained with Hirus, while the service provider manages the flight certification, the flight itself and the image processing. This approach significantly lowers the acquisition costs and resources and helps institutions and organizations to use UAVs.

***STAKEHOLDERS AND LOBBYING MILESTONE***

In order to achieve objectives in a given time frame, top-down strategy was chosen to address targeted stakeholders that are:

1. Ministries, Government (Figure 1),
2. Diplomacy,
3. Media (Figure 2).



Book of Proceedings

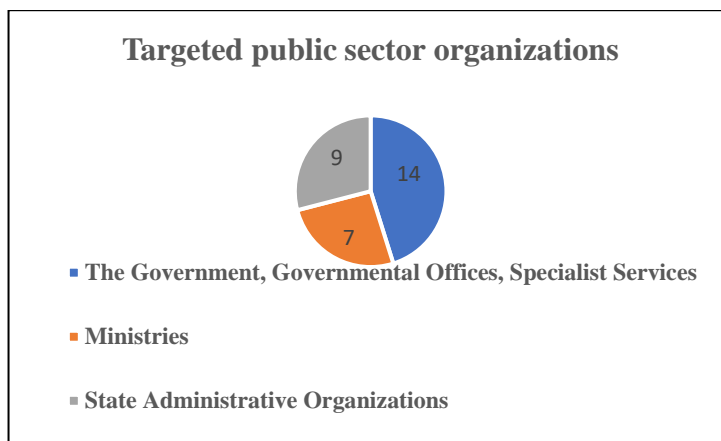


Figure 1. Targeted public sector organizations  
Source: Desktop research

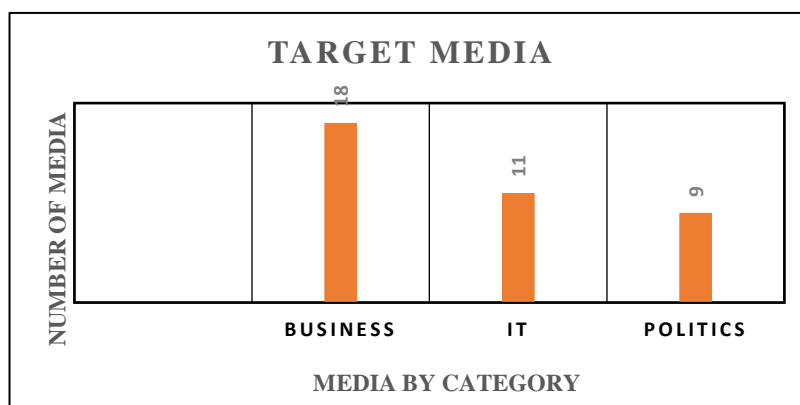


Figure 2. Targeted media relevant to objectives

Source: Hrvatsko novinarsko društvo, Adresar medija, <https://hnd.hr/adresar-hr-medija>

Corruption in Romania was increased, and possibilities for business cooperation's in Croatia have lacked. Furthermore, Croatia hasn't had a strategy for UAV (An unmanned aerial vehicle) usage in any public sector organizations, including ministries and government. They lack of knowledge, understanding and benefits of UAV usage, and the only information they are aware of being, are about the drones as an entertainment, misleading them from real UAV purpose. UAV wasn't planned in future strategies as well in any document, strategies or programs of any Ministers and/or Government. And finally, no local companies find UAV an important tool for supporting regular public sector activities, nor find UAV usage for business purposes. Since there is no UAV market at the moment, Teamnet is starting from scratch. Croatian business and companies were used to corruption, state and mind settings, so company focused on opportunities rather than custom behaviour.

Engaging a good lobbyist were crucial for objective fulfilment in terms of skills, knowledge and attributes. Those qualifications could enable effectiveness in the role, and includes:

1. Knowledge of the industry and policy area: A good lobbyist has a deep understanding of the industry and policy area they are working in, including the key issues, stakeholders and government processes.
2. Strong communication and negotiation skills: A good lobbyist is able to effectively communicate the organization's or client's position to government officials and other stakeholders, and can negotiate and advocate for their interests.
3. Strong relationships: A good lobbyist has strong relationships with key decision-makers and influencers in government, as well as other stakeholders in the industry, this allows them to effectively advocate for their client's interests.



## Book of Proceedings

4. Strategic thinking: A good lobbyist is able to think strategically and develop effective lobbying strategies that align with the organization's or client's goals and objectives.
5. Ethics and integrity: A good lobbyist is committed to ethical and professional conduct, and is able to navigate the complex and ever-changing landscape of lobbying laws and regulations.
6. Resilience: A good lobbyist is able to handle rejection and setbacks, and is able to adapt and adjust their strategy when necessary.
7. Networking: A good lobbyist is able to build and maintain a wide range of professional relationships, both within and outside of government, as well as with other stakeholders in the industry.
8. Results oriented: A good lobbyist is able to achieve results for their clients, and can demonstrate a track record of success in their lobbying efforts.

## ***STAKEHOLDERS SUPPORT***

1. Ministries: Ministry of Defence, Ministry of Science and Education, Ministry of Tourism and Sport, Ministry of the Sea, Transport and Infrastructure, Ministry of Agriculture, Ministry of Economy and Sustainable Development, Ministry of Physical Planning, Construction and State Assets supported the initiative and showing understanding that the UAV usage can be beneficiary for them as an important tool in surveillance, national safety, in the case of emergency, agriculture and road planning and help to prevent human lives, infrastructure and as important accident and incident preventing tool. UAV as a monitoring tool in the long-term can cut expenses, ensure society as a whole which they find interesting, as well. The potential obstacle some of them point at the possibility of repeating corrupt activities, in which any public service representative didn't want to be involved.
2. Croatian Premier Tihomir Orešković – already had an experience of UAV usage in his prior business role, fully supports the company initiatives for UAV usage in relevant Ministries, especially addressing the Ministry of Defence and Ministry of Tourism and Sport.
3. Diplomacy – Romanian Ambassador was a voice of the company, understanding that a high tech company can become a role model and a prime partner for UAV and usage of technology advancement in Croatia. The Ambassador address the need to change the current business course and with Teamnet opened a new chapter of bilateral relations within countries. The Ambassador wanted to demonstrate that not all businesses should be banned due to unethical behaviour on the part of one person.
4. Society –activities were primarily addressed public services organizations, with media support activities society showed high interest (30%) for private, individual usage as an entertainment and as a relevant business opportunity where new and technologically advanced with various functionalities can increase country development rate. Common for several corruption scenarios in the past, society was focused on development with no need to stress negativity.
5. Private sector – private sector showed a great increase of interest, ignoring corruption background. Croatia has several corruption crises in its history and private sector didn't find that as an obstacle if the product was good, according to their expectations. Lobbyist activities aroused their strong interest and the market has grown exponentially. The company had requests for 15 offers for UAV Hirrus in one quarter. Three local companies (competitors) understand UAV potentials and include them in their offer. One company at that time of period starts to produce their own UAV. Competitors from China came to Croatia offering cutting edge technology with their produced UAV. Ericsson Nikola Tesla recognized its full potential, and used their leading position for a stronger presence in UAVs.
6. Media – the interest in UAV was extremely high, and increased over the years, especially in terms that one competitor organized a regional conference, started cooperation with Faculties, provided



## Book of Proceedings

free education, and sponsored major local conferences where UAV can be integrated. Media didn't follow any bad perception and corruption crises that Romania had. UAVs were a hot topic for several months within all media: business, IT and the one following government and public sector (political).

All resources were fully used, especially in diplomacy and expertise groups showing that not all Romanian representatives are corrupted, focusing on UVA real cases and their benefits in real situations, giving public sector representatives the opportunity to gain internationally recognized certificates for UAVs control and usage. Each of them becomes a non-formal spokesperson for the UAV technology. When finally, information was released to the media, the market boomed.

### ***LOBBYING IN MILESTONE***

#### ***Lobbying approach in milestone I***

Wanted to replicate the approach of their successful lobbying gave the first results: Pilot project Parent (Patent Registry in Croatian Public Health institute) and connection of Croatian National Visa System with European Visa system in the Ministry of Foreign Affairs. Not only they had success they were chosen in public tender among other competitors. The results were mutual and coordinated activities with public sector representatives in Ministries of Defence, Ministry of Foreign Affairs and HE Romanian Ambassador.

With this mutual cooperation, showing that corruption is not an option for their business in Croatia, showing sincere, opened and transparent, objective of helping Croatia to utilize the best tech innovation.

The local regulations regarding UAV differ from one country to another, but the important thing having in mind was that officials throughout Europe were working in order to develop a regulatory framework for UAV systems. Meanwhile, in order to ensure easy access, the company offered UAV as a Service, defined as UAV users can benefit from all the deliverables obtained with Hirus, while the service provider manages the flight certification, the flight itself and the image processing. This approach significantly lowers the acquisition costs and resources and helps institutions and organizations to use UAVs.

#### ***Adjustment***

In this stage adjustment was done. In order to have UAVs fully utilized, the legislation was a must, and another objective arose. Another stakeholder supports the company project: Ministry of Justice and Public Administration. In the long-term UAVs couldn't be fully utilized if regulation and law haven't been prepared and enacted. Lobbying strategy at this point had addition: finding in which stage are officials in Europe, mentioned above, and how to expand negotiations and document preparation to help Croatian legislation.

#### ***Lobbying approach in milestone II***

The future of the project looked bright, and initial problems have been remedied. **Second milestone** was planned to execute education and international valid certification for UAV expertise for the public sector and Ministries representatives and customer reference visit for the Ministry of Defence.

With the company vision of using the UAV in agriculture, energy, utilities, mining, construction, real estate and other key industries, the certification program was successful as well, gathering the majority of the





## Book of Proceedings

public sector representatives. The attendees of certification had an opportunity to learn by example, using UAV in accurate real-time data remotely controlled. The company continued their research and development of new, improved functionalities in this field. The result of an investment and research project developed over a period of two years, was that the Hirus system was included in the top three unmanned air vehicles, a ground control station, a ground data link terminal and a launcher together with three different sensors (day vision camera, thermal camera and high resolution photo camera).

In parallel UAV Hirus usage was implemented in 16 national and regional agencies, used by more than 1,500 operators to manage emergency situations, serving people in Romania, Serbia and Bulgaria. Moreover, Romania's 112 service, was powered by Teamnet, and ranked as one of the top five European countries regarding reaction time and localization accuracy and was striving to help Croatia to have 112 emergency services faster, more precise and more accurate. The Croatia has adopted emergency numbers at the beginning of 2005 and since their operative phase, each year they answer approximately 2 to 3.5 million urgent calls, according to the National Protection and Rescue Directorate. The Operational communication duty services within this Sector operate 24/7 (National and County 112 Centres) and collect and process information, notifications and data. As they were tasked to inform the population, legal individuals, national administration, rescue services, civil protection officers as well as others regarding all possible threats and their consequences, having proper software solutions should have helped enable performance of their activities.

### *Lobbying approach in milestone III*

It was time for the **third milestone**, awareness in society created with the support of media relevant stories and information. Media supported this important topic because top decision makers already stated that Croatia needs technological advancement to support the country's safety and prevent damage of any kind. All possible negative information was redacted and the emphasis was in business, technology advantages and innovation. In this milestone, the key lobbyist attributes were beneficial marking public sector representatives as a leader of change and the one who will lead trends.

### *Lobbying strategy*

Lobbying strategy used was top-down, taking the most from support of diplomacy in terms of redefining business opportunities in Croatia, addressing all relevant expertise, knowledge, benefits and functionalities to each of the supporting Stakeholders. During the process of acceptance in terms of how UAV technology supports lives, society and at the same time alert of potential crisis, while cutting the costs, Ministers confirm the project value. At the same time, strong Diplomacy approach to Government and Ministers, using the relevant and significant success of the Romanian company brings novelty in Croatia in the future partnership manifest objective success. After this acceptance, scaled approach is use to ministries directorates with certificate workshops and reference visits in several countries in order to show how UAVs can be fully deployed. Opening to the media and releasing the UAV information ensures perception of accessibility for the public.

### *Strategy evaluation*

Due to objectives outcomes chosen strategy was evaluated as adequate, including all key stakeholders, divided into the three milestones, where each milestone was depended on prior one. During the first milestone, a new expert was introduced to the team regarding highly urge for the UAV regulation.



## Book of Proceedings

Lobbying activities reach the objectives, and short as well as long term results were acknowledged:

1. Public sector institutions and organizations changed the globally accepted picture of corruption in Romania, trusted showed expertise and innovations. Furthermore, organizations understood, integrated and implemented UAV usage as regular, so company sales 10 UAV Hirus in a period of 2 years.
2. Legislation has been enacted – regulation has been passed in 2018.
3. It was a prime news for several months – 187 press stories, 6 interviews with company CEO, 18 reportages and no media published any information of corruption in Romania.
4. Local IT companies become strong competitors confirming that lobbyist strategy was properly chosen – KING ICT, IN2, Ericson Nikola Tesla, China competitors entering the Croatian market,
5. Market, sales opportunities, usage frequencies, UAV adoption in civil and non-civil society (30% grow of individual UAV users in 2016, and 70% grow in 2019).
6. Regional UAV conferences started (competitors organize yearly conferences finished with this project in 2019).

All planned milestones were adequately managed, the chosen expert team showed excellence, experience, knowledge and led the project to success.

### *Results evaluation and key learnings*

Lobbying activity had an impact of lobbying on organizational structure of the company. Methods to measure the impact of lobbying on organizational structure included in lobbying were:

1. Evaluating changes in government policies or regulations: Measuring the impact of lobbying on organizational structure can involve evaluating changes in government policies or regulations that have been influenced by the organization's lobbying efforts.
2. Assessing the allocation of resources: Measuring the impact of lobbying on organizational structure involved assessing changes in the allocation of resources within the organization as a result of lobbying efforts.
3. Monitoring the distribution of power: Measuring the impact of lobbying on organizational structure involved monitoring changes in the distribution of power within the organization as a result of lobbying efforts.
4. Assessing the effectiveness of lobbying efforts: Measuring the impact of lobbying on organizational structure involved assessing the effectiveness of the organization's lobbying efforts in achieving desired outcomes, including changes in government policies or regulations.
5. Analysing the impact on stakeholder relations: Measuring the impact of lobbying on organizational structure involved analysing changes in the relationships between the organization and its stakeholders, including customers, shareholders, and suppliers, as a result of lobbying efforts.
6. Evaluating the financial impact: Measuring the impact of lobbying on organizational structure involved evaluating the financial impact of lobbying, including the cost of lobbying efforts.

### *CONCLUSION*

Bringing novelty to a country with strong administration supported by an international, diverse team of experts from various fields ensures successful implementation of project objectives. Technology innovation of product specification that can save lives and provide smart and predictive support to key state organizations was accepted in an early stage of implementation opportunities. Lobbying has a strong effect



## Book of Proceedings

on an organizational structure. To have an effective lobbying, organizations should consider the following steps, as a recommendation to success introduced in this paper:

1. Define clear goals and objectives: Organizations should clearly define their lobbying goals and objectives, and align them with the overall business strategy and goals of the organization.
2. Identify key decision-makers: Organizations should identify the key decision-makers and influencers in government, and understand their decision-making processes and priorities.
3. Build relationships: Organizations should build relationships with key decision-makers and influencers by regularly communicating and engaging with them.
4. Develop a comprehensive strategy: Organizations should develop a comprehensive lobbying strategy that includes identifying the key issues, developing messaging and communication plans, and identifying the appropriate tactics and channels to be used.
5. Monitor and track legislation: Organizations should monitor and track legislation and regulations that could affect their operations, and develop plans to respond to these changes.
6. Gather and use data: Organizations should gather and use data to support their lobbying efforts, including research on the key issues, as well as information about the organization's operations and financial performance.
7. Use grassroots lobbying: Organizations should engage their employees, customers, and other stakeholders in grassroots lobbying efforts to build support for their position.
8. Compliance: Organizations should comply with all laws and regulations related to lobbying and disclose any required information.

By following these steps, organizations can increase the chances of achieving their lobbying goals and objectives, and effectively influence government policies and regulations that affect their operations.

## REFERENCES

- Allamong, K. J. (2010). *King of the Lobby: The Life and Times of Sam Ward, Man-About-Washington in the Gilded Age Hardcover*. Johns Hopkins University Press
- Barić, S., Acinger, A. (2018). Pravna regulacija položaja lobista u Europi. *Zbornik Pravnog fakulteta u Rijeci*, 39(3), 1207-1236.
- Bernovici, A. (2016). UAV Hirrus, The Unmanned Aircraft "Made In Romania". *Romania journal*, 3<sup>rd</sup> July. Available at: <https://www.romaniajournal.ro/business/uav-hirrus-the-unmanned-aircraft-made-in-romania/> (19.01.2023.)
- Bouwen, P. (2002). Corporate lobbying in the European Union: the logic of access. *Journal of European Public Policy*, 9(3), 365-390.
- Ćorić Sinčić, D., Vuković, I., (2012). Analiza tiskovnih i internetskih objava o lobiranju u Hrvatskoj. *Društvena istraživanja*, 21, 545-567.
- Damjanović, D. (2012). Lobiranje ili legalizirana korupcija? IUS-INFO. (10.01.2023.)
- de Figueiredo, J. M., Emerson, T. H. (2000). The Structure and Conduct of Corporate Lobbying: How Firms Lobby the Federal Communications Commission. Available at: SSRN: [20.01.2023.] <https://ssrn.com/abstract=229484> or <http://dx.doi.org/10.2139/ssrn.229484> (19.01.2023.)
- Edvin, J. (2004). Marketing UP: oruđa marketinškog uspjeha. 15, 52-55.
- Euractiv. (2015). Parliament wants EU drones to "conquer the world". Available at: <http://www.euractiv.com/sections/transport/parliament-wants-eu-drones-conquer-world-319043> (19.01.2023.)
- Hrvatsko društvo lobista – Udruga za promicanje transparentnog zagovaranja interesa. <https://hdl.hr/> (19.01.2023.)



**Book of Proceedings**

IMF Country Report No. 15/163, Republic of Croatia (2015). *Article IV consultation—press release; staff report; and statement by the executive director for the republic of Croatia*, June 2015. <https://www.imf.org/external/pubs/ft/scr/2015/cr15163.pdf> (19.01.2023.)

Klemens, J. (2016). *Convincing political stakeholders: successful lobbying through process competence in the complex decision-making system of the European Union*. Weinheim: Wiley-VCH Verlag GmbH & Co. KgaA.

Komisija za preprečevanje korupcije, Republika Slovenija. (2021). *Sistemska pojasnilo o lobiranju*. Available at: [https://www.kpk-rs.si/wp-content/uploads/2021/03/SISTEMSKO\\_POJASNILO\\_lobiranje\\_final.pdf](https://www.kpk-rs.si/wp-content/uploads/2021/03/SISTEMSKO_POJASNILO_lobiranje_final.pdf) (19.01.2023.)

McLaughlin, M. A., Grant, J.; Maloney, A. (1993). *Corporate Lobbying in the European Community*. *Journal of Common Market Studies*, 31(2).

Narayanan, L. Gopal, Ram, C., Ilbe, O. (2015). *Joint Network for Disaster Relief and Search and Rescue Network Operations*. *Wireless Public Safety Networks 1, Overview and Challenges*, 163-193.

Profitiraj.hr press: *Teamnet Hrvatska pokreće specijaliziranu obuku u području poslovnih bespilotnih letjelica*. <https://profitiraj.hr/teamnet-hrvatska-pokrece-specijaliziranu-obuku-u-podrucju-poslovnih-bespilotnih-letjelica/> (19.01.2023.)

Rajko, A. (2000). *Lobiranje: neformalna simbioza u predvorju politike*. *Vladavina prava*, 4 (2), 65-85.

Republika Hrvatska, *Analiza za uređenje zakonskog okvira lobiranja*, December 2016. [https://mpu.gov.hr/UserDocsImages/dokumenti/Antikorupcija/dokumenti/Analiza%20za%20ure%C4%91enje%20zakonskog%20okvira%20lobiranja\\_za%20web%20final\\_clean.docx](https://mpu.gov.hr/UserDocsImages/dokumenti/Antikorupcija/dokumenti/Analiza%20za%20ure%C4%91enje%20zakonskog%20okvira%20lobiranja_za%20web%20final_clean.docx) (19.01.2023.)

Romania. <https://en.wikipedia.org/wiki/Romania> (20.01.2023.)

Sharp, Register, and Grimes' (2009). *Economics of Social Issues originated the social issues approach to teaching basic eco 2009*. <https://dokumen.pub/economics-of-social-issues-0073511331-9780073511337.html> (20.01.2023.)

Teamnet, company profile. <http://www.teamnet.ro/contact/> (20.01.2023.)

Teamnet: Key facts and figures. <http://www.teamnet.ro/key-facts-and-figures/> (19.01.2023.)

The Guardian (2005). *Romania's prime minister indicted in corruption inquiry*. <https://www.theguardian.com/world/2015/jul/13/romania-prime-minister-victor-ponta-questioned-corruption-inquiry> (19.01.2023.)

Tomić, D. (2015). *Hrvatska ulazi na lokalno tržište bespilotnih letjelica*. <https://www.ictbusiness.info/poslovanje/teamnet-hrvatska-ulazi-na-lokalno-trziste-bespilotnih-letjelica> (20.01.2023.)

Tomić, Z. (2017). *Politički odnosi s javnošću*. Synopsis Zagreb.

Transparency International EU: *Lobbying*. Available at: <https://transparency.eu/priority/eu-money-politics/lobbying/> (20.01.2023.)

Unmanned aerial vehicle. [https://en.wikipedia.org/wiki/Unmanned\\_aerial\\_vehicle](https://en.wikipedia.org/wiki/Unmanned_aerial_vehicle) (19.01.2023.)

Vidačak, I. (2007). *Lobiranje - Interesne skupine i kanali utjecaja u Europskoj uniji*. Zagreb, Planetopija.

Wagner, A., Pop-Eleches, G., Bönker, F. (2015). *Romania Report 2015, SCI, Sustainable Governance Indicators Romania Report*. Available at: [https://www.sgi-network.org/docs/2015/country/SGI2015\\_Romania.pdf](https://www.sgi-network.org/docs/2015/country/SGI2015_Romania.pdf) (20.01.2023.)

Wikipedia: *List of unmanned aerial vehicle applications*. [https://en.wikipedia.org/wiki/List\\_of\\_unmanned\\_aerial\\_vehicle\\_applications](https://en.wikipedia.org/wiki/List_of_unmanned_aerial_vehicle_applications) [20.01.2023.]

Zetter, L. (2014). *Lobbying: the art of political persuasion*. Zetter, Lionel Petersfield: Harriman House, Hampshire.



Book of Proceedings

***DIGITALIZATION AND ITS IMPACT ON THE DEVELOPMENT OF MICRO AND SMALL ENTERPRISES IN THE REPUBLIC OF CROATIA***

*Josipa Pleša<sup>1</sup>*

***ABSTRACT***

*The rapid development of technology leads companies to adapt their operations to the new business reality. There are many advantages of going digital. Those countries that actively develop and implement information and communication technologies have higher economic growth.. Successful and high-quality digital transformation includes many other activities such as integration and optimization of IT systems, strengthening the digital capacities of employees through training and education, and developing new digital business models. A successful digital transformation of business requires a change in the way of thinking and the corporate culture of the organization, which is recognized as one of the key dimensions of the digital transformation process. Digital transformation involves a change in the way an organization utilizes its digital technologies to develop a new digital business model with the aim of creating and ensuring greater value for the organization.*

***Key words:*** digitalization, transformation, strategy, companies, development

***JEL Classification:*** L51, M41, M42, O10

***INTRODUCTION***

The world economy is developing under the influence of numerous factors, among which information and communication technologies take the lead. Companies today are facing new trends and concepts related to the process of digital business transformation (Tušek and others, 2018). Established ways of doing business, roles, authorities and employee responsibilities are undergoing complete changes, emphasizing the importance of key organizational and control functions in corporate governance. According to Marchand & Wade (2014), digital business transformation involves organizational changes resulting from the use of digital technologies to materially improve business operations. The digitalization of the economy increases competitiveness at the international level and contributes to changing the relationships we have been accustomed to. Accordingly, by „2030, digital technologies, including 5G, the Internet of Things (IoT), Edge computing, Artificial Intelligence (AI), Robotics, and Augmented Reality, will not only accelerate development but will also form the backbone of new products, new manufacturing processes, and new business models based on fair data exchange in the data economy" (Kopun 2023, 103). Jaković (2017) emphasizes that digital business means intensive use of information and communication technologies, especially digital technologies, in performing core business functions. The paper provides a closer explanation of the differences between digitalization and digital transformation, strategic planning of digital transformation, as well as digital transformation in the world and Croatia. The research part presents a study of the current state of digitalization in small and micro-enterprises in the eastern part of Croatia.

Digitalization has been identified as the most significant technological trend that simultaneously changes both society and business. Today, companies are under constant pressure to adopt digital technologies and adjust their operations or business models to this new reality. While transitioning to digitalization brings

---

<sup>1</sup> SINTEL, Internal audit and forensic accounting, Slavonski Brod, Croatia, PhD candidate, ured@sintel.hr





## Book of Proceedings

numerous benefits, it also requires investments and associated costs for businesses. Research has shown that companies in Croatia are increasingly understanding the comprehensive nature of the concept of digital transformation. They no longer view it solely as the digitization of existing business models and/or analog processes but gradually become more aware that successful and high-quality digital transformation encompasses many other activities. These activities include the integration and optimization of IT systems, strengthening employees' digital capacities through training and education, and developing new digital business models.

### ***DIGITALIZATION AND DIGITAL TRANSFORMATION***

Digitalization in business most commonly refers to enabling, improving, and transforming business operations, functions, models, processes, and activities using digital technologies and the broader use and context of digitized data. Digitalization is defined as a "fundamental change in business and business models based on new knowledge gained from digitalization initiatives with added value" (Schallmo & Williams, 2018, p. 6). It involves redirecting, interacting, and communicating business models and functions into digital models, which in practice involve a mix of digital and physical content, integrated marketing, or smart production with a blend of autonomous, semi-autonomous, and manual operations.

Digitalization is differentiated as internal and external. Internal digitalization includes: transferring analog processes into digital (realizing digital communication among departments, employees, machines with machines, employees with machines), converting paper documentation into digital records and achieving integration of applied software systems and ERP. External digitalization includes: digitally connecting companies with other companies - B2B, companies with government bodies - B2G, companies with customers and suppliers - B2C and companies with chambers, financial, and educational institutions.

Digitalization affects both the external (business environment) and internal functioning of companies. Additionally, digitalization brings new business opportunities and changes the roles of participants in the value chain of each organization or company. "The impact of digitalization and the goals of digitalization for an organization can be recognized from three different perspectives:

1. Internal efficiency; i.e., improved work methods through digital assets and re-planning internal processes;
2. External opportunities, i.e., new business opportunities in the existing business domain (new services, new customers, etc.);
3. Disruptive changes; digitalization causes a complete change in business roles" (Parviainen et al. 2017, p. 66).

Digital transformation is a broader concept than digitalization; it is the way of transitioning into digital business. According to Verhef et al. (2019) digital transformation is a change in the way a company utilizes digital technologies to develop a new digital business model that aims to create and ensure greater value for the company. The need for cost optimization in organizations/companies has been present since the beginning of industrialization. For example, to reduce input costs, individual segments of production processes are analyzed today, and the materials used in production are examined. In the new industry, there is a strong focus on such business organization, and digital transformation takes the lead, of course. Every product has its lifecycle, starting from research and product design, through production, to the final stage, including recycling, where digitally stored information can help identify parts for reuse. The advent of digital transformation requires a new approach called the "digital thread," which records all parameters related to the product lifecycle.

During strategic planning for digital transformation in a company, it is essential to keep in mind that, in most cases, it does not yield quick and short-term results. It is necessary to recognize long-term interests. When implementing digital business transformation, two important factors should be considered: try to



predict costs as accurately as possible and set measurable indicators of success at the beginning of the implementation. While predicting costs, it may be impossible to fully anticipate all expenses related to organizational structure or changes in business culture. However, thorough planning should help avoid resistance that could arise later in the project. By setting measurable indicators of success at the outset, organizations/companies can effectively evaluate the results brought about by digital transformation. Investing in digital transformation should be seen as an investment rather than a cost, as it will bring concrete returns in the future. This should be the guiding principle for all companies when introducing digital transformation.

The digital transformation strategy begins with questions: what, why, how and who. The "what" question refers to what the company or organization aims to achieve, including setting short-term and long-term goals, identifying initial steps to be taken, required knowledge for implementation, processes to be connected, and related inquiries. The "why" question addresses the reasons behind the desire for transformation, outlining the advantages and opportunities for the organization, what benefits are expected from the introduction of transformation, who needs to be involved, and who can link the necessary processes and activities within the organization. Additionally, it is essential to analyze the current state and identify individuals or entities that can assist the company or organization in gathering the required information. Determining how to allocate tasks and to whom, understanding what factors can contribute to goal attainment, and appointing someone responsible for monitoring the chosen strategy and tracking performance indicators are also crucial steps in the process. Strategic planning refers to the process of defining the strategy and making decisions about allocating resources to achieve the company's objectives. It involves defining the strategy as a process and determining new resources that will be allocated to achieve the strategy, considering them as means to achieve the company's goals.

## ***DIGITAL TRANSFORMATION IN THE WORLD AND CROATIA***

The world economy is developing under the influence of numerous factors, with information and communication technologies occupying a crucial position. The digitization of the companies significantly enhances competitiveness in the international market and fundamentally changes business processes in the international business environment. Practice has shown that countries actively developing and implementing information and communication technologies experience higher economic growth. Digitalization also brings about new risks, with cybersecurity risks holding a particularly prominent place. In 2022, the European Confederation of Institutes of Internal Auditing (ECIIA) published its Risk in Focus report, highlighting the top 5 risk that organizations/companies will face in the next three years. At the top of the list is cyber security and data security within organizations/companies as shown Figure 1.

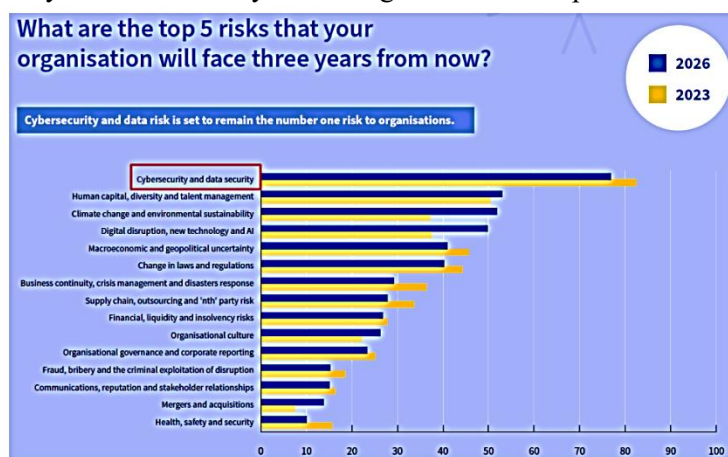


Figure 1. The most significant risks of organizations until 2026.

Source: <https://www.eciia.eu/2021/09/risk-in-focus-2022-hot-topics-for-internal-auditors/>



## Book of Proceedings

Considering the mentioned risks and its significance, organizations need to adopt adequate methods during the implementation of digitalization in their operations to prevent and minimize risks to the lowest possible percentage. In this regard, they can rely on external and internal providers of assurances, who, together with management, will strike a balance between digital transformation and potential risks. On a global level, the Institute for Management Development (IMD) in Lausanne measures the capacity and readiness for adopting and exploring digital technology as a key driver of economic transformation in state practices, business models, and society in general, through the World Digital Competitiveness Ranking (WDCR).

The Digital Competitiveness Ranking is based on the analysis of three factors: knowledge, technology, and readiness for the future. The knowledge factor refers to intangible infrastructure, emphasizing the process of digital transformation through understanding, learning, and awareness of new technologies. The technological factor relates to the analysis of an environment that enables the development of digital technologies, the availability of capital for investment, the existing technological infrastructure within organizations, and the level of regulatory frameworks in innovation. The readiness for the future factor concerns the economy's preparedness for digital transformation, as well as the analysis of business readiness, IT integration, and the attitudes of participants in digital transformation. In 2022, Denmark secured the first place, dethroning the USA after five years, which now ranks second. Sweden, Singapore, Switzerland, and the Netherlands follow closely behind.

„The results of a study on digital transformationa conducted in Croatia from October 2018 to September 2020 indicate insufficient readiness of the Croatian economy for the challenges of the digital age" (Ćurić Martinčević, 2020, p. 56). In the World Digital Competitiveness Ranking for the year 2022, Croatia ranked 43rd out of a total of 63 leading world economies, which is an improvement of 12 places compared to the previous year. Indicators positively influencing Croatia's position within the basic pillars of digital competitiveness include: investments in telecommunications (5th place), the student-to-teacher ratio in tertiary education (7th), a high number of female researchers (10th), high-tech patent grants (17th), and the number of graduates in scientific studies (20th).

The following indicators were identified as weaknesses: lack of highly educated foreign experts (59th place), knowledge transfer (59th), lack of international experience (57th), attitudes towards globalization (57th), technology development and application (56th), and public-private partnerships (56th). „Most companies leave the management of digital transformation challenges to the company's IT department. However, those who are better informed understand that digital transformation is not only about changes in IT systems, but it encompasses all aspects of the organization's business; people, culture, partners, processes, and more. Informed members of the business community perceive digital transformation as business transformation - a thorough change in the organization and the traditional way of doing business, using digital technologies and applying new business models with the aim of improving organizational performance and adapting more quickly to an environment that is constantly and rapidly changing" (Burić, 2020, p. 200).

According to Čurić Martinčević (2020), the study of the Croatian Digital Index provides an overview of the state of digital transformation in Croatia from a so-called bottom-up perspective. This means that the overall results of the study are the sum of individual reports on the state of digital transformation in the top 300 medium and large companies. In 2021, according to the Digital Economy and Society Index (DESI), Croatia ranked 19th, while in 2022, it ranked 21st.

Digital transformation is becoming more recognizable and clearer for businesses in the Republic of Croatia. The Croatian Digital Index (HDI) was designed as a tool to gain insights into the state of digital transformation in the Croatian economy. It was developed by the Croatian consulting firm, Apsolon. The methodology of the Croatian Digital Index analyzes the readiness of the Croatian economy for the challenges brought about by the extremely rapid growth and development of new digital technologies, which are increasingly changing the traditional way and organization of business. Data for 2021 was collected from 273 Croatian companies, including 56 large and 217 medium-sized companies, using a combination of CATI (telephone interviews) and CAWI (online surveys) methods. According to the national classification of activities (NKD), the subjects were grouped into five major activity groups: Agriculture, Forestry, and Fishing (area A according to NKD), Manufacturing (areas from B to E according



## Book of Proceedings

to NKD), Construction (area F according to NKD), Trade (area G according to NKD), and Services (areas from H to S according to NKD). The subjects were also grouped by regions to gain a better understanding of the state of digital development in different parts of Croatia.

The target respondents of the research were individuals strategically responsible for digital processes within the company. „The number of respondents who equated digital transformation with the digitization of existing business models showed a gradual decline from 84.1% in 2019 and 75.6% in 2020 to 72.2% in 2021, while other offered responses during the observed period recorded growth. The most significant increase is seen in the understanding of the need to invest in employee education to strengthen their digital capabilities, with 61.5% of respondents identifying this with the concept of digital transformation in 2021 compared to 53.7% in 2020 and only 41.7% in 2019" (Peric, 2022). The following part presents the results of the research conducted in the eastern part of Croatia (more rural region) to assess the current state in small businesses in the Republic of Croatia, their familiarity with digitization and digital transformation, and whether specific digitization segments are implemented in their work processes.

### ***RESEARCH AND THE RESULTS OF THE SURVEY***

For the purpose of this study, research was conducted to gather the necessary data on digitization and digital transformation in small businesses in the region of Slavonia, and to gain insight into the current state and planned investments in digitization. The survey questionnaire included 48 companies that participated in an annual education program conducted by the audit and accounting company Sintel d.o.o., which serves as an external provider of accounting and internal auditing services for the mentioned companies. The questionnaire was conducted from May 2nd to May 30th, 2023. The questionnaire consisted of 13 sets of questions, where respondents could provide answers through free responses, multiple-choice options, or by rating on a scale from 1 to 5. The questionnaire was completed by responsible individuals (directors) of the companies.

The questionnaire included the following questions: county of headquarters, number of employees, legal form (limited liability company or simple limited liability company), type of business activity the company is engaged in, existence of a person/team within the company responsible for digitization, existence of defined development goals for digitization (regulations, procedures, etc.), whether they have utilized public funding for improving business digitization (EU funds, NPOO, etc.), rating of the current level of digitization implementation within specific departments in the company, rating of the importance of digitization dimension in business, usage of new technologies in business, digital innovations they would like to implement in their business, investment plans in digitization for the upcoming years of business, and main obstacles in implementing a higher degree of digitization within their company.

After analyzing the posed questions, the following answers were obtained, from which conclusions related to employee motivation in the surveyed company can be drawn. Out of 48 surveyed companies, 20 are from Brodsko-posavska county, 13 from Osječko-baranjska county, and 15 from Vukovarsko-srijemska county. Out of the total number of surveyed companies, 38 are limited liability companies, and 10 are simple limited liability companies. The average number of employees is 31. The activities of the surveyed companies are related to: production - 12 companies, retail - 7 companies, hospitality - 7 companies, and services - 22 companies. When asked if there is a department, team, or person responsible for digitization within the company, none of the surveyed companies responded that they have a department or team responsible for digitization. 10% responded that they have a person responsible for digitization, 31% responded that they do not have one currently but plan to in the future, and 59% responded that they do not have any of the mentioned.

On question if they have defined goals for digitization within the organization, such as regulations, procedures, or similar, 4% responded YES, 21% responded NO, 10% responded NO but plan to have them. Out of the surveyed companies, 65% responded that they do not know if they have defined goals for digitization within the organization.



### Book of Proceedings

When asked if they have used public funding for improving business diitization, such as EU fonds, NPOO, or similar, only 10% responed positively, 19% responed NO, and 40% responed NO but they plan to. 31% of the surveyed companies answered with I don't know.

In response to the question about assessing the level of digitalization in departments which include customer-oriented and internal work processes as shown Table 1., it is evident that organizations in certain departments cannot evaluate the level of digitalization. This is the case in deparments such as finance/accounting, as they are outsorced to external companies, or in production and maintenance departments, as they lac it due to the nature of their activities.

*Table 1. The level of application of digitization within the department*

1 – not used at all / 5 – is extremely used	Not applicable / I can not estimate	1	2	3	4	5
Sale	10%	4%	25%	19%	21%	21%
Purchase	8%	6%	31%	17%	10%	27%
Production	75%	2%	8%	8%	2%	4%
Maintenance	75%	4%	6%	4%	6%	4%
Marketing	52%	8%	12%	10%	8%	8%
Finance/accounting	100%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personnel Services	63%	10%	8%	6%	8%	4%

*Source: Autor*

Regarding the questions about the importance of digitalization dimensions in business, respondents were provided with the following answers that they ranked based on their importance: Business Security (payment security control, dana theft prevention, etc.), Digital Costumer Engagement (CXM) – digital customer interaction with the branc, Communication Building (customer connectivity and internal staff connectivity within the company), Business Analytics, and Internet of Things (IoT) – connecting devices with Internet. Business Security was ranked as the most significant by 62% of the respondents, followed by Communication Building at 21%.

Regardin the question about which of the listed technologies they use in their business, Table 2. shows the responses, indicating that the surveyed companies do not use advanced digital technologies. The highest number of responses is related to contactless payment, considering the type of activites conducted by the surveyed companies.

*Table 2. Use of digital technologies in business*

WHICH OF THE MENTIONED TECHNOLOGIES ARE USED IN YOUR BUSINESS (possibility of multiple answers):			
<input type="checkbox"/>	Artificial intelligence and machine computing	<input type="checkbox"/>	Internet of Things - IoT
<input type="checkbox"/>	Quantum computing	10	Cloude management
<input type="checkbox"/>	Augmented reality	<input type="checkbox"/>	Virtual reality
3	Cloud computing	<input type="checkbox"/>	Business intelligence software
<input type="checkbox"/>	Blockchain	<input type="checkbox"/>	Revenue management
16	Contactless payment	<input type="checkbox"/>	Channel manager
5	PAY PAL or similar security payment systems trough your own website	<input type="checkbox"/>	Other (please specify):

*Source: Author*

When answering the question about the time frame for investing in digitalization with the goal of reducing costs, increasing service quality, and improving operational efficiency, the majority of surveyed companies currently do not plan such investments, as much as 33%. In the next year 23% of respondents plan to invest in digitalization, 19% within the next 2-3 years, and 25% within a period longer than 4 years.

In the last question, companies mentioned the obstacles to implementing a higher level of digitalization in their business. The survey companies had the following options to choose from: high costs (equipment, fees), staff unpreparedness/negative attitude, resistance to change/new things, lack of investment in learning and acquiring knowledge about digitalization for employees by the employer, and insufficient management interest in introducing a higher level of digitalization. Figure 2. shows that the highest percentage, 42% identified high costs as the main obstacle to implementing a higher level of digitalization, followed by 18% mentioning management disinterest. Staff unpreparedness and knowledge acquisition, as well as resistance to change, accounted for 15% of the responses, while the lowest number of responses was for the lack of investment in learning and knowledge acquisition – 10%.

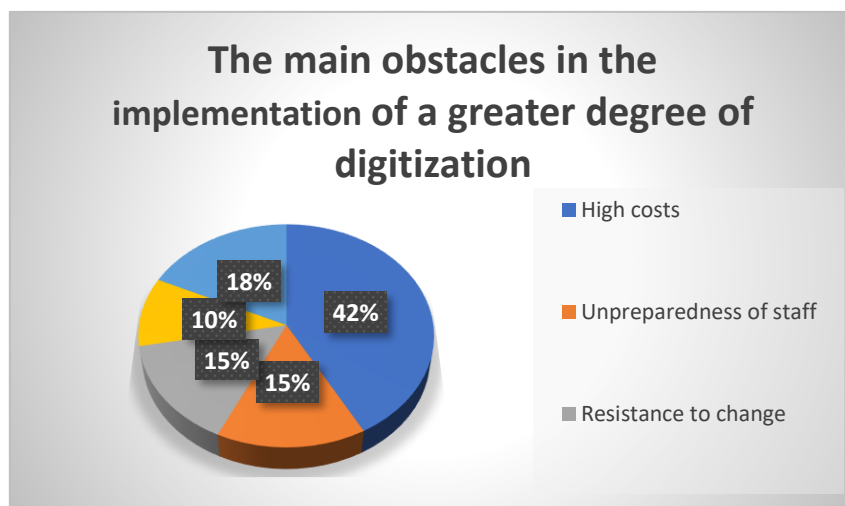


Figure 2. The main obstacles in the implementation of a greater degree of digitization

Source: Author

Based on the results of the conducted survey of 48 companies, it can be concluded that companies in rural areas (considering that the survey focused on three regions in Slavonia) are less prepared and less familiar with digitalization and digital transformation compared to previous research and representations of Croatia at the global level. Taking into account the requirements for digitalization implementation set by the European Union by 2030, the conclusion would be that there is indeed room for progress and additional education for micro and small businesses to familiarize them with the concept of digitalization and digital transformation.

## CONCLUSION

Due to the rapid development of technology, businesses today are under constant pressure to adopt digital technologies and adapt their operations, including business models, to this new reality. Transitioning to digitization brings numerous advantages. However, such engagement also requires investments for companies, including costs associated with such investments. Digitalization of the economy/companies significantly increases competitiveness in the international market and fundamentally changes business processes in the international business environment. Practice has shown that countries actively developing and implementing information and communication technologies experience higher economic growth.





## Book of Proceedings

Research has demonstrated that companies in Croatia (medium and large enterprises) have a better understanding of the comprehensiveness of the concept of digital transformation. They no longer view it solely as the digitization of existing business models and/or analog processes. Instead, they are gradually becoming more aware that successful and quality digital transformation involves many other activities, such as integrating and optimizing IT systems, strengthening employees' digital capabilities through training and education, and developing new digital business models.

The research conducted in this study shows that micro and small enterprises do not have the same level of digitalization as demonstrated in previous research on medium and large companies. Considering this, additional effort is needed from all stakeholders to bring the topic of digitization, digital transformation, and technological progress closer to micro and small enterprises, especially those in rural areas. To ensure successful digital business transformation, it is essential to change the way of thinking and corporate culture of the organization, which is recognized as one of the key dimensions of the digital transformation implementation process.

## REFERENCES

- Basara, N. (2018). Digitalna transformacija kao temelj 4. industrijske revolucije. Available at: <https://urn.nsk.hr/urn:nbn:hr:212:545964> [27.05.2023].
- Burilović, L. (2020). Digitalna transformacija poslovanja u maloprodaji. Zagreb, Poslovna izvrsnost.
- Schallmo, D., Williams, C. (2018). Digital Transformation Now! Cham, Springer.
- Ćurić Martinčević, N. (2020). Digitalna transformacija u Hrvatskoj. Zagreb: Apsolon.
- ECCIA. Risk in focus. Available at: <https://www.eciia.eu/2021/09/risk-in-focus-2022-hot-topics-for-internal-auditors/> (10.06.2023.)
- Gurbaxani, V., Dunkle, D. (2019). Gearing Up For Successful Digital Transformation. MIS Quarterly Executive. Available at: <https://aisel.aisnet.org/misqe/vol18/iss3/6> (10.06.2023.)
- Jaković, B. (2017). Digitalizacija i interna revizija. Zbornik radova "Interna revizija i kontrola". Zagreb, Hrvatska zajednica računovođa i financijskih djelatnika.
- Kopun, D. (2023). Revizorski skepticizam u digitalnoj tranziciji Europske unije. Zagreb, Hrvatska zajednica računovođa i financijskih djelatnika, 57. simpozij.
- Marchand, D., Wade, M. (2014). Digital Business Transformation: Where is Your Company on the Journey. IMD – International Institute for Management Development, May, No. 187.
- Meske, C., Junglas, I. (2020). Investigating the elicitation of employees' support towards digital workplace transformation. *Behaviour and Information Technology*, 40(11), 1120-1136. Available at: <https://doi.org/10.1080/0144929X.2020.17423> [10.06.2023].
- Parviainen, P., Tihineni, M., Kääriäinen, J., Teppola S. (2017). Tackling the digitalization challenge: how to benefit from digitalization in practice. *International Journal of Information Systems and Project Management*, 5(1), 63-77.
- Perić, M. (2022). Digitalna transformacija u Hrvatskoj. Available at: <https://apsolon.com/digitalna-transformacija-u-hrvatskoj-2021/> (11.06.2023.)
- Tušek, B., Ježovita, A., Halar, P. (2018). Perspektive razvoja i izazovi funkcije interne revizije u eri digitalne transformacije poslovanja. Zagreb. Ekonomski fakultet sveučilišta u Zagrebu.
- Verhoef, P., Broekhuizen, T., Bart, Y., Bhattacharya, A. Dong, J., Fabian, N. & Haenlein, M. (2019). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889-901.





Book of Proceedings

***COMMUNICATION CHANGES AND CHALLENGES BEFORE,  
DURING, AND AFTER THE PANDEMIC IN BUSINESS***

*Ivana Brkljača*<sup>1</sup>

***ABSTRACT***

*Communication involves exchanging information among individuals to share ideas, understand, and connect. It impacts perception, behavior, and relationships in all aspects of life. Successful and clear communication is crucial for everyone involved. The pandemic brought significant changes and challenges in business. This article analyzes communication processes before, during, and after the pandemic. The aim is to provide an overview of pandemic-related research on communication and identify key trends and challenges. The study is based on relevant literature, research in various organizations and sectors, exploring changes in methods, virtual technologies, adaptations in strategies, and organizational challenges. Findings indicate significant changes in communication during the pandemic. Understanding these shifts is vital for developing adaptable communication strategies in business.*

***Keywords:*** *business communication, , communication processes, crisis, organization, pandemic, remote work.*

***JEL Classification:*** *M1, D83, G01, L2, I1, Q54, J22, M5*

***INTRODUCTION***

The COVID-19 pandemic has had an exceptionally profound and wide-ranging impact on all aspects of society, including the way we communicate. Communication processes, once the foundation of organizations and social interactions, underwent rapid and forced changes due to the need for social distancing and remote work. This study is based on research comparing communication processes before, during, and after the peak of the pandemic, with the aim of providing insights into the changes, challenges, and potential guidelines for the future.

In the past, communication primarily occurred between people in the same physical space through direct interactions, meetings, and formal communication channels. However, the outbreak of the COVID-19 pandemic necessitated the limitation of physical contacts and a transition to virtual communication. The use of technological tools, such as video conferencing, emails, and online collaboration platforms, became the dominant means of communication.

During the peak of the pandemic, organizations and individuals faced challenges in adapting to the new reality of remote work. Limited ability for face-to-face interactions, lack of immediate feedback, and difficulties in maintaining team spirit were just some of the challenges they encountered. However, through the use of technology and innovative approaches, many organizations managed to maintain the continuity of communication and business processes.

Now, as the world gradually recovers from the pandemic, it is important to understand the changes in communication processes and assess their impact on organizations and individuals. Has remote work become a permanent practice? What are the advantages and disadvantages of virtual communication compared to traditional methods? How is the return to face-to-face interactions unfolding? This study aims to answer these questions and provide guidance for the future of communication.

---

<sup>1</sup> Zagreb School of Economics and Management, Croatia, PhD candidate, ivana.brkljaca.zg@gmail.com



## Book of Proceedings

In the following sections of the article, we will analyze the results of the research comparing communication processes before, during, and after the peak of the pandemic, focusing on changes in communication methods, challenges faced by organizations, and possible strategies for optimizing communication processes in the future.

### ***THEORETICAL FOUNDATIONS***

#### ***DEFINING THE CONCEPT OF COMMUNICATION***

Communication is the mutual process of shaping and interpreting messages that elicit responses (Griffin, 2012). Zvonarević (1978) observes communication as the exchange of messages between two or more people, Petz (1992) as the process of sending, transmitting, and receiving messages, signals, and information, while Havelka (1998) describes communication as a dynamic and complex process where individuals send and receive verbal and nonverbal messages to understand and be understood. Different definitions of communication enable access to various research questions (Littlejohn, 2008). Borman's theory defines communication as "a broad term that encompasses all careful, systematic, and conscious discussions and analyses of communication phenomena," while Burgoon's theory describes communication as "a set of systematic and informed assumptions about functioning," emphasizing assumptions, informativeness, and systematicity (according to Griffin, 2012:2). According to the National Communication Association (NCA), the discipline studies verbal and nonverbal messages to create meaning in different contexts and cultures, including interpersonal relationships, groups, organizations, rhetorical criticism, performance studies, argumentation, technologically mediated communication, and popular culture (Littlejohn, Foss, 2008).

Communication has a long history. As evidence of communication's beginnings even in the Paleolithic era, cave paintings and drawings created by inhabitants were used to transmit information through verbal and nonverbal communication within tribes or to newcomers (Tanta, 2006). Hieroglyphics enabled the development of grammar for encoding and decoding messages, marking the first information revolution in society (Plenković, 2017). Writing then allowed the storage of information outside human memory, leading to an explosion of knowledge and the development of public opinion. The emergence of newspapers during Julius Caesar's time contributed to the mass dissemination of messages and the shaping of public opinion (Plenković, 2017). Rhetoric, as a scientific discipline, explores speech and public expression. Ancient texts from Greek and Roman societies provide abundant information about rhetoric, especially its impact on shaping public opinion by imposing ideologies from the ruling minority onto the lower strata of society (Eadie, Goret, 2013). In the mid-15th century, the advent of Gutenberg's printing press caused revolutionary changes in communication, confirming the dominance of visual graphic communication over verbal and heralding the beginning of modern mass communication systems (Plenković, 2017). Radio emerged in 1922 as the most affordable means of mass communication and the fastest way to transmit information, while television became the most striking medium of media expression, influencing the rhythm of social life (Plenković, 2017). Electronic media shaped the 20th century, and the advancement of high technologies led to the third information-communication revolution (Hardt, 1987).

Experts from various fields seriously began studying communication in the past century. Claude Shannon's classical model of communication was developed in the 1950s, and communication as a scientific discipline emerged in the 1970s. Only later was the importance of studying communication recognized, and between 1927 and 1932, Elton Mayo and his colleagues demonstrated that people are social beings whose behavior needs support through interpersonal skills such as motivation, counseling, leadership, and communication (Lamza-Maronić, Glavaš, 2008). In the 21st century, digitalized information travels through the internet, enriched with sound and images, becoming the primary way of transmitting information in global society, playing a crucial role in successful communication (Plenković, 2017). The availability of information at the right time and effective communication are vital for making business decisions and advancing organizations in the future.



**Book of Proceedings**

***COMMUNICATION IN THE ORGANIZATION***

Communication is crucial for successful business operations, as without a communication system, an organization would not be able to function. "Communication between business partners or individuals for business purposes is known as 'business communication'" (Zagade, Dhingra, Gomathy, Saravanan, Abirami, 2022:2). Within an organization, communication performs four fundamental functions: controlling, motivating, emotional expression, and informing (Robbins, Judge, 2013:336). According to Griffin, Phillips, and Gully (2019), organizational behavior is a scientific field that studies the influence of individuals, groups, and structures on behavior in organizations with the aim of improving their effectiveness. The essence of organizational behavior is to study the activities of people in organizations and their impact on organizational success. It encompasses topics such as motivation, leadership, communication, group processes, learning, attitudes, changes, conflicts, job design, and work stress (Griffin, Phillips, Gully, 2019).

Communication within an organization occurs in several ways: vertical communication downward (from higher to lower levels in the organizational hierarchy), vertical communication upward (including feedback, opinions, and complaints on orders and instructions), and horizontal and lateral communication among employees, as well as documentation that records work processes (Lamza-Maronić, Glavaš, 2008). Formal organizational network systems can be complex, involving hundreds of people and multiple hierarchical levels. They can be divided into three basic groups: chain, wheel, and all-channel system. The effectiveness of each network depends on the goal: the chain is best for accuracy, the wheel for choosing a leader, and the all-channel system for member satisfaction. No network is universally best for all situations (Robbins, Judge, 2013).

In addition to business communication, the aspect of personal communication within the organization is also important. Formal channels are established within an organization for transmitting messages related to members' professional activities. These channels traditionally follow the hierarchical chain within the organization. On the other hand, informal channels are used for exchanging personal or social messages and spontaneously form in response to individual choices (Robbins, Judge, 2013:338). The exchange of opinions, feelings, and information from individuals' private sphere has an impact on attitudes, behavior, work morale, and employee productivity. Therefore, management needs to find a balanced approach that allows occasional personal communication, creating a positive work environment without negatively impacting work efficiency.

Robbins and Judge (2013) emphasize oral (spoken, verbal) expression, tactile (nonverbal) expression, written communication, while Lamza-Maronić and Glavaš (2008) add electronic communication (e-communication) as ways of business communication. The most common mode of communication in an organization is oral communication (Robbins, Judge, 2013; Lamza-Maronić, Glavaš, 2008). Ideas and messages are quickly transmitted among participants through speech and conversation. In the business environment, it is used in conversations, discussions, and reports. Oral communication can be efficient, but it requires attention due to possible misunderstandings. Formal oral communication is important for business, while informal communication includes unofficial conversations. Nonverbal communication is present daily in the business world. Body position, gestures, facial expressions, and physical distance play a significant role in conveying a message, with the most crucial messages conveyed being the degree of our affection for others and interest in their views and the perceived status between us as the sender and the receiver (Robbins, Judge, 2013:341-342). Nonverbal communication is more powerful than verbal and serves various functions in interpersonal relationships, including expressing emotions through facial expressions, displaying status, revealing traits, accompanying verbal messages, and replacing verbal communication with facial expressions and gestures (Miletić, 2012).

Modern organizations are faced with the necessity of encouraging innovation and enhancing adaptability to changes to avoid becoming candidates for extinction (Robbins, Judge, 2013). Winning in the market belongs to those organizations that maintain high flexibility, continuously improve quality, and outperform the competition through a constant flow of innovative products and services. The role of employees within



## Book of Proceedings

an organization can be crucial in stimulating innovation and change, but they can also present a major obstacle.

In this context, managers face the challenge of fostering creativity and tolerance for change among their employees. In the traditional model, employees followed strict work schedules and worked at a specific physical location. However, in today's work environment, the boundaries between work and private life are becoming blurred, leading to conflicts and stress. Global organizations, advances in communication technology, longer working hours, and an increase in dual-career couples contribute to this phenomenon. Employees are increasingly seeking jobs that offer flexibility in managing the work-life balance. Achieving a balance between work and private life has become a priority, especially for the younger generation.

Organizations that do not address this issue will struggle to attract and retain talented employees. Working in networked organizations allows people to communicate and collaborate even when they are thousands of miles apart. Freelancers can telecommute to workplaces worldwide and change employers as the demand for their services changes. Examples of such professions include software programmers, graphic designers, systems analysts, technical writers, photography researchers, book and media editors, and medical transcribers, who can perform their jobs from home or other locations outside the office. Managing in a networked organization requires appropriate techniques of motivation, leadership, and decision-making, as collaboration and decision-making take place via the internet, rather than being based on the physical presence of individuals in the same location. With the increasing number of employees performing their jobs remotely, managers must develop new skills. The field of organizational behavior offers a variety of ideas and techniques that can be helpful in achieving these goals (Robbins, Judge, 2013).

### ***BUSINESS COMMUNICATION DURING A CRISIS***

#### ***DEFINING CONCEPTS: CRISIS, BUSINESS CRISIS, CRISIS MANAGEMENT***

A crisis is a serious threat to the structures and values of a social system that requires critical decision-making in conditions of time constraints and high uncertainty (Rosenthal and t'Hart, 1998, cited in Mihalinčić, 2018). A business crisis is an unexpected event that creates a high level of uncertainty and threatens the achievement of an organization's goals, and to prevent further damage, the recognition and response of employees are crucial in such situations (Brčić, Malbašić, Đukes, 2013). A crisis can be both a challenge and an opportunity for an organization, but it demands the ability to make key decisions in a short time (Mihalinčić, 2018). According to Ivanović (2014), a crisis situation represents a wide range of disruptions in social life, including political and economic spheres, from which it is usually difficult to emerge, and the recovery process is often lengthy. Business communication plays a crucial role in crisis management and maintaining stakeholders' trust (Ivanović, 2014). According to Ivanović (2014), crisis management encompasses efforts to align and direct social development and ensure the fundamental goals of the enterprise. The crisis management process involves identifying the situation, diagnosing the state, analyzing the characteristics of the enterprise, and taking measures to overcome the crisis or make a strategic turnaround. Crisis management requires quick response, problem recognition, and resolution. Considering potential crisis situations allows timely responses and crisis prevention. The stages of the crisis management cycle include prevention, preparation, response, and recovery. Researching the concept of crisis management includes analyzing previous crises and drawing conclusions from their resolution (Ivanović, 2014).

Mihalinčić (2018) highlights key aspects of crisis management and communication: crisis team, crisis plan, conducting simulation exercises, and crisis message templates. The crisis team, composed of experts from different departments, plays a crucial role in effective crisis management. Conducting simulation exercises allows the detection of weaknesses in the plan and team and improves coordination and routines. Crisis requires swift reactions and efficient information management. The quality of communication flow during



## Book of Proceedings

a crisis period depends on prepared communication strategies. Advanced preparation allows the use of pre-prepared message templates with key information (Coombs, 2006). Quick response and rational decision-making are essential for effective crisis management. Accordingly, planning represents the first step in the crisis management process. According to Coombs (2006), organizations are more successful in crisis management when they meet the following conditions: having an action plan for crisis situations that is regularly updated at least once a year, having a prepared crisis management team, conducting plan testing at least once a year, and possessing pre-prepared crisis messages to be used across various communication channels.

### ***CRISIS DURING COVID-19***

The COVID-19 pandemic caused a health crisis that led to restrictions, business closures, and changes in work practices. The impact of the COVID-19 pandemic on business communication and the role of leaders in crisis situations require careful monitoring and understanding of crisis communication. Limitations in everyday communication, such as physical distancing, lockdowns, and epidemiological measures, presented challenges for leaders during this health crisis. To overcome the difficulties that arose, leaders needed to possess people management skills and maintain effective business communication.

Research conducted by the Croatian Chamber of Economy (2020) revealed that small and medium-sized enterprises (SMEs) were particularly affected by the negative impact of the pandemic compared to large companies. The most common communication problems faced by businesses included difficulties in securing new deals, canceling event participations, and executing existing activities. The research also noted that companies faced the least difficulty with product and service value decline and maintaining meetings with international and domestic partners. Assuming that these minor setbacks were likely successfully compensated through the use of information and communication technologies that enable remote business contacts. Business communication encompasses both offline and online media and is the method by which a commercial organization prepares its employees to increase productivity and achieve business goals. Channels of business communication include written communication, personal contacts, telephone, media, and electronic communication. Technological advancements have transformed the concept of business communication, including the use of social media as a platform for internal and external communication, product promotion, and advertising.

### ***IMPACT OF TECHNOLOGY ON COMMUNICATION DURING THE PANDEMIA***

According to Basak and Dutta (2022), various online platforms have emerged to meet the need for communication, both external and internal, without physical presence at a specific location. For instance, software and applications like Microsoft Teams, Google Meet, Zoom, Dropbox, OneDrive, Microsoft 365, and others quickly gained popularity and became increasingly used. Prior to the outbreak of the COVID-19 pandemic, both offline and online communication methods held significant importance through internal and external communication channels within each business organization. However, the severity of the pandemic, particularly from March 2020 onwards, compelled nearly all commercial organizations worldwide to initiate an initiative to transition from offline to online modes of business communication.

Basak and Dutta (2022) conducted research analyzing trends and comparing the use of online communication platforms before and after COVID-19. The collected data revealed that the usage of seven popular social media platforms (Facebook, Instagram, Twitter, WeChat, Sina Weibo, WhatsApp, and YouTube) experienced growth during the surveyed period. For example, the number of Facebook users increased from 2.25 billion to 2.8 billion, Instagram from 1 billion to 1.23 billion, Twitter from 0.33 billion to 0.4 billion, WeChat from 1 billion to 1.22 billion, Sina Weibo from 0.43 billion to 0.52 billion, WhatsApp





## Book of Proceedings

from 1.5 billion to 2 billion, and YouTube from 1.9 billion to 2.3 billion (Basak and Dutta, 2022). These results indicate the increasing significance of online communication in the contemporary world. Pakozdi, Jakopović, and Kanjet (2021) suggest that remote work has become a popular trend with the potential to become a norm in business practices. According to a survey by Edelman Data x Intelligence, 73% of employees wish to retain the option to work from home, while 66% of managers are considering adapting workspaces for a hybrid work environment (Microsoft, 2021; as cited in Pakozdi, Jakopović, Kanjet, 2021).

Other studies suggest that virtual meetings will become a common practice, with flexibility and more time with family being the main reasons supporting remote work (MojPosao.net, 2021; Martins, Gilson, Maynard, 2004, as cited in Pakozdi, Jakopović, Kanjet, 2021). Moreover, prompted by global research, Pakozdi, Jakopović, and Kanjet (2021) conducted a survey consisting of 51 questions divided into thematic blocks related to the use of technology for virtual meetings, meeting efficiency, technical distractions, distractions in the micro-environment, meeting time, digital conversation culture, and demographic data. The majority of respondents were employees from marketing, public relations, and human resources departments. According to the conducted research (Pakozdi, Jakopović, Kanjet, 2021), the results indicate the predominance of physical meetings in organizations before the pandemic (37% of respondents did not use virtual meeting software for business purposes, while 26% used the software only occasionally, and virtual meetings occurred only in specific situations).

Additionally, the majority of respondents (68%) did not receive any instructions or training on using virtual meeting software from their companies. When it comes to preferences for virtual meeting software, before the pandemic, the majority of respondents (66%) used Skype, while during the pandemic, MS Teams became the most popular, with twice as many users compared to Zoom. Furthermore, the majority of respondents (75%) prefer MS Teams as the software for holding virtual meetings, while only 1% of respondents opt for Skype. The research reveals differences in the effectiveness of virtual meetings in organizations. The majority of respondents (79%) had the option to choose between working from home or the office or worked in divided groups. A significant number of respondents (34%) often preferred virtual meetings for the sake of convenience. In 68% of organizations, virtual weekly meetings, briefings, and workshops are regularly held. Regarding making business decisions via virtual meetings, there is a divided opinion. The majority of respondents (68%) believe that new business deals can be freely negotiated through virtual meetings, while a smaller number of respondents (19%) prefer physical meetings for "tough" conversations.

Moreover, the majority of respondents (52%) find it more challenging to negotiate and finalize deals through virtual meetings. Based on the conducted research, Pakozdi, Jakopović, and Kanjet (2021) conclude that the results indicate that virtual meetings are not obstacles to expanding businesses and forming new alliances in the market. Communication related to mergers and acquisitions of organizations can also be facilitated through virtual meetings. However, for delicate situations within organizations, such as issues of termination or expressing criticism, traditional face-to-face communication is still preferred.

Bojadiljev and Naneva (2021) conducted a study based on two questionnaires to explore the communication between leaders and members of an organization in a company before and after the outbreak of the COVID-19 pandemic. Leaders filled out the first questionnaire, which focused on their perception of their own leadership, while the second questionnaire was completed by employees who evaluated the leader's leadership style and communication with colleagues. The questionnaires included demographic questions, preferred communication methods, changes in the decision-making process, and evaluations of the leader's leadership style and communication.

In the research by Bojadiljev and Naneva (2021), it was confirmed that leaders had a different communication model and frequency before and after the crisis. "Face-to-face" communication and meetings were replaced by safer communication methods such as SMS, Viber, and Messenger. However, the frequency of meetings was not aligned with the urgency of the situation. It was also observed that leaders preferred shorter meetings regardless of the crisis. For organizational members, the crisis changed their communication style, and virtual channels like phone calls became the preferred method. Respondents also indicated that their preferred communication method was the same as that of the leaders. The results highlight the importance of adapting communication in crisis situations and the need for leaders who can





## Book of Proceedings

provide support and be role models for their employees. The limitations of this research include its implementation in one company and the need for further research in multiple sectors and countries.

### ***COMMUNICATION AFTER THE PEAK OF THE PANDEMIC***

On May 5, 2023, the Emergency Committee on COVID-19 of the World Health Organization (WHO) made a recommendation to the Director-General that the COVID-19 pandemic no longer meets the criteria for declaring a public health emergency. This recommendation was accepted, considering that the disease now has a well-established and enduring nature. Many employees express satisfaction with the increased flexibility that remote work provided during the pandemic. Although a gradual return to workplaces and encouraging collaboration in physical presence has its advantages, it is expected that some work will continue to be performed remotely in the near future.

According to the European Commission (2021), a hybrid way of working involves a combination of working at different locations. Hybrid work models provide greater flexibility, allowing the distribution of business activities between the office and remote work. However, after the COVID-19 pandemic, implementing a hybrid model will require significant changes in corporate culture and the establishment of new work formats, policies, and practices. Microsoft Teams highlights several common types of hybrid work, such as flexible, fixed, office-first, and remote-first.

The flexible model allows employees to determine their own work schedules, while the fixed model has pre-determined schedules. The office-first model emphasizes working in the office, while the remote-first model encourages remote work with minimal physical interaction. Research on remote work and hybrid work reveals several significant findings. Owl Labs (2022) conducted a study showing that employees working remotely or in a hybrid model exhibit higher job satisfaction and longer job tenure compared to employees working on-site. Lower levels of stress, increased concentration, and higher productivity were also observed among employees working from home. Additionally, remote work enables a better work-life balance and has positive effects on employees' physical and mental well-being.

Ergotron (2022) also conducted a study confirming that employees working in a hybrid or remote work environment feel better in terms of mental health, work-life balance, and are more active during the workday. The majority of employees highlighted that the flexibility of working from home or the office increases their job satisfaction. Furthermore, a study by Prodoscore (2020) revealed that employees who were highly productive in the office remained equally productive when working from home. On the other hand, employees who were less productive in the office also showed reduced productivity at home. The study also found a 5% increase in productivity during the period of remote work during the COVID-19 pandemic.

Research by Microsoft (2022) reveals the challenges and issues with hybrid work. The results show that managers feel trapped between leadership and employee expectations, and they perceive a lack of influence and resources to implement changes. More than half of the managers (54%) believe that company leadership is not aligned with employee expectations. Business leaders find it challenging to transition back to full-time on-site work, while more than half of employees (52%) consider transitioning to hybrid or remote work. Technology has helped maintain productivity during the pandemic but concerns about declining results are affecting the return to the workplace.

Although employees claim to be equally or even more productive while working remotely or in a hybrid model, leaders fear a drop in productivity. Leaders now face the challenge of aligning flexible work with business outcomes and employee expectations. Managers are crucial in shaping the organization's culture and need to be equipped with resources and training to manage the transition. According to the survey, a significant percentage of employees working in a hybrid state (38%) find their biggest challenge to be determining when and why they should come to the office. However, according to the results of the Microsoft survey (2022), only a few companies (28%) have established team agreements to clearly define new norms. According to the research data, 43% of remote workers and 44% of employees in the hybrid



## Book of Proceedings

model express a feeling of insufficient inclusion in meetings. However, it is noticed that only 27% of organizations establish new meeting guidelines in the context of hybrid work. These results highlight the potential negative aspects of hybrid and remote work, impacting the quality of business and organizational communication.

### *CONCLUSION*

The analysis of business communication before and after the COVID-19 pandemic provides us with insights into significant changes and challenges in this field. Traditional communication methods, such as face-to-face interactions and in-person meetings, have given way to virtual communication and remote work. The COVID-19 pandemic caused a health, economic, and social crisis that affected all segments of society. Business communication during this crisis focused on employee safety and well-being, business continuity, and providing support to communities. Communication has become a key tool for disseminating information about epidemiological measures, changes in the work environment, and adaptations in business processes.

Moreover, with the development of technology and digital transformation, business communication during the COVID-19 pandemic relied more on virtual meetings, video conferences, and online collaboration platforms. This change in communication allowed business activities to continue even in conditions of physical distance and movement restrictions. Research findings indicate a lack of experience and training in using virtual meeting software among most respondents, highlighting the need for additional education to improve communication quality and achieve greater success in virtual meetings. Although virtual meetings did not significantly reduce the effectiveness of business communication, there is room for improvement. Despite the advantages provided by technological solutions, there are also several challenges that organizations and employees face. Virtual meeting fatigue, lack of immediate interaction and spontaneity, and difficulties in interpreting nonverbal cues through screens are just some of these challenges. As organizations move towards a hybrid work model, it is necessary to adapt business communication strategies. Understanding changes in language, communication styles, and protocols, as well as developing new skills aligned with the new conditions, become essential. Furthermore, it is important to ensure effective communication that supports employee productivity, engagement, and satisfaction.

In the future, business communication will likely continue to evolve as organizations adapt to new work models and technological innovations. Continuous research, adaptation, and the development of communication strategies will be crucial for organizational success in this changed environment. Understanding these changes and timely adaptation to new conditions will be key factors in successfully facing challenges and maintaining effective communication in business environments. Hybrid work has a range of benefits, including a healthy work-life balance. Employees are provided with the option of reduced commuting, greater flexibility for personal commitments, and the possibility of relocation. Hybrid work increases the competitiveness of companies and institutions by providing the opportunity to meet employee expectations and attract the most talented candidates. Additionally, cost reduction is one of the advantages of hybrid work, as companies can reduce the number of office spaces and expenses related to office rental and maintenance.

In conclusion, the research results clearly indicate the challenges arising from communication in a hybrid work environment and remote work, especially concerning employee engagement in meetings. Data analysis revealed that a significant number of employees express a lack of belonging and inclusion in meetings in these work models. These findings emphasize the necessity of developing new guidelines and etiquettes for conducting meetings to enhance communication and ensure greater inclusion of all participants. Besides technical aspects, focus should be on developing communication and team management skills for teams operating in different locations. It is necessary to empower employees with tools and resources that enable active participation in meetings and foster a sense of belonging to the team.



## Book of Proceedings

Continuous monitoring and evaluation of these practices will be crucial factors in ensuring successful and effective communication in the context of hybrid work and remote work.

### **REFERENCES**

Basak, K., Dutta, S. (2022). An Assessment of Covid-19 Impact on Business Communication Mode Transformation and Re-Skilling Learning Approaches. *Journal of Research in Business and Management*, 10, 131-138.

Bojadjiev, M., Vaneva, M. (2021). The Impact of Covid-19 Crisis on a Company's Internal Communication. *Interdisciplinary Description of Complex Systems*, 19(2), 239-256.

Brčić, R., Malbašić, I., Đukes, S. (2013). Uloga i ponašanje zaposlenika u kriznom menadžmentu. *Ekonomski pregled*, 64(3), 279-296.

Coombs, W.T. (2007). Protecting Organization Reputations During a Crisis: The Development and Application of Situational Crisis Communication Theory. *Corporate Reputation Review*, 10(3), 163-176.

Griffin, E. (2012). A first look at communication theory. New York: McGraw-Hill.

Griffin, R. W., Phillips, J. M., Gull, S. M. (2020). Organizational Behavior: Managing People and Organizations, Thirteenth Edition. Boston: CENGAGE.

Havelka, M. (1998). Zdravstvena psihologija. Jastrebarsko: Naklada Slap.

Ivanović, V. (2014). Pojam krize: konceptualni i metodologijski aspekti. *Međunarodne studije*, 14(2), 9-29.

Lamza – Maronić, M., Glavaš, J. (2008). Poslovno komuniciranje. Osijek: Sveučilište J. J. Strossmayera u Osijeku. Ekonomski fakultet u Osijeku.

Littlejohn, S. W., Foss, K. A. (2008). Theories of Human Communication. Ninth Edition. Thomson Wadsworth, Belmont.

Mihalinčić, M. (2018). Upravljanje krizama i komuniciranje. Velika Gorica: Veleučilište Velika Gorica.

Miletić, N. (2012). Gdje je granica između profita i slobode produkcije? *Liburna*, 1(1), 48-59.

Pakozdi, I., Jakopović, H., Kanajet, K. (2021). Virtualni sastanci tijekom pandemije bolesti COVID-19: komunikacijski obrasci i prakse u poduzećima u Hrvatskoj. *Sociologija i prostor*, 59(3), 371-392.

Petz, B. (1992). Psihologijski rječnik. Zagreb: Prosvjeta.

Plenković, M. (2017). Holistička analiza odnosa s javnostima. *Media, Culture and Public Relations*, 155-172.

Robbins, P. S., Judge, T. A. (2013). Organizational Behavior. Prentice Hall, New Jersey.

Tanta, I. (2008). Komunikacija društvenog statusa. *MediAnali*, 2(3), 137-148.

Zvonarević, M. (1976). Socijalna psihologija. Zagreb: Školska knjiga.

<https://www.businesswire.com/news/home/20201217005250/en/Prodoscore-Research-Productivity-of-Remote-Workforce-Remains-Strong-During-Pandemic>.

<https://www.ergotron.com/en-au/resources/resource-details/6302>.

[https://eures.ec.europa.eu/future-work-hybrid-blending-work-different-locations-2021-11-04\\_hr](https://eures.ec.europa.eu/future-work-hybrid-blending-work-different-locations-2021-11-04_hr).

<https://hgk.hr/documents/poteskoce-u-poslovanju-i-covid-19hgk5e5b8959356f5.pdf>.



**Book of Proceedings**

<https://www.ergotron.com/en-au/resources/resource-details/6302>.

<https://www.microsoft.com/en-us/worklab/beyond-the-binary-solving-the-hybrid-work-paradox>.

<https://www.microsoft.com/en-us/worklab/work-trend-index/great-expectations-making-hybrid-work-work>.

<https://www.microsoft.com/hr-hr/microsoft-teams/hybrid-work-from-home>.

<https://www.who.int/europe/emergencies/situations/covid-19>.



Book of Proceedings

***THE INFLUENCE OF STRATEGIC COMMUNICATION ON TRUST BETWEEN THE PATIENT AND DENTIST – FOCUS GROUP WITH ITALIAN PATIENTS***

*Etienne Šajn<sup>1</sup>*

***ABSTRACT***

*This paper will analyze the relationship between the patient and the dentist. It starts from the assumption that a patient who understands what the dentist is telling him, will more easily gain trust in the dentist and confidently surrender to the procedures that are needed. In order to understand the patient's thinking more easily, a Focus group was created with patients from Italy, who came to Croatia for dental procedures due to the need for dental restoration. The focus group was conducted with patients of the Zagreb polyclinic. The analysis of the focus group yielded useful findings, which are presented in detail in the paper. A patient who understands what is being done to him ultimately gains trust in the dentist more easily. The basis of the relationship with patients lies in communication, which patients say must be clear and open. In the continuation of the paper, a detailed presentation of the Focus group held and the results obtained.*

***Key words:*** Focus group, Trust, Patient, Dentist, Strategic Communication

***JEL Classification:*** I15, M53, Z32

***INTRODUCTION***

The desire is to prepare through this paper the work that is to be researched at the doctoral level. Namely, the topic to be investigated is the trust between the patient and the dentist and how the choice of communication affects trust. We want to explore the topic from three points of view, the first is what has been scientifically researched on the matter so far, the second point of view is the patient's point of view and the third point is the dentist's point of view.

By comparing these three points of view, we want to reach a conclusion, whether the choice of communication method affects the trust between the patient and the dentist. Through this paper, we want to investigate the patient's angle and how the patient views communication with the dentist. Precisely because of this, the decision was made to investigate the topic with patients before the actual quantitative research through a survey. A way to gain insight into patients' thinking was to talk to patients. A decision was made to talk to several patients at the same time, and the Focus group research method was used.

The Focus group was conducted on Wednesday, May 10, 2023, with patients of the Arena Dental Clinic from Zagreb, Croatia. The patients agreed to the Focus group voluntarily and were part of the research. The Focus group held was the author's first Focus group, the author prepared by reading the instructions written by Professor Skoko (Skoko, Benković 2009) about the way in which the Focus group is conducted. In continuation the knowledge that the author received after the Focus group.

---

<sup>1</sup> Obrt Šajn, Zagreb, Croatia, PhD candidate, etsajn@gmail.com



## Book of Proceedings

### *FOCUS GROUP*

Skoko & Benković (2009) explains in his work, there are various methods of using Focus groups in research. You can get an opinion on certain attitudes and thoughts and get answers to various questions. A Focus group belongs to qualitative methods of research, where we want to examine and get an answer as to why someone has a certain opinion on a certain topic. In a Focus group, the moderator, the person who leads the Focus group, has the ability to ask questions and guide the conversation. A Focus group is a method of group discussion, where individuals who have a common topic are invited to discuss it. The Focus group was created in the middle of the last century, when Merton (Krueger 1994), a member of the Lazarsfeld team, began to use this method in research. After that, the Focus group starts to be used more in research, especially in researching products before putting them on the market or testing various advertisements to get feedback from the audience before releasing them to the public.

Morgan and Krueger in 1998 (Morgan, Krueger 1998) created a manual that has since been considered the basic manual for holding Focus groups. Focus groups are also used in non-profit organizations, in order to gain insight into the effectiveness of their programs. A Focus group can be used in almost all research, unlike a survey where the respondent answers questions that have been asked in advance, during the Focus group, there is a possibility that the dynamics of the research itself can change during the conversation. If a certain topic is more interesting to the respondents, the moderator can devote more time and research that topic, while on the other hand, the moderator has the authority to manage the research and monitor the dynamics of the conversation and, if necessary, additionally clarify certain questions or encourage additional discussion. All with the goal of a better discussion about a certain topic.

Skoko & Benković (2009) defines that a Focus group helps us in several ways, it enables us to understand what certain consumers think, it helps us to understand what motivates people, after a Focus group we have a clearer thinking about a certain topic, so it can and help with the formulation of hypotheses. A Focus group as such is an excellent preparation for quantitative research using a survey. Through the Focus group, we can see how the group reacts to certain questions, and get guidance on preparing questions for the survey. It allows us to explore a specific topic in depth. And the most important thing, the Focus group serves us to get a broader view of a certain topic that we want to investigate. Although based on a small sample, the Focus group, through conversation with respondents, can clearly answer certain questions and guide us in the preparation of subsequent research. As Strauss and Corbin (Miles, Matthew, Huberman, 1994) explain, the Focus group is characterized by an inductive approach, where one observes how the group reacts, examines the set hypothesis and wants to get answers to the questions raised as well as the thinking of individuals on certain topics.

Focus groups usually have 6 to 12 participants, i.e. 8 +/-2 participants. It is considered that the number is not too large and that in this way all Focus group respondents have the opportunity to participate in the discussion and contribute to the Focus group's answers. The key is to choose the participants of the Focus group with quality, you should always know which topic is being researched using the Focus group and find respondents who understand the topic being researched. Certainly, the key person in the Focus group is the moderator, who follows the Focus group all the time, moderates and helps create a discussion. Invites and monitors who joins the discussion, if someone is not included, he includes everyone in the discussion with sub-questions. Thanks to a quality moderator, who is impartial, it is possible to get answers to all questions, and to respect differences in some ways of thinking.

The analysis of the results of the Focus group itself is a complicated and demanding process. Namely, according to Knodel (Krueger, Richard, Casey, Mary, 2000), from one Focus group that lasts 90 minutes, 50 pages of transcripts can be obtained, which is relatively demanding to process. In contrast to quantitative research, where the obtained data are clear and easily measurable, in a Focus group you should first put all the data on paper and then analyze it. The Focus group is recorded, the moderator follows the Focus group with notes, but the recording of the Focus group allows the moderator to listen to the Focus group after it has been held and write down in paper form what was done and what was discussed. Recording a Focus group allows the moderator to actively participate in the Focus group and not have to take too much care





## Book of Proceedings

about writing absolutely all the details from the Focus group. The recording allows the moderator to listen multiple times and record everything that is needed. It is essential to analyze all the data, code it and prepare it for analysis. It is certainly important to compare the notes with the recording and extract the most important data for analysis. It should be emphasized that Focus groups as such are still not widely used in Croatia. According to what Skoko writes (Skoko, Benković 2009), the reason may be that this method is still unknown in scientific circles. Focus groups are particularly suitable for exploring different attitudes, beliefs and motives. Today, in the world, Focus groups are mostly used in marketing research and public relations research. It is precisely for this reason that the Focus group was selected in this doctoral research. The desire is to get an answer as to how communication, or the choice of communication, affects relationships with patients.

### ***FOCUS GROUP IN ARENA DENTAL***

During his doctoral studies, the author decided that the topic he would like to investigate in his doctoral thesis is communication between the patient and the dentist and how the choice of the communication method affects the trust the patient gains in the dentist. The author listened to the advice of his professors during his doctoral studies, and certainly one of the more useful pieces of advice was Professor Lamut's advice that the author research the topic from multiple angles. In his case from three angles. This is where the author decided that the first step was to research the literature to see if the topic had been researched as such. The second step is to get the opinion of the patient on the one hand and the dentist on the other hand about the desired research topic. During the analysis of the literature, the author did not come across similar research in Croatia, he came across the research done by Rozier, Podschun and Horowitz (Rozier, Horowitz, Podshun 2011) in America on a sample of almost 6000 dentists where they investigated the communication methods used by dentists in conversation with patients. During this research, it was seen that dentists use few techniques and that they often use one or two techniques out of several possible techniques. Precisely because of these findings, the author decided to investigate the topic of communication between dentist and patient and find out what it is like in Croatia.

For the purposes of the paper, the author decided to conduct the Focus Group earlier than planned so that he could obtain relevant data for the needs of the paper and analyze it, as well as prepare for the writing and research required for his doctoral thesis. The author got in touch with the manager of Arena Dental Polyclinic and explained that he would like to do a Focus group with their patients to find out the patient's satisfaction with communication. The management immediately accepted the idea and agreed with the author to hold it in the afternoon on 10.5.2023. the Focus groups in the premises of Arena Dental. The author prepared in detail for holding the Focus group, followed the instructions of Skoko & Benković (2009) regarding the preparation and the manner in which the Focus group is held. In agreement with the management of Arena Dental, 8 patients were selected to participate in the Focus group.

The author prepared himself and bought a recorder so that he could record the Focus group. He made a PowerPoint presentation, where he first explained what a Focus group is, introduced himself, for what purposes the Focus group is conducted, and wrote the topics that will be covered. Each page contained one topic, so subjects did not see all the topics in advance. The author also prepared an informed consent form for the respondents, where he warned them that the Focus group was being recorded and explained that the data would be used exclusively for the purposes of the doctoral dissertation that the author is preparing at FUDŠ. On the day of the Focus group, the author came earlier than agreed, prepared the hall and welcomed all the interviewees. Unfortunately, two respondents could not participate due to illness, so the final number of respondents was 6. 2 women and 4 men were at the Focus group on 10.5.2023. It is important to emphasize that this was the author's first Focus group that he conducted independently.

The author first warmly greeted the respondents, gave them informed consent. After they filled out and signed, he started recording the audio. The author then introduced himself, explained what a Focus group



## Book of Proceedings

is, after which the interviewees briefly introduced themselves, explained their names, where they come from. The author explained that they were all invited because they had a common topic, in their case it was dentists, all the respondents had recently been to dentists, talked with them and had the opportunity to meet several dentists, precisely because of this they were ideal candidates for the Focus group, or for group discussion. The author started with questions, the first was a conversation about experience with dentists, followed by questions about communication in the office, about trust, about the reason for coming to Arena Dental, and finally about the likelihood that he would give his recommendation to someone. In this Focus group, we wanted to investigate how satisfied the respondents are with the dentists, in this case the dentists of Arena Dental, how the dentists communicate and, at the very end, how likely it is that they would recommend someone to come to Arena Dental.

The Focus group itself was very dynamic, the author, who was also the moderator, managed to lead the Focus group without much difficulty, make sure that everyone was involved and invited those who perhaps did not speak so much to join the Focus group with sub-questions. The Focus group started on time and lasted 90 minutes. Both in terms of minutes and the number of participants, all the requirements of the Focus group have been met. The author got an insight into the topic and got an excellent foundation for his further research, which he intends to do in his doctoral dissertation. Although the first, the author is satisfied with his Focus group, the way in which it was conducted, but also with the engagement of the participants, that is, the interviewees. The respondents were open to conversation, in a good mood and interested in the Focus group itself. In the conversation with the interviewees, they themselves admitted that this was their first Focus group. Even though it was the first for both the moderator and the respondents, the Focus group answered all the questions and involved all the participants in a quality and active manner.

### ***FOCUS GROUP RESULTS***

After the Focus group was held, the moderator thanked the interviewees and gave them a small sign of attention as a sign of gratitude for joining the Focus group. All respondents were visibly satisfied and delighted. After the Focus group, the author listened to all the recordings and extracted the following data, which he will analyze in the following sentences and make a conclusion about the information obtained and the success of the Focus group.

The Focus group was held on Wednesday, May 10th, 2023. in Arena Dental from 18:00 to 19:30. 6 participants present, 4 men and 2 women. Respondents were active and willing to participate. Respondents were from Italy, since the Arena Dental clinic mostly works with patients from abroad. The Focus group was moderated by Etienne Šajn. The Focus group was dynamic, the respondents participated in the answers and were actively involved, the moderator led his first ever Focus group well and kept the respondents in the Focus of the conversation.

At the beginning the moderator introduced himself and said what he is studying, where, and what he will use the research for. The main fact that wants to be investigated is the way in which dentists talk to patients and how this affects the trust of the patient. We want to hear the opinion of the whole group. The moderator went around asking the respondents how they found the clinic, the first respondent said that he found the clinic through a friend, the second respondent also through a recommendation, she and her husband came to the clinic and for research. Both found the clinic through a friend's recommendation.

The respondents immediately started the discussion, because they asked if there was a possibility for the clinic to open a branch in Italy, because in that way part of the procedure could be performed in Italy and the feeling of security would be greater. After that, the presentation continues, another married couple, they also received information from a friend and decided to come. The last respondent was recommended by a friend, he explained to him how everything works and the friend invited him to come with him to the examination. It should be emphasized that part of the clinic's examination also takes place in Sardinia, so patients have the opportunity to have their first examination close to home, but all other procedures must



## Book of Proceedings

be performed in Zagreb. In the first round, the last respondent spent a long time explaining his experience, he was satisfied with the clinic's equipment, he repeated it several times, and others joined in, they were very enthusiastic about the new technology. But they also emphasized the kindness of all employees who are at the service of the patient.

In the first discussion, we wanted to find out what the experience with dentists was like. The interviewees talked about their experience, it was positive. What the patients agreed, if there is a possibility for the patient to talk to the dentist directly, and not through an interpreter, that would be great. Because in this way, the dentist and the patient would understand each other easily, but also in this way the patient would gain more trust. The patient highlighted her experience, when she was at a rehearsal, the dentists spoke to each other but in Croatian and she did not understand them, and says that she did not feel the best, but later they explained something to her. The second respondent pointed out that she was very satisfied, because the doctor tried to speak in Italian and explained everything to her, she said that she was calm and happy. Because she could talk casually and explain what happened. As she said, it's nice when you can talk to someone who understands you.

The respondent emphasized that he is satisfied because he is accompanied the whole time by a dentist who understands Italian and says that this relaxes him. First, to be accompanied by one person and secondly, to be accompanied by someone who understands Italian. He pointed out that it would be good for everyone to learn Italian, since most of the patients come from Italy, it would be good to learn Italian and be able to communicate easily with the patients. All those present agreed that it would be easier for them and they would be calmer, if they could at least get some basic information from the dentist himself. A discussion followed about the method of communication with the clinic staff, the patients said that communication is often conducted via WhatsApp, which is satisfactory, but the respondent pointed out that it is better to talk live because you can get more information, and the communication is somehow more intimate, and he says that on that mode can chat with someone live and get all the answers to the questions.

The respondents agreed that communication over the phone can provide more answers at once, but the feeling is also different because you get all the information and you are talking to someone, which gives a better feeling. On the other hand, the respondents commented that via WhatsApp you can write a message when someone has time to answer, while this way via a call, if someone does not answer in the clinic when they call, then they wait for a call back, so maybe they do something when the call back arrives and they don't they manage to answer, and then they have to call back again. They said that both methods of communication are good, and that both methods have their advantages, but perhaps also disadvantages. The phone is warmer as a means of communication, while WhatsApp is more practical because you get an answer to the question that is asked and you don't have to wait for a call back if someone from the clinic does not answer immediately when, as in the case of a call, you have to wait for a call back, in WhatsApp ask a question that sooner or later will receive an answer. What one interviewee pointed out is that it would be good to have an emergency phone, which is available 24 hours a day, every day of the week, where patients could report what happened to them, and thus get an immediate answer to their question. It can certainly be considered as a suggestion.

The discussion continued with the question of what trust in a dentist is for them and how they gain trust in a dentist. The first respondent pointed out that it is important how the dentist navigates the office and how and in what way he communicates with the patient. Certainly, trust begins immediately with the very fact that someone has studied dentistry and understands what he is doing, but trust certainly grows when the dentist makes it known that he knows what he is doing and that the patient feels comfortable in the office. Because as he pointed out, in today's time when there are many options, it is important that the patient has confidence in the office and the dentist, otherwise the patient will change the office. The second respondent immediately added that it is important and good when one doctor monitors the whole situation, he is primarily satisfied with that, and it is important to explain how long the procedure will take and what will be done, because then the patient is safe and knows what awaits him, there is no surprise effect and he is calm.



## Book of Proceedings

What he emphasized is that it is important that the dentist monitors the patient and how the patient reacts, and if a break or additional anesthesia is needed. The respondent continued on the language barrier, says that she was accompanied by a dentist who does not understand Italian, they somehow communicated and says that whenever she needed a break or something, he was always at your service. After that, she had a dentist who spoke Italian, and she says that the feeling was different, she was happier and calmer because she could talk to someone normally and ask everything she was interested in. All those present agreed that communication is important and that it is easier for them when it is explained to them what will be done and how long it will take, because then they can prepare mentally and know how long something will take. A good explanation of what will be done is the basis of any communication, and this is where the creation of trust begins. The respondent, who had the opportunity to work with both a doctor who spoke Italian and a doctor who did not speak Italian, drew a parallel and said that honestly, if she had to answer, she has more confidence in a doctor who speaks Italian than in a doctor who does not speak Italian and uses the services of a translator to explain what will be done. It is interesting to see that even though two dentists may not have the same knowledge, patients will have more confidence in the dentist who explains what he will do and pays more attention to the patient.

What the interviewees agreed on is that age also gives confidence, in the Arena clinic they pointed out that there are a lot of young doctors, and that maybe an older doctor could add confidence. It is not necessary, but respondents say that someone who is older also gives confidence. On the other hand, the respondents followed up on the speed of the work, they emphasized that the advantage of the clinic is to perform the procedure within a reasonable time and that they understand that it is necessary to have younger doctors who can withstand the pace and work all days of the week so that the work could be delivered. These are some of the facts that give them confidence, as they agreed, such as conversation in their native language, satisfaction with the approach and explanation of the procedure, and the speed of the work.

Questions and discussion followed about the reason why they decided to go on such a long journey, what motivated them to go on the journey. The interest was to investigate what was the main motive for coming to Croatia. It started from the assumption that patients decide on such a path solely for the sake of savings, and this was to be confirmed. The respondents discussed this topic as a group, all of them had in common that they decided on such a path because of the savings, which, according to them, is significant and motivating. However, what they pointed out was that it was important for them to receive a recommendation, which in this particular case, for Arena, all six of them received. Each of them received a recommendation and thus decided on the clinic, none of the six of them found the clinic through marketing, but only through a recommendation. Which is interesting from a marketing point of view.

On the other hand, the respondents agreed that the delivery time of the works is also a great advantage, since within a week, procedures can be carried out, while for example, as one gentleman pointed out, some procedures he did at his place in Italy, they took several months, while in Arena Dental he did the same in less than a week. They emphasized that patient care is present, and that the schedule is optimized, with little delays, to the patient's requirements and that the work is delivered on time to the patient. Each of the respondents asked friends and acquaintances about their experience in the Arena, and in that way got informed, so the patient wants to prepare before arriving, but in a way to find someone who has been to the clinic and gets first-hand experience. It is important to point out that the patients openly talked about some of the difficulties they had, such as broken temporary teeth or falling out implants, but none of the respondents were angry, they said that this is normal and that it happens, and they pointed out that the most important thing is that the clinic is there for them and that everything is under guarantee, and this gives them confidence when choosing a clinic, that whatever happens, they know what was done at the clinic and that the clinic is at their disposal.

The road to get to Zagreb is not a short one, it is a long road, but the interviewees pointed out that it is a road that is worth it, because in addition to financial savings, you get quality work in a reasonable time. The clinic also has organized transport available, which is practical and comfortable for arrival, which also affects the decision regarding the ease of arrival in Zagreb. The respondents pointed out that they feel comfortable in Zagreb as a city, that it is a nice and safe city. According to what the interviewees said, they



## Book of Proceedings

are also glad because it is nice to see a clean city and feel safe in a new city. The interviewees exchanged opinions about Zagreb and how to get around Zagreb and agreed that Zagreb is well connected and that it is a beautiful and peaceful city. The last conversation went in the direction of trust and how important it is to give someone a recommendation.

The question was asked in the circle how likely it is that they would give someone a recommendation. All respondents agreed that they would definitely give a recommendation, and some pointed out that they had already given a recommendation and that their friends had come for procedures. Overall, the trust that patients gain in the dentist and the clinic has several levels, taking into account the entire experience from the very arrival at the clinic, to the reception and communication with the dentist. It is important to point out that the respondents emphasized that it is very important for them to be able to talk openly with the dentist and to have it explained to them what will be done. Just the open communication with the dentist affects the trust that is gained in the dentist.

The respondents agreed that communication, speed and price are key in making a decision. But above all a recommendation, because each of them first received a recommendation and then decided to go to Zagreb. At the end, they had one question, the interviewee asked, how come only young people work in the Arena, it was explained that the pace of work in such a clinic is stressful, and that it is great for young people to gain great confidence, but that over time the person wants to be calmer pace and that after that they go either to their surgeries or to surgeries where the pace of work is slower. The moderator thanked all the respondents, as a sign of gratitude he gave them a small chocolate that is famous in Zagreb, the respondents were sincerely happy and thanked for the chocolate bar.

### ***ANALYSIS OF THE OBTAINED DATA***

This research aimed to confirm Hypothesis *H0* *A patient who has the opportunity to speak directly with the dentist will gain trust in the dentist and recommend other people to contact the clinic directly.* After listening to the audio again, the author processed all the notes and obtained the following data, which he correlated with the hypothesis. It is important to point out at the beginning that the respondents did not know each other beforehand, even though there were two couples in the Focus group, they acted independently and both actively participated in the Focus group. From the beginning, the respondents were actively involved in the Focus group, none of the respondents stood out as dominant, but all had the right to vote and participate. The moderator paid attention to the time and encouraged all participants to actively participate in the Focus group.

*Table 1. Presentation of the main results of the Focus group*

Questions	Answers			
	YES	% YES	NO	% NO
Did you come to the clinic through a recommendation?	6	100%	0	0%
Do you prefer when you can talk directly to the dentist without a language barrier?	6	100%	0	0%
Do you prefer communication by phone instead of WhatsApp messages?	6	100%	0	0%
Do you feel more confident when you can talk to the dentist directly without a language barrier?	6	100%	0	0%





### Book of Proceedings

Is it important to you that the prosthetic work is finished quickly?	6	100%	0	0%
Do you feel safe in Zagreb?	6	100%	0	0%
Would you personally recommend your friends to come to Arena Dental?	6	100%	0	0%

*Source: Author*

Several key facts should be highlighted, the respondents have recently used the services of the polyclinic and this is their common link. Gender and age were not taken into account in the selection of candidates for the research, it was only considered that the respondents had been patients in the dental polyclinic for the past year. For the purposes of the paper, a Focus group was held to investigate the patient's opinion about the importance of communication in dentistry. Namely, the author's assumption is that it is precisely the choice of quality communication that affects the trust that the patient acquires in the dentist. Which turned out to be correct, the respondents confirmed that it is important for them when the dentist talks to them and that they feel more relaxed and secure when it is explained to them before the procedure what will be done to them. In this way, the patient gets a broader picture of what will be done, how long it will take, and most importantly, he has the opportunity to talk to the dentist to find out and get answers to all his questions.

The patients also pointed out that when they can talk to the dentist in the same language, in the case of the Focus group held in Italian, that it increases their sense of trust and that thanks to being able to talk to the dentist in a language they understand, it helps them to relax more easily and gaining more trust. As one respondent pointed out, it is great when a dentist accompanies the patient from the beginning, in this way, the patient has the feeling that the dentist understands and knows him. As the respondent said, that doctor has his utmost trust and whatever the dentist recommends, he will accept it. And this is crucial in gaining trust, that dentist and patient build a relationship based on mutual trust. Further in the conversation, the patients emphasized the importance of telephone communication nowadays, even though we are used to fast communication through various applications, the respondents agreed that they prefer to talk to someone and that they feel a greater sense of trust when they can talk to someone live over the phone and hear someone's voice, instead of texting.

A further point that is important in gaining the trust of respondents nowadays is the time of making the works. Namely, if the whole process takes too long, patients slowly lose their trust. On their own initiative, without any questions from the moderator, they commented that the times in Italy, where they wait a long time for an appointment and then later wait even longer for various tests, lead them to lose confidence and decide to go a long way to solve their dental problems, in a shorter period of time and with, as the respondents say, greater satisfaction.

At the very end, it is important to point out that the patient's trust is built, and as one interviewee pointed out, sometimes trust can be, as the colloquial saying goes, right away at first, but in most cases trust is built. The patients pointed out that the first step in choosing a clinic and travel was certainly the price, but that the recommendation they received went hand in hand with that. Out of all 6 respondents, all of them received a recommendation and came to contact the clinic through the recommendation. So that word-of-mouth recommendation is the basis of trust that is further built. Trust is a combination of several factors, but, according to the respondents, the main factor is the ability to communicate and negotiate with doctors. The possibility that the patient can freely ask questions and receive answers to questions, in all 6 respondents, proved to be the basis for further creation and building of trust with the dentist. Open communication is necessary to establish a quality relationship with the dentist.





## Book of Proceedings

### *CONCLUSION*

The conducted Focus group brought useful knowledge to the author, which he will apply and research in his doctoral thesis. This first survey, based on a sample of 6 respondents, confirmed that communication with dentists is necessary, and that this is exactly what patients want. Hypothesis H0 was confirmed. The patient, who has the opportunity to speak directly with the dentist, will gain trust in the dentist and recommend other people to contact the clinic directly. Apart from the language barrier, the respondents pointed out that they like to talk to dentists and that those dentists who dedicated their time to them and explained what they were going to do in a simple and comprehensible manner, gained their absolute trust as patients. The first step is the very recommendation that the respondents received, this is where trust is created. It continues by establishing a telephone conversation with patients and continues live by arriving at the office. All 6 respondents unanimously confirmed that if the dentist speaks their language, it makes a big difference and patients feel safer and have more confidence, because they can talk openly and ask questions about therapy without fear. 6 respondents answered in the affirmative that clear and open communication with the dentist affects their trust, and as the respondent emphasized, when she found a dentist who could explain to her what was going to be done, she immediately calmed down, and as she herself pointed out, she immediately she also praised her spouse that she is calm now and that she no longer has to worry about the outcome of the work itself. Trust is built on several levels, patients start from the very recommendation of patients who have already been to the clinic, continue with communication with the administration, and then come to the clinic.

The first impression is important here, the patient sees and records everything, so the patient should be treated with respect and actively involved in explaining the therapy itself. However, this is a patient who wants to invest considerable resources in his mouth and the patient also wants to get answers to his questions. In this Focus group conducted, in the conversation with respondents who are also patients, it was shown that the approach of all doctors is not the same and is not at the same level, and this also affects their trust. Open communication, sometimes a smile or a simple warm word, according to the statement, greatly helps the patient and calms him down, which ultimately leads to building trust. Trust cannot be bought, it is built, and a warm word and a smile open all doors, including the door of trust. In the next phase, the quality of communication between the patient and the dentist will be quantitatively investigated, which affects the higher evaluation of the quality of communication. Is it the way of communication, the content of communication or something else. The goal is to investigate a sample of patients who have had dental procedures in the past year and to examine how communication affects trust and the building of trust. The conducted Focus group greatly helped with the direction in which the next quantitative research will be conducted.

### *REFERENCES*

- Krueger, R. A. (1994). Focus groups: A practical guide for applied research. Sage, Thousand Oaks.
- Merton, R. K., Fiske, M., Kendall, P. (1956). The Focused Interview: A Manual of Problems & Procedures. Free Press, Glencoe.
- Miles, M. B., Huberman, M. (1994). Qualitative Data Analysis. Sage Publications, Newbury Park.
- Morgan, D. L., Krueger, R. A. (1998). The Focus group kit. Sage, Thousand Oaks.
- Rozier, Horowitz, Podshun (2011). Dentist-patient communication techniques used in the United States: The results of a national survey. Available at: <https://doi.org/10.14219/jada.archive.2011.0222> (10.07.2023.)
- Skoko, B., Benković, V. (2009). Znanstvena metoda fokus grupa – mogućnosti i načini primjene. *Politička misao*, 46(3), 217-236.



Book of Proceedings

***THE CODE OF ETICS APPLICATION IN THE CREATION OF HEADLINES ON PORTALS REGARDING THE CASE OF MASS MURDER IN ELEMENTARX SCHOOL VLADISLAV RIBNIKAR***

*Marija Gojković<sup>1</sup>  
Rade Babović<sup>2</sup>*

***ABSTRACT***

*Every age has its own particularities, one of the changes that has happened in modern times and significantly affected the entire society is the invention of the Internet, online media and social networks. On the other hand, crimes have existed since the beginning of time. Cruelty, monstrosity and evil are the same and they leave grave consequences, whether we talk about past or modern days. The public is familiar with many cases of shootings and mass murders in schools, committed by students, and such examples are especially common in the US. And while such tragedies seem to be happening somewhere far from us, Serbia has, unfortunately, faced the similar scenario of mass school shooting. By committing a massacre at Vladislav Ribnikar Elementary School, the minor killer, who murdered nine students and an adult, will be remembered as someone who left the whole country of Serbia numb and traumatized for life. Immediately after finding out about this tragedy, the media followed all the events. Having in mind the importance of ethical reporting in such tragic cases, we will look into the headlines on the day of the massacre as well as the ones in the period after the tragic event. We will analyze the headlines in order to see whether the journalists in this case too, had a sensationalistic approach or followed moral and ethical codes.*

***Key words:*** mass murders, media, school shooting, Elementary School Vladislav Ribnikar, violence

***JEL Classification:*** K14, K36

***INTRODUCTION***

The return to school after May Day (Labour Day/International Workers' Day) holidays in 2023 changed Serbia forever. To be specific, on May 3<sup>rd</sup>, 2023, a 13-year-old student of the Experimental Elementary School Vladislav Ribnikar, committed a mass murder in the school he attended, killing nine people on the spot, including eight students and a security guard and wounded six more students and a history teacher, after which another child died at a hospital, bringing the total number of victims to ten.

This tragic date in Serbian history left the whole country Serbia numb and added Serbia to the list of countries having a minor as a mass murderer in a school shooting. Up until recently, this unconceivable scenario was reserved for some 'distant countries', and now it has become a harsh reality that Serbia is having hard time dealing with.

The public is divided, looking for the answers, additional accountability (besides the actual culprit). What is quite noticeable is that all eyes are on whoever else should bear responsibility. Are those the parents of the boy who committed the crime, is it the school, the psychologists, the modern age of technology and video games? Is it the lack of empathy, the system and society as a whole? Some of the questions that

---

<sup>1</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, PhD candidate,  
marija.gojkovic@vspep.edu.rs

<sup>2</sup> Faculty of Business Economics and Entrepreneurship, Belgrade, Serbia, rade.babovic@vspep.edu.rs



## Book of Proceedings

interest the whole nation are, whether such a form of behaviour is acquired as part of primary socialization, is it a genetic factor that is innate, or, perhaps, a combination of both? The key question is whether all this could have been prevented?

The lack of relevant information available to general public puts additional interest to this matter, and all the information that can be found come through the media. By looking into this media coverage, it is evident that they provided abundance of information about the event in question, thus making the public even more hungry for new details in an attempt to explain and understand what had happened.

However, when it comes to events that are unsettling for the public, the question of ethical approach and media responsibility while reporting arises. In this paper, we will look back on those headlines in the online media, i.e. on the portals, and by analyzing them, we will look into the media approach regarding this tragic event.

### ***MASS SCHOOL SHOOTINGS AND THE SHOOTING AT ELEMENTARY SCHOOL VLADISLAV RIBNIKAR***

Mass murders always cause shock and public interest, but when it comes to minors as perpetrators of criminal act of mass murder at school, where there is an immense pain due to the loss of children and young people, the public is particularly disturbed and even more interested in following the case.

While we witnessed such cases solely in foreign countries and were under the impression that they happen far away from us, Serbia faced one of the most serious crimes in its history. As the media reported, the minor who committed this crime is the youngest perpetrator ever who left so many victims behind.

65 years to this day, a mass murder, which can be compared to the crime in Elementary School Vladislav Ribnikar, in terms of violence and approximate number of victims, took place in the USA.

In 1968, the girl Caril Ann Fugate, who, at the time of the crime, was a year older than the boy from Vracar school, killed eleven (11) people with the murderer Charles Starkweather (19) in a bloody spree. After the arrest, she became the youngest female in the United States history to be tried and convicted of the most serious crime. She was sentenced to life imprisonment, but was released on parole in 1976. (<https://www.blic.rs/vesti/hronika/nijedno-dete-uzrasta-decaka-ubice-u-istoriji-nije-ubilo-vise-ljudi-od-njega/42r6sg4>, 2023).

By looking into the case from the USA, it is noticeable that there were two perpetrators committing this crime and that one of them was nineteen (19) at the time.

If we look at the mass murder cases in schools, committed by students, it is evident that in most cases, mass murderers had planned their crimes in advance and often committed suicide or were killed by the police.

All this is supported by the fact that the juvenile killer from Elementary School Vladislav Ribnikar had a hand-drawn plan of the school as well as the target list for liquidation by priority, and part of that material was found on his desk. As the police representatives announced at the urgent press conference held after the massacre, the killer had been planning the murder for a month. The representatives of media reported that, according to the authorities, the minor had planned the murder in detail. Although this information shocked the public, it seems that such tragic events usually require preparation.

The April 20, 1999 massacre at Columbine High School in Colorado is among the most infamous of crimes perpetrated in an American school. The attack was executed by two students, Eric Harris (aged eighteen) and Dylan Klebold (aged seventeen), as an expression of their rejection of their school and community. While the shooters failed to carry out their intentions to blow up their school and kill hundreds, they nonetheless killed twelve fellow students, one teacher, and themselves (Muschert, & Larkin, 2007, pp.253-266).

"I have a goal to destroy as much as possible, and I must not be sidetracked by my feelings of sympathy, mercy or any of that," Eric Harris wrote in a journal entry almost exactly six months before he and his



## Book of Proceedings

friend Dylan Klebold took their bombs and guns to Columbine High School on April 20, 1999 (<https://www.nytimes.com/2006/07/07/us/07columbine.html>, 2006).

While this type of behaviour has not been recorded in Serbian history up until now, it seems that the US has been dealing with such crimes for decades, and even centuries. The first recorded example occurred in 1764.

The earliest event described in this list occurred in 1764, but the rest of the events in the list occurred in or after 1840. (Paradice, 2017, pp. 135-144).

"Since 1982 there have been at least 107 mass shootings across the country, with the killings unfolding in states from Massachusetts to Hawaii." (<https://violence.chop.edu/types-violence-involving-youth/school-shootings/mass-shootings-schools>, nd)

When committing such crimes, special attention is focused on the perpetrator, his character, as well as his environment, family and peer groups. Whereas the public tries to explain this kind of behaviour, science and profession present certain findings that are common in such cases.

Given the prevalence of such shootings, many journalistic and scholarly investigations focused on identifying the major risk factors for becoming a school shooter. Most studies identified extreme social rejection and bullying as key risk factors. Social rejection, perpetrated by peers, often included romantic rejection. Bullying took numerous forms, both verbal and physical, and was heavily characterized by actions and words meant to humiliate the victim. Other research-identified risk factors included the availability of guns and the consumption of violent media (especially violent video games, but also violent music, television shows, and films) (<https://www.britannica.com/topic/school-shooting>, 2023).

There were some speculations in domestic media supporting the fact that the minor who committed the mass murder was a victim of peer violence. However, those allegations were quickly denied in the media, and to this day there is no confirmed information about it, just the opposite.

In the official announcement of the Serbian Government, it was stated that after the urgent inspection at the Experimental Elementary School V.Ribnikar, the findings of the Center for Social Work, the Ministry of Education and the Ministry of Family Care were confirmed, that there was no peer violence in this school in relation to the minor K.K. (<https://www.euronews.rs/srbija/drustvo/89161/inspekcija-utvrđila-nije-bilo-vrsnjackog-nasilja-nad-maloletnim-kk-osumnjicenicim-za-masovno-ubistvo-u-skoli/vest>, 2023).

On the other hand, the information that this is a child from a respectable, well-situated family, a child who had many extracurricular activities, raises the question of pressure and whether the perpetrator was overwhelmed by high goals that he had no capacity to fulfill.

Many school shooters had experienced chronic strain for years at home and were quite hostile toward their parents and other members of their family. For example, school shooter Kip Kinkel murdered both of his parents on the day before perpetrating his school (Mendoza, 2002).

The boy-killer was under pressure from overly ambitious parents who enrolled him in music school, acting classes, language courses, as well as various sports activities (<https://www.blic.rs/vesti/hronika/10-sokantnih-cinjenica-o-decaku-ubici-iz-os-vladislav-ribnikar/3pkvs07>, 2023).

Levin and Madfis (2009) proposed a Five Stage Sequential Model to explain what might lead students to commit mass murder at their schools. The five stages are Chronic Strain, Uncontrolled Strain, Acute Strain, The Planning Stage, and Massacre at School (Levin & Madfis, 2009, pp. 1227-1245).

There have been many experts in the media stating that this is a case of psychopathic personality. Some of the observations speak in favour of this, for example, the fact that most of his targets were girls, but this is something that would require additional expert analysis.

Unlike the traumatized shooters, the psychotic shooters came from stable homes with no histories of abuse. They had schizophrenia-spectrum disorders, including schizophrenia or schizotypal personality disorder (Langman, 2009, pp. 79-86).

School shootings have become more common in the United States in recent years. Yet, as media portrayals of these 'rampages' shock the public, the characterisation of this violence obscures an important point:



## Book of Proceedings

many of these crimes culminate in suicide, and they are almost universally committed by males (Kalish & Kimmel, 2010, pp. 451-464).

What distinguishes the mass murderer from V. Ribnikar Elementary School from others who committed similar crimes is that he did everything to save his life. As it was announced at the press conference, the perpetrator turned in and disarmed himself, while other killers most often committed suicide or were killed by the police.

Additionally, whereas there is a significant gun culture in the USA, in our country this is not the case. Yet, the juvenile killer showed significant shooting skills.

According to the data from the investigation, the boy-killer fired as many as 57 bullets from his father's gun during his bloody spree and was very skilled at changing the ammunition frames. He even hit as many as 16 moving targets, which, according to Marko Nicovic, the former head of Belgrade police, can only be done by someone who is very well trained for that (<https://www.blic.rs/vesti/hronika/10-sokantnih-cinjenica-o-decaku-ubici-iz-os-vladislav-ribnikar/3pkvs07>, 2023).

Chronology of events and facts about the case of mass murder in Elementary School Vladislav Ribnikar

At the emergency press conference held on May 3<sup>rd</sup> 2023, Veselin Milic, the head of the Belgrade Police Department, informed the public about the details of the tragic event from that day, which were known at the time.

### ***CHRONOLOGY OF EVENTS***

- The perpetrator planned the execution of this criminal act for a long period of time, according to the first findings from the investigation;
- The perpetrator chose that day because the history classroom is near the entrance to the school, and it was his class that had the first lesson there;
- He brought firearms from home, a 9mm gun with three frames, as well as a small-caliber pistol, which belong to his father, and also 4 Molotov cocktails prepared in advance;
- The perpetrator shot the security guard and female students right at the entrance, then went to the classroom where his class was having a lesson and started shooting;
- He goes out to the schoolyard, takes out the frame from the weapon and calls the police;
- The killer killed eight students on the spot, seven girls and a boy, as well as a security guard, wounded six students, one of which passed away in hospital, and a teacher;
- After the questioning, the minor was placed in psychiatric ward, while his father was taken into questioning and sentenced, and a little later, they started the process against the minor killer's mother to determine whether he was neglected.

### ***KNOWN FACTS***

The perpetrator is a 13-year-old minor, and as the media later stated, the perpetrator was investigating how old he should be to avoid criminal responsibility;

- The minor comes from a well-respected family;
- The massacre took place in a well-known school where students achieve great results in both school and extracurricular activities;
- The perpetrator had a list with names of the children he had planned to liquidate, as well as a hand-drawn plan of school, which were both found on his work desk. As Milic reported, the killer boy had priority targets;





## Book of Proceedings

- As the media reported later, the juvenile murderer knew how to use weapons, since he and his father visited the shooting range as well as Airsoft (simulation of armed conflict);
- According to the experts who gave statements to the press, the minor was extremely cold-blooded and did not show any signs of remorse.

### ***MEDIA RESPONSIBILITY***

These modern times go hand in hand with the media. Thanks to the new technologies and the Internet, they are both changing their form. It takes just one click on the portal link, and we get the information in a second. Modern media have enabled the instant news flow. However, as beneficial as they are, they can also cause harm if there are no ethical codes.

When we talk about disturbing and sensitive topics, such as abuse, murder, rape, and in this specific case, a mass murder of nine children and an adult, we should draw attention to the importance of socially responsible and ethical reporting. In a time when everything is measured by financial gain, and in this case, it is one click away, we must not ignore the fact that the content presented is disturbing and upsetting for the public. An average person is faced with the tragic event, but the families of the victims are deeply affected by disclosure of intimate information and certain data. Going into details may cause distress to victims' families. At the same time, the defendant's family is exposed to public condemnation, not only the adults who bear responsibility for their (mis)deeds, but also a minor girl who is the perpetrator's sister and should not be exposed to media lynch.

And while public opinion is divided, as well as opinions on whether this case should be further written about or not, and to what extent, it should be mentioned that the victims must not become victims again in this way.

However, it is very important to understand how complicated and sensitive a matter ethics is, if no other reason, than for the fact that many journalists in Serbia do not want to bother with it in detail and find it a frustrating obstacle on their way for an exclusive piece of information. A random survey among participants in a training program held by the Center for Investigative Journalism of Serbia (CINS), to the question: 'Who has read the Code of Ethics of Serbian Journalists?' gives between 10 and 20 percent positive answers. (Čečen & CINS, 2017).

The Serbian Code of Journalists says 'A journalist is obliged to respect and protect the rights and dignity of children, victims of crime, people with disabilities and other vulnerable groups.' (UNS, 2006).

The question whether Serbian journalism, i.e. reporting on portals, has succumbed to sensationalism, requires more extensive research, while in the rest of the paper we will look at the headlines in order to analyze the approach to this tragic event.

### ***METHODOLOGY OF RESEARCH AND RESEARCH RESULTS***

Tragic event flooded the media both in Serbia and all over the world. The media reported about the events minute by minute. We have randomly chosen headlines from different portals on the day of the crime, as well as the headlines that were published in the period after the crime.

This paper used the method of content analysis and the results were described qualitatively. The sample was obtained by the Internet search, typing keywords such as 'murder in Vracar', 'Vladislav Ribnikar', 'the murderer from Ribnikar', etc. Through the search, we have discovered a shocking number of headlines, and there almost was not a day that passed without this event being top news. We randomly chose some. On the day of the crime we picked 10 headlines, and the rest of them are from the period from 4<sup>th</sup> May to 14<sup>th</sup> July 2023.





## Book of Proceedings

*Chart 1 Random selection on the day of the crime*

Portal	Date	Headlines
Telegraf	3rd May 2023	7th grader shoots at school in Vracar: Security guard killed, children wounded
Politika	3rd May 2023	Elementary school shooting in Vracar, guard killed
Novosti	3rd May 2023	GOT A BAD GRADE IN HISTORY, THEN OPENED FIRE: Unofficial reason of school massacre in Vracar
Alo	3rd May 2023	(LIVE) CVETNI TRG TRAGEDY IN FRONT OF HORROR SCHOOL Citizens are paying respect, bringing flowers and lighting candles
Blic	3rd May 2023	'Wounded children shed no tears': Demonstrated courage: Brought in critical condition, did not utter a word
Sport klub	3rd May 2023	Dragan Kobiljski's daughter killed in a massacre in Vracar
Danas	3rd May 2023	Police released a statement about the school shooting at Vladislav Ribnika in Vracar
Kurir	3rd May 2023	THIS IS THE BOY (14) WHO SHOT STUDENTS IN VRACAR: Look how he has been taken away after elementary school horror (PHOTO)
Žena	3rd May 2023	NUMB AND SHOCKED After tragedy in Vracar, teachers in Serbia say in DISTRESS: 'We failed as society'
Informer	3rd May 2023	WANTED TO CHANGE CLASS! Girl fled the classroom next to the massacre, saw and heard a lot! 'THERE COULD HAVE BEEN MANY MORE VICTIMS'...

*Chart 2: Random headlines selection from May 4th to July 13th 2023*

Portal	Date	Headlines
Telegraf	4th May 2023	Boy covered in blood and tears looks for his sister at school: Whole Serbia is shedding tears for the victims in Ribnikar shooting
Kurir	4th May 2023	BOY'S FATHER AT THE HEARING TOMORROW: Answers the questions how his son took the gun from safe and killed friends and guard
Novosti	5th May 2023	LOOKING FOR THE BEST SOLUTION: When will Vladislav Ribnikar students return to school
Telegraf	9th May 2023	AGED OVER NIGHT: Students say goodbye to their friends, all memories at one place, sing same sad songs
Mondo	11th May 2023	SHOCKING NEWS! BOY'S GRANDDAD FAMOUS DOCTOR: Saved people from smallpox, grandson killed nine people
RTS	19th May 2023	How will the killer from Ribnikar face justice – experts say there is a way to punish him
Telegraf	23th May 2023	Heartbreaking words from mother who lost her daughter in Ribnikar to killer boy parents: 'If you ever look for us'
Blic	25th May 2023	BOY-KILLER FROM RIBNIKAR PLEADS SANITY TO DOCTORS 'I am normal!' After failed freedom plans, changes behaviour: Acts violently and shows nervousness
Nova	25th May 2023	Killer-boy's family talks to press
Novosti	25th May 2023	KOSTA'S MOTHER, BOY-KILLER FROM RIBNIKAR GAVE STATEMENT TO POLICE: Charged for neglect and child abuse



### Book of Proceedings

Alo	7th June 2023	BOY COMMITS CRIME WITH SPECIALLY EQUIPPED GUN Determined reasons for incredible precision in Ribnikar shooting
Nova	14th June 2023	BREAKING NEWS Ribnikar shooter's parents gave power of attorney to sign all their assets to relatives, we find out what lies behind the court's decision to freeze all property temporarily
Blic	25th June 2023	'SENT BACK FROM BORDER FOR BEING INVESTIGATED' Police ask to forbid the mother of a boy-killer to leave the country or Belgrade
Beograd.in (Espresso)	27th June 2023	PARENTS PLANNED TO SEND BOY-KILLER TO THIS PLACE? Worked everything out, but then the OFFICIALS INTERVENED
Informer	29th June 2023	(Un)expected twist in killer-boy's family assets! Kosta's grandfather provides money for escape from Serbia
Danas	30th June 2023	Serbian Government replies to Vladislav Ribnikar Parents' Council demands: All met but one
Blic	3rd July 2023	HARDEST AND LONGEST 60 DAYS IN SERBIA Two months after Vladislav Ribnikar massacre: What we know about the crime and the boy who destroyed us all
Kurir	5th July 2023	WHAT VERDICT TO EXPECT FOR RIBNIKAR MASSACRE? Experts reveal legal issues: Parents prepare collective lawsuit!
Glas javnosti	10th July 2023	PARENTS HEARTBROKEN: Tragically killed boy paper published
Srbija danas	13th July 2023	BOY-KILLER BECOMES OBSESSED AFTER MOTHER'S GIFT: 'It will interest everybody, I will make millions'

## RESULTS

The media in Serbia, especially when we talk about portals, are known for their sensationalistic headlines. The public is not spared from these headlines even when tragedies occur or when the content is disturbing. Those are examples such as murders of children, violence against women, traffic accidents, and other tragedies. There are many examples when the lexis used in headlines is not appropriate, so we can read headline that contain phrases like 'blood spattered everywhere', 'a child witnessed mother's killing', 'terrifying details about...' and similar examples that describe a tragic event.

If we look at the headlines from Chart 1, it is noticeable that Serbian journalism is not completely disattached from the headlines that will 'lure' the readers into clicking onto the link. However, if we look at the whole chart, we will notice that most of the headlines are made of facts about the event itself, and that the headlines are more concise than the Serbian public is used to. In most cases, the public is spared from disturbing details like the ones mentioned earlier.

Now, if we take Chart 2 into consideration, which included 20 headlines and a longer time period, it is evident that this tragic event is still current and that it occupies a lot of public attention, and thus of the media. The crime that occurred was viewed from several different perspectives. There are many different questions that occupy our attention, from questions like what will happen with the school to the ones concerning the proper punishment for the boy-killer. During the period after the massacre, parents, directly affected by the tragedy, spoke out, and some of those were extremely heartbreaking.

It is obvious that the headlines after the massacre took a sensationalistic approach to media reporting and that approach hasn't changed as the days pass. Just the opposite happened.



## Book of Proceedings

What has been in the focus of the media, when we talk about the headlines, is the behaviour of the juvenile killer and his family. His family has not been spared in the least and it has been exposed to public condemnation. Vast number of headlines express not only the killer's behaviour, but also his family's actions, which leaves a lot of room for 'bombastic' headlines.

Furthermore, we can see from both charts that some headlines contain words written in capital letters, which emphasize keywords that can seem unsettling.

It could be said that in this particular case, Serbia is not immune to sensationalism, but on the other hand, the public was spared the disturbing details that journalists can resort to.

## CONCLUSION

In this paper we have covered two important aspects, mass murders in schools and the media, all with the aim of better understanding the online media in the case of mass murder in Vladislav Ribnikar Elementary School. Unfortunately, Serbia has become one of the countries to record such a crime in its history.

The public has been interested in this case since day one, and the media present new information on daily basis. There are many questions left unanswered, for example, could the tragedy have been prevented, will the minor killer be held accountable, whether the parents bear part of the responsibility, should the school stay open, etc.

All these issues require more extensive research, therefore the focus of this work was exclusively on the headlines on the portals. By randomly selecting the headlines both on the day of tragedy and after that, it is evident that the interest in the topic does not fade and that headlines cover the case from different perspectives. And while Serbian journalism is known for its fight for the 'click' and sensationalism is still present to an extent, it is noticeable that reporting has become more moderate and concise, at least when it comes to headlines. There is a prevailing interest in both the killer and his family, which, judging by the headlines, keeps surprising the public in an unpleasant way.

It is noticeable that portals were trying to get an exclusive regarding this event and that the headlines were there to provoke a 'click', i.e. they succumbed to sensationalism. And this is where we can make a difference between those who broke all ethical codes while presenting disturbing content and those who had some restraint in doing so. Although we can conclude that there was a lack of ethical code, having seen the headlines in previous years, we come to an understanding that, to some extent, we were spared of even more bombastic headlines.

Perhaps, as a society we have failed the test of humanity the moment a child took a gun in his hands, but time shall tell whether such tragic event will sort things out and bring collective awareness to our society.

## REFERENCES

Etika u istraživačkom novinarstvu. Available at: <https://www.cenzolovka.rs/mediologija/etika-u-istrazivackom-novinarstvu/> (12.07.2023.)

Inspekcija utvrdila: Nije bilo vršnjačkog nasilja nad maloletnim K.K. osumnjičenim za masovno ubistvo u školi. Available at: <https://www.euronews.rs/srbija/drustvo/89161/inspekcija-utvrdila-nije-bilo-vrsnjackog-nasilja-nad-maloletnim-kk-osumnjicenim-za-masovno-ubistvo-u-skoli/vest> (17.07.2023.)

Journals Reveal Ruminations of Teenage Columbine Killers. Available at: <https://www.nytimes.com/2006/07/07/us/07columbine.html> (12.07.2023.)

Kalish, R., Kimmel, M. (2010). Suicide by mass murder: Masculinity, aggrieved entitlement, and rampage school shootings. *Health Sociology Review*, 19(4), 451-464.



**Book of Proceedings**

- Langman, P. (2009). Rampage school shooters: A typology. *Aggression and Violent Behavior*, 4(1), 79-86.
- Levin, J., Madfis, E. (2009). Mass murder at school and cumulative strain: A sequential model. *American Behavioral Scientist*, 52(9), 1227-1245.
- MASS SHOOTINGS IN SCHOOLS. Available: <https://violence.chop.edu/types-violence-involving-youth/school-shootings/mass-shootings-schools> (12.07.2023.)
- Mendoza, A. (2002). *Teenage Rampage: The Worldwide Youth Crime Phenomenon*. Virgin Publishing, London.
- Muschert, G. W., Larkin, R. W. (2007). The Columbine high school shootings. Chapter, 253-266, Praeger Westport.
- NAJSUROVIJE DETE MASOVNI UBICA U ISTORIJI SVETA Nijedno dete uzrasta dečaka ubice iz "Ribnikara" nikad nije usmrtilo više ljudi od njega. Available at: <https://www.blic.rs/vesti/hronika/nijedno-dete-uzrasta-decaka-ubice-u-istoriji-nije-ubilo-vise-ljudi-od-njega/42r6sg4> (01.07.2023.)
- Paradice, D. (2017). An analysis of US school shooting data (1840–2015). *Education*, 138(2), 135-144.
- School shooting. Available: <https://www.britannica.com/topic/school-shooting> (12.07.2023.)
- UNS (2006). Kodeks novinara Srbije.
- 10 ŠOKANTNIH ČINJENICA O DEČAKU UBICI Šta sve znamo mesec dana od masakra u "Ribnikaru" koji ne prestaje da boli. Available at: <https://www.blic.rs/vesti/hronika/10-sokantnih-cinjenica-o-decaku-ubici-iz-os-vladislav-ribnikar/3pkvs07> (01.07.2023.)
- 17 Facts About Gun Violence And School Shootings. Available at: <https://www.sandyhookpromise.org/blog/gun-violence/facts-about-gun-violence-and-school-shootings> (01.07.2023.)



Book of Proceedings

***WHAT IS A STARTUP***

*Siniša Pekevski<sup>1</sup>*

***ABSTRACT***

*The economic progress of a country can be measured by how developed the start-up community is and how much the state invests or enables the start-up community to grow. The purpose of the research and this document was to analyze what is meant by the term start-up, whether there are clear and identified criteria for what constitutes a start-up and whether there is a clear legal provision for the formation and registration of a start-up that differs from a new established company. Within the framework of the research, an analysis of secondary data was made, as well as data from institutions for their definition of what a start-up company is. The research showed that although there are a large number of startup companies and a developed eco system in European countries, a small part of them have legislation on what a startup company is and how a startup company differs from other companies. Although according to the Global Startup Index 2023 the best countries for the development of startup companies are the Czech Republic, Sweden and Finland, there are no regulation for defining a startup company in those countries, except for individual programs and projects to support the eco system. Only Spain, Latvia, France and Latvia have a legal regulation to define startup companies. On the territory of former Yugoslavia results of the research showed that in the territory of Slovenia, Croatia, Serbia, Macedonia and Montenegro there is no clear definition and criteria of what a start-up company is and how it differs from a newly founded company. At the same time, the results of the research showed that there is no provision in the legislation, the legal legislation when registering companies as a start-up company, and differentiating what is a newly founded company and what is a start-up company.*

***Key words:*** *startup, business, new open business, entrepreneurship, innovation*

***JEL Classification:*** *O32*

***INTRODUCTION***

A key question that is the subject of this research and article is What is a start-up actually, is there a difference between a start-up company and a newly founded company or is a start-up just a fancy expression and terminology used to promote entrepreneurship. Additionally, the topic of the research is how and based on which criteria or methodologies, states register or label these companies. In the final element, whether the legislation ie. does the legal legislation distinguish a newly established business from a strat up company?

At the same time, the research aims to determine whether there are permanent clear criteria and methodology for how a startup company is defined and whether it is identified on the territory of the EU, or whether each country individually only determines what the criteria are for a company to be called a startup. In the end, is it left to the donors, business angels, incubators to determine the criteria themselves? The purpose of the research is to see through different periods how the term start-up was defined and viewed. In terms of terminology, there are a huge number of definitions of what is a start-up company and how that term is viewed

During the research that was done in the part of defining the term start-up company, a number of academic definitions and different definitions of entrepreneurs appeared about what a start-up company is and

---

<sup>1</sup> SI communication, Skopje, Republic of North Macedonia, PhD candidate, sinisa@sicommunication.mk



## Book of Proceedings

whether and how it differs from a newly founded company. Definitions vary from author to author, but also from period to period when those definitions or viewpoints are given. If we ask the academic community they will give one type of definition, but if we ask entrepreneurs they will give another type of definition and a different point of view

### ***DEFINITIONS OF START UP***

Startup science is young and there are still not many researches, articles on this term, the research they did (Luciana Santos Costa, Vieira da Silva Fabíola Kaczam, Anderson de Barros Josenilde, Mario Janguia 2021) shows that fact. Theirs descriptive analysis of the research corpus revealed 228 articles, with a total of 313 authors and co-authors that were distributed in 25 countries, with a concentration in the United States (37.28%). The period of distribution of the articles comprises the years from 1990 to 2019, with emphasis on the year 2015, with 48.43% of the articles published.

If we follow the theories about a start-up, it is a company that wants to grow and that aims to expand in business, but if we do an analysis and research, we will see that small business founders also aim to grow and expand their business. While small and medium enterprises (SME) are categorized based on their annual revenue, number of employees and value of fixed assets (less buildings and land), there is a lack of literature on outlining what a startup is.

Startups are not just technology companies; but any companies in the process of being set up; (Hermanson, 2011; Longhi, 2011; Blank and Dorf, 2012; Perin 2016; Kohler, 2016). This type of entrepreneurship happens more in the area of technology because the costs are lower to create a software company than an industry.

*1976 – When Steve Jobs and Steve Wozniak founded Apple in a garage in California, you could say that one of the first ‘start-ups’ – as we think of them – was created.*

*1990s – Two decades later and the world was in the middle of the dotcom boom, when many online companies were starting and growing in quick succession.*

*2018 – With start-up conferences, events and festivals taking place from Montreal to Turin, Finland to Namibia – as well as across the UK and the US – it shows that start-ups can be found all over the world in a number of sectors*

Eric Ries (2006), defines a startup as a human institution designed to create a new product or service under conditions of extreme uncertainty. Start-ups are the strongest manifestation of entrepreneurship and innovation [Giezzi A 2020]. They are distinguished from other business ventures by dynamic market expansion executed most of tenusing modern technologies, such as information and communication [Barandiaran-Irastorza, X.; Peña-Fernández, S.;Unceta- Satrustegui, A 2020]. Their rapid development is guaranteed by unique know-how and investor financial support (businessangels; venture capital). Due to exceptional originality of business ideas, high demand for capital, and intensive pace of developments, start-ups are high-risk ventures, in tendedfor visionaries and entrepreneurs with above- average level of risk acceptance.

Startup became a description of a particular kind of firm or working practice in economic geography in the 1980s. Prior to that, startup, though it was rarely used, described the early stages of any firm’s activity in general terms. The term denoted a necessary attribute of all firms, referring to, for example, when a firm began (Ray et al., 1974), early stage ‘start-up. (Daniel Cockayne 2019)

In the begging of definition of startup, the academics have categorized a startup solely based on the newness of their legal existence (Freeman et al (1983); Hannan and Freeman et al (1989)). Virtually all studies prior to the 2000s use “new” as the main discriminator. To Keeble (1976), for example, this means “the creation of an entirely new enterprise which did not formerly exist as an organization”. For Gudgin (1978), a new firm is one “which began production for the first time”. “New” by these definitions includes





## Book of Proceedings

every newly created firm in a given time period except the ones created by changes in name, ownership, location, or legal status. The operationalization of the “new” criterion necessarily requires knowledge of the start-up date. That is commonly considered to be the date of a firm’s registration as a legal entity. This approach should be used since registration records are readily accessible. Hence, a cut-off point has been devised for the respective countries based on the age of incorporation in order to disqualify firms from being categorized as a startup.

While past literature fixated on the “newness” of a startup, new papers show a growing consensus of classifying a startup as being innovative due to the increasingly complex requirements of both domestic and foreign markets and is reflected in the change in definitions used by researchers (Krejci et al (2015); Cho and McLean (2009); UNAM (2013)). These researchers identify that innovation is highly related to growth (UNAM (2013); Krejci et. al.(2015); Bessant & Tidd (2015); Kuczmarks (2003)) since it generates higher earnings as well as to risk/uncertainty (Cho and McLean (2009); Ries (2011); Boyer and Blazy (2013); Hyytinen (2015); Samuelsson and Davidsson (2009)).

Wennekers & Thurik (1999), Carree & Thurik (2003) and Fritsch & Mueller (2004) state that startups have a direct impact on new employment and new production, and direct contributions to in-migration and increased regional productivity.

A startup is a company designed to grow fast. Being newly founded does not in itself make a company a startup. Nor is it necessary for a startup to work on technology, or take venture funding, or have some sort of "exit." The only essential thing is growth. Everything else we associate with startups follows from growth. (Paul Graham 2012).

According European startup network, startup is an independent, organization, which is younger than five years and is aimed at creating, improving and expanding a scalable, innovative, technology-enabled product with high and rapid growth. According to Steve Blanc, the startup is a temporary structure that seeks to find a renewable, profitable and scalable business model. Startup as a high-growth company that is scalable, focused on continuously growing, and one where the founders develop an exit strategy that results in either a sale of the company or an Initial Public Offering. (*The Startup is a Playbook, Rajat Bhargava and Will Herman*).

According to Paul Graham (2006), entrepreneur startup is a company designed to grow fast, being newly founded does not in itself make a company a startup. Nor is it necessary for a startup to work on technology, or take venture funding, or have some sort of "exit.", but the only essential thing is growth. If we follow this trend also startups are not just technology companies, but any companies in the process of being set up; (Hermanson, 2011; Longhi, 2011; Blank and Dorf, 2012; Perin 2016; Kohler, 2016). For Padrão and Andreassi (2013), startups aim at the growth in sales to have the return on investment applied in the product development phase, as it is the way these companies try to survive in their initial stages. Startup is any company that has a goal to grow and scale, usually quickly and usually using technology to do so, (*Jan Wright, founder of Merchant Machine*),

Real entrepreneurs will say, What is a startup? Being a startup, is a state of mind. It's not a word that's restricted by the number of years a company has been in business, or the amount of revenue a business pulls in, a startup is a feeling. (*Jan Koum, the cofounder WhatsApp*) or the notion of a startup is crossing into the world of science from the world of business. (*Agnieszka Skala 2016*)

Startups.com Co-Founder and CEO Wil Schroter has his own definition of what a startup company is. “A startup is the living embodiment of a founder’s dream,” Wil says. “It represents the journey from concept to reality. It is one of the few times when you can take something that is only a dream and make it a reality, not just for yourself, but for the entire world.”

Anamaria Diana (2017) says, Startups can be defined as newly established, innovative companies with a service life up to 2 years and a maximum of 10 employees, while Krejci (2015) says a startup is a new and temporary company that has a business model based on innovation and technology. In addition, these types of companies have a potential for rapid growth and scalability.



## Book of Proceedings

This definition of startup is dissected into the following aspects:

### 1. Age, Independence, and Scalability

- **Age:** A startup is younger than five years and develops into a small medium size company before becoming a cooperation
- **Independent:** Startups are businesses set up, and at one point, owned and run by the founders
- **Scalable:** A scalable product or service has a small cost associated to growth compared to the potential revenue gain

### 2. Organization & Innovation

- **Organization:** At an early stage, a startup can be a legal entity or not, depending on different circumstances.
- **Innovative:** Startups use opportunities such as new technologies to find new and often more efficient solutions to problems and create new products that better satisfy needs of both individuals and corporates

### 3. Technology-based & High growth potential

- **Tech-based:** Most startups are based on information technologies – utilizing software and/or hardware.
- **High growth potential:** To achieve scale, startups must be able to operate in a good potential market. This market must be big enough and/or growing fast enough to provide ongoing demand for a startup's product.

Researchers distinguish between a startup company and a newly established business. While a startup is aimed at expanding quickly and becoming a much bigger company, in contrast to a newly founded business that is much more focused on creating and maintaining a constant and stable revenue stream and that receives income at the same moment of establishment from the sale of services or products. Startup companies do not generate income at the same moment of establishment and usually a unique new product or service and introduces it into the marketplace or a niche that is not covered at the moment, in contrast to newly founded companies that offer services or products that already exist on the market. but they have some specifics or characteristics that make them different or different from the competition.

## ***LEGAL DEFINITIONS OF STARTUP***

According to the European Commission, a startup is "an enterprise, regardless of its legal form, that is in the process of being set up and whose goal is to develop an innovative product or service, or a scalable business model." But this is just a definition of a startup company that does not clearly state the criteria for a company to be called a startup company.

As part of the research, a formal request and question was sent to the official institutions in Slovenia, Croatia, Serbia, Macedonia and Montenegro about whether they have a formal register of startup companies in their countries, whether they distinguish startup companies from newly founded companies and based on which criteria distinguish startup companies from newly established companies. The data received from the official institutions shows that in Macedonia there is no official registry of startup companies and all new business entities are run as newly established companies. In Serbia, there is no official registry of startup companies and all new business entities are run as newly founded companies. In Croatia, there is no official registry of startup companies and all new business entities are run as newly founded companies. In Montenegro, there is no official registry of startup companies and all new business entities are run as newly founded companies. In Slovenia, there is no official registry of startup companies



## Book of Proceedings

and all new business entities are run as newly founded companies. Common to all these countries is that the legislation and legal regulation does not recognize an entity as a startup company and that the companies that register are run as npvo founded companies, which differ in their size, number of owners and legal form in terms of capital and participation of different persons in management.

In the analysis of secondary data sources on the legislation for startup companies in Europe, countries in the European Union were analyzed and it was determined that there are a small number of countries are having legal regulation (legal framework) and have a legislative that recognizes startup companies as a unique entity. The last country that has passed a law on startup companies and legal regulation is Spain. On December 1, 2022, the Spanish Parliament approved the Law for the Promotion of the Startup Ecosystem, known as the "Startup Law", which aims to support the creation and growth of startups, as well as to attract talent to the country. The term Startup is defined as:

- Are less than 5 years old, or 7 in the case of biotechnology, energy and industrial companies
- Have an innovative character and a technological base
- Are not listed on the stock exchange and do not distribute dividends
- Have internal structures that favor meritocracy
- Are in a market niche that did not exist before
- Increase the efficiency and sustainability of other sectors
- Attract foreign investment and talent
- Are headquartered and have the majority of their employees in Spain

One of the first countries in the European Union that has adopted a law on startup companies is Latvia. **The law in Latvia** which was adopted in 2017 year defines the startup as an innovative scalable business with high economic potential. It also describes three support mechanisms for early-stage startups. A startup will have to meet some basic criteria to qualify for one of tax plans. It should be less than 5 years old, have earned less than € 200K in revenues during the first two years and less than €5 million during five years since incorporation, not be paying dividends, and have produced an innovative product or service.

In Estonia, with (**Act of Aline, subdivision 2, 62.4**) the concept of startup is formally recognized and entered into the legal regulation.. By Estonian law (**Act of Aline, subdivision 2, 62.4**) start-up company is a business entity belonging to a company registered in Estonia, which is starting activity with the purpose to develop and launch such a business model with high global growth potential, innovative and replicable that shall significantly contribute to the development of the Estonian business environment.

France has adopted several programs and projects to support startup companies. The law, that was adopted in May 2019, provides companies with the means to grow faster and better, thanks to streamlined legal framework. France also adopted several programs and projects in order to promote country as desirable startup country and in the same time to attract investments, talents and technology. **Startup company in France** are known as a young innovative company (JEI), and for that the company must meet the following conditions:

- ✓ Be an SME: it must employ less than 250 people and carry out a less than turnover €50 million or must have a total balance less than €43 million
- ✓ To qualify for social exemption: It must have been created since under 8 years (the company permanently loses JEI status in the year of its 8e birthday)
- ✓ To qualify for the tax exemption: It must have been created since under 11 years (the company permanently loses JEI status in the year of his 11th birthday)
- ✓ It must carry out R&D expenditure representing at least 15%of charges. The calculation of this rate does not take into account the costs of disposals of shares or bonds, exchange losses and expenses incurred with other JEI carrying out R&D projects.



## Book of Proceedings

### **CONCLUSION**

In general, a startup can be defined as a new, innovative venture that is focused on developing and scaling a new product, service, or business model under conditions of uncertainty and risk. The goal of a startup is often to grow quickly and become a sustainable, profitable business. The research showed that there is no universal definition of what a startup company is and how the number of startup companies in Europe can be measured. In addition, the lack of criteria for defining a startup company and distinguishing it from a newly founded company is an additional complicating factor for the inability to distinguish between startup companies from newly founded companies. The situation in the countries of Slovenia, Croatia, Serbia, Macedonia and Montenegro shows that those countries do not have a clear idea of how many startup companies exist and are founded annually, because they do not have clear criteria for what a startup is and arbitrarily declare some companies as startup companies. At the same time, in their institutions, all newly founded companies are run as newly open companies and this is the only data for the development of companies in these countries. The support given to different companies by business incubators, accelerators, business angles, etc. is a criterion that those support providers independently determine the criteria and they differ from one donor to another. There is no functional support for startup companies in terms of taxes or reliefs because the legislation does not recognize startup companies as a separate entity. Although according to the Global Startup Index 2023 Czech Republic, Finland and Sweden are ranked in the first 3 places for founding a startup company, but these countries do not have their own legal legislation for startup companies, but only measures and programs that enable companies that are innovative and have a basis for rapid growth to establish and develop there.

Until defining clear criteria which are set as in Spain, France, Latvia and Latvia, we cannot talk about startup companies and develop strategies to develop that segment. Based on that, we cannot even compare data on the number of startup companies in these countries, as well as on the development of that segment.

It is illusory to talk about startup companies and the development of that startup eco system when we have no criteria to determine and define what a startup company is, it is not enough that the company is newly founded, or is in the IT industry, or is growing fast, or offers some innovative solution. It is necessary to determine how long the company will be a startup company, the age of the founders of the company, the financing of the company, the income and turnover they will have, etc. When those criteria will be clearly defined and put into a legal legal framework like in Spain, Latvia, France, then we can talk about startup companies. Until then they will all be just newly established companies.

### **REFERENCES**

- Barandiaran-Irastorza, X., Peña-Fernández, S., Unceta- Satrústegui, A. (2020). The Archipelago of Cultural and Creative Industries: A Case Study of the Basque Country. *Economies*, 8, 21. doi:10.3390/economies8010021
- Бланк С. (2013). Стартап: настольная книга основателя. Москва:Альпина Паблицер, 616с.
- Blank, S., & Dorf, B. (2012). The startup owner's manual: The step-by-step guide for building a great company. K & S Ranch. Inc, California. PubMed Abstract
- Cockayne, D. (2019). What is a startup firm? A methodological and epistemological investigation into research objects in economic geography. *Geoforum*, 107, 77-87.
- Costa, L.S., da Silva, V. F. K., de Barros, A. J. M. J. (2021). Startups: a systematic review of literature and future research directions.
- deFaria, V.F.; Santos,V.P. Zaidan, F.H. (2021). The Business Model Innovation and Lean Startup Process Supporting Startup Sustainability. *Procedia Computer Science*, 181, 93–101



**Book of Proceedings**

Ghezzi, A.;Cavallo, A. (2020). Agile Business Model Innovation in Digital Entrepreneurship: Lean Startup Approaches. *Journal of Business Research*, 110, 519–537.

Graham P. (2006). What Is a Startup? Available at: <https://www.netocratic.com/what-is-a-startup-3612#:~:text=Paul%20Graham%20>

Hermanson, B. (2011). O que é uma startup. São Paulo: Mundo Sebrae

Jesemann, I. (2020). Support of startup innovation towards development of new industries. *Procedia Cirp*, 88, 3–8.

Kohler, T. (2016). Corporate accelerators: Building bridges between corporations and startups. *Business Horizons*, 59(3), 347-357. doi: <https://doi.org/10.1016/j.bushor>.

Krejci, M., Strielkowski, W., Cabelkova, I. (2015). Factors that influence the success of small and medium enterprises in ICT: A case study from the Czech Republic. *Business: Theory and Practice*, 16(2), 304-315

Paoloni, P., Modaffari, G. (2018). Female-Owned Innovative Startups in Italy: Status Quo and Implications. *Administrative Sciences*, 8(4), 66, 1-31.

Perin, B. (2015). A revolução das startups: o novo mundo do empreendedorismo de alto impacto. Rio de Janeiro, RJ: Alta Books.

Ries E. (2011). *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. New York: Crown Business, 320 pages.

Skala A. (2016). Differentiating Criteria and Segmentation of Polish Startup Companies. *Problemy Zarządzania – Management Issues*, 15(1), 192-208.

Spender, J. C., Corvello, V., Grimaldi, M., Ripa, P. (2017). Startups and open innovation: Are view of the literature. *European Journal of Innovation Management*, 20(1), 4–30.

<https://www.thebalancesmb.com/sme-small-to-medium-enterprise-definition-2947962>

<https://www.bb.org.bd/sme/smepolicye.pdf>

[https://espanadigital.gob.es/sites/agendadigital/files/2022-02/E06M29\\_Startups\\_Law.pdf](https://espanadigital.gob.es/sites/agendadigital/files/2022-02/E06M29_Startups_Law.pdf)

<https://startuplatvia.eu/startup-law-benefits>

<http://www.paulgraham.com/growth.html>

[www.europeanstartupnetwork.eu.vision](http://www.europeanstartupnetwork.eu.vision)





Book of Proceedings

***ECOTOURISM AS AN OPPORTUNITY FOR THE  
DEVELOPMENT OF HEALTHY SUSTAINABLE TOURISM IN  
THE REPUBLIC OF SERBIA***

*Ana Milojevic Jelisijević<sup>1</sup>  
Shaik Azahar Shaik Hussain<sup>2</sup>*

***ABSTRACT***

*In recent years, with the increasing awareness of people about environmental pollution, alternative ways and approaches have begun to be considered, to preserve what we have left of natural resources, as well as reduce further destruction, if not stop it. When it comes to tourism, the most widespread mass tourism actually hides many negative factors behind the beautiful accommodations and destinations that tourists see - from the large waste and pollution it leaves behind, the lack of care for the protection of nature and its preservation, to the fact that the money that tourists spent on those famous world hotel chains generally does not stay at that location, for those locals. These are just some of the reasons why so-called ecotourism has developed as a response to mass tourism - a conscious way of traveling and providing tourist services. In this short study, an attempt will be made to analyze ecotourism and compare it with mass tourism. The focus will be on the current state of tourism in the Republic of Serbia and what benefits of ecotourism one country and its residents can have. Also, the challenges for countries that want to develop this type of tourism will be listed.*

**Key words:** *ecotourism, biodiversity conservation, environmental economics, sustainability, environment*  
**JEL Classification:** *O13, Q56, Q57*

***INTRODUCTION***

The Republic of Serbia is in the southeastern part of Europe, and although it is not as popular as a tourist as some of its neighboring countries, it has a lot of potential to change that. Tourism is considered one of the main sources of employment in the future and is an extremely important activity in Europe itself. Directly or indirectly, European tourism employs as much as 12.1% of the population out of the total number of employees. (Cengiz & Eryilmaz, 2016)

Tourism is a typical example of the tendency of the modern industry of society to separate different aspects of human life by space and time - vacationers, certain orders for the purchase of other homes, as well as free time and holidays. These specific places and time periods are connected through huge communication networks, which together with various social, cultural, economic, and environmental problems, make tourism one of the most important challenges for sustainable development. (Gossling & Hultman, 2006)

With the increasing need of people to preserve the environment and their health, as well as establish a better connection between tourism and sustainable development, a new branch of tourism has developed, the so-called ecotourism. One definition of ecotourism is that it is responsible traveling to natural areas that preserve the environment and/or maintain the well-being of the locals. Interpretation and education are an integral part of ecotourism. Also, education is meant to be inclusive of both staff and guests. (Bricker and Kelly, 2017)

---

<sup>1</sup> Imp Communications, United Kingdom; PhD candidate, ana89milojevic@yahoo.com

<sup>2</sup> University of Malaysia Sarawak, Malaysia, shazahar@unimas.my





## Book of Proceedings

Ecotourism is a "growing industry", especially in less developed countries, where it is promoted as a function of managing protected areas and protecting the environment and sustainable development.

One of the main goals is to create experiences that will benefit everyone included in ecotourism. That means not just tourists and stakeholders but also the protection of the local ecosystem and the natural resources of the tourist attraction. Ecotourism also involves taking care of the local population, as well as giving wages to the local population to preserve their communities and culture. (Fiji Sales and Marketing Inc, 2020)

Ecotourism tries to balance the need for profit with long-term sustainability. Although the principles of ecotourism may seem clear and correct, the implementation in practice is still much more complicated.

### ***TOURISM IN THE REPUBLIC OF SERBIA***

Tourism in Serbia is currently not at an enviable level, although this may change in the future. Some of the main tourist attractions in Serbia would be the following:

- Cultural heritage of Serbia – Serbia has a long and complex history, so it can offer tourists a lot of historical sights, monasteries, fortresses, and archaeological sites.
- Natural beauty – Serbia is characterized by picturesque mountains, lakes, and rivers. Tara National Park and Varos Devil are one example.
- Orthodox monasteries – Serbia is known for its Orthodox heritage and numerous monasteries throughout the country. Examples of these monasteries are Studenica Monastery, Zica Monastery, Milesevo Monastery, which are also architectural and artistic treasures, not just religious centers.
- Spa tourism – Serbia is known for its natural thermal springs and healing spas. The most famous are Vrnjacka Banja and Sokobanja.
- The capital of Serbia – Belgrade is a mixture of history and modernity. In addition to various historical sights, you can also enjoy the colorful nightlife, gastronomy, and cultural events.
- Festivals and manifestations – Serbia is the host of many foreign festivals and events, and it also organizes authentic Serbian events. The Exit Festival, which is organized in Novi Sad, is one of the biggest music festivals in Europe.
- Wine and gastronomy – Serbian cuisine is diverse, and influenced by various cultures, and some of the most famous dishes of local cuisine are cevapi and sarma. The wine industry is still developing, but it can be interesting for wine enthusiasts.
- Adventure tourism – In Serbia, there are many locations, both in the countryside and in nature, that offer the possibility of hiking, rafting, and cycling. One of the more famous places is the Iron Gate gorge on the Danube River.

In the intangible heritage of Serbia, we can count the famous cheeses and other specialties from Eastern Serbia, including the roasting of "rakija" and the making of jam and sweets, as well as crafts such as the weaving of the famous Pirot's tiles, folk original music, and folklore, folk customs, beliefs. (Devic, 2010)

One of the authentic and typical things that most tourists notice when they visit Serbia is the famous Serbian hospitality. The Serbian people are known for their warm welcome and the ability to make guests feel "at home."

In addition to their famous hospitality, Serbs have been prone to tell various legends and myths since ancient times. These often very vivid and mystical stories can be very attractive to ecotourists.

For developing countries that have characteristic natural resources and cultural environments, the potential of ecotourism is great. One of such countries is Serbia. (Makian & Hanifezadeh, 2021)

## POTENTIALS OF ECOTOURISM

Sustainable tourism covers at least 3 aspects- economic, environmental, and social. Economically, it means increasing services and recovering resources. Environmental means recycling, avoiding environmental degradation, and reducing land that is taken away from agricultural use. Social means increasing employment, practicing the traditional population to attract tourism, as well as measures of physical and political regeneration. (Mazilu, 2012) Figure 1 graphically and simply explains this concept.

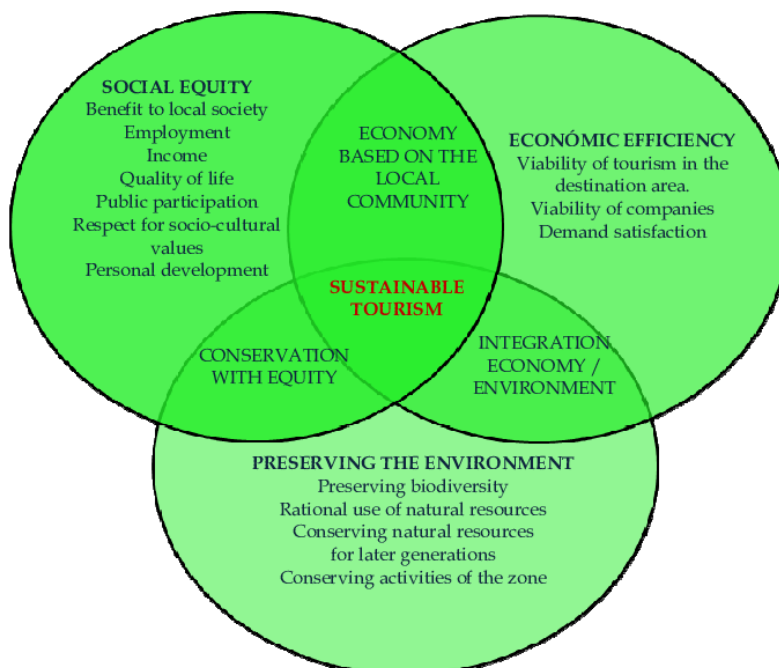


Figure 1. Sustainable tourism

Source: Sanagustín et al., 2011.

Ecotourism could be implemented in the already existing tourist offer in several ways. However, one of the main prerequisites is informing and educating potential entrepreneurs and the population on why it is desirable to decide on ecotourism. Some of the main benefits that ecotourism can bring would be:

- **Preservation of the environment**

By choosing a destination that has adopted the principles of ecotourism instead of a destination that is guided by the principles of mass tourism, tourists indirectly help protect the destination that is being visited. If the principles of ecotourism were to be respected on both sides and if potential tourists, in addition to booking eco-friendly accommodation, would also buy organic or freshly grown local food and take care of the waste they leave behind - these small steps could have a huge impact on the environment. Ecotourists are also encouraged to use more environmentally friendly transport options, such as public transport, bicycles, or walking, thereby reducing carbon emissions. (Toronto School of Management team, 2019)

- **A more authentic holiday**

Given that ecological tourism is aimed at smaller groups of people, tourists receive more individual attention and dedicated time. And what better source of information about a place than the locals themselves? Participating in a local celebration, preparing food together, and learning a new language are



## Book of Proceedings

usually an integral part of ecotourism. You get an authentic insight into the existence of a place and its inhabitants, and perhaps a lifelong friendship is established. (Toronto School of Management team, 2019)

- ***Investing in communities that need it***

Economically speaking, local communities can greatly benefit from ecotourism because it involves the use of natural assets and resources in a sustainable and productive way. Tourists are often not even aware or simply do not think about the fact that when, for example, they book their holidays in an international hotel, often their money does not stay at that destination at all. However, if the choice of that same tourist is ecotourism, the money for the trip generally stays at that location. (Toronto School of Management team, 2019)

- ***Respect for local culture***

Often, mainly due to technological progress and the promotion of mass tourism, the traditions and customs of tourist locations are completely neglected. By choosing ecotourism, local communities and their way of working are respected, tourists are educated and involved in unique, authentic customs.

- ***Organic and local products***

Ecotourism supports the local economy by promoting the use of organic production of local origin.

- ***Unique stories that can help raise awareness among the general population***

Mass tourism offers the same food, accommodation, and experiences to every individual. However, if a tourist decides on ecotourism, he will not have such an experience. Local people are the ones who know undiscovered beauties, they can guide you or even prepare local dishes for you, and in the end you can end up with authentic local stories and exchange of experiences. The ecological travel experience can often result in personal education and awareness, as well as raising the awareness of others to explore more sustainable practices and help preserve our beautiful planet.

### ***Education and awareness***

Ecotourism seeks to educate travelers about the importance of environmental preservation and sustainable practices. This can lead to greater awareness and understanding of the impact of tourism on local ecosystems and communities.

### ***Certifications and standards***

There are various certification programs and standards that evaluate and recognize tourist destinations and workers who follow sustainable and eco-organic practices. These certificates often help potential travelers make decisions about their travels. (Toronto School of Management team, 2019)

Ecotourism unites community preservation and sustainable system. Those who want to implement ecotourism or be tourists should adopt the following principles of ecotourism:

- Reduce physical, social, behavioral, and psychological impacts.
- Build environmental and cultural awareness and respect.
- Provide positive experiences for both visitors and hosts.
- Provide direct financial benefits for conservation.
- Achieve financial benefits for the local population as well.



## Book of Proceedings

- Provide visitors with unforgettable interpretive experiences that help raise sensitivity to the political, ecological, and social climate of the host countries.
- Design, build, and manage low impact facilities.
- Recognize the rights and spiritual beliefs of indigenous people and work in partnership with them. (Guerra, 2015)

Therefore, it can be concluded that ecotourism offers excellent experiences to nature lovers, but also to ordinary tourists who want to try something new. Interacting with nature and getting to know new customs can often be a much better experience to remember than spending the night in international hotel chains with a well-known scenario.

### ***CHALLENGES OF ECOTOURISM***

Ecotourism can contribute to eradicating poverty and contributing to the conservation of natural resources in many parts of the world. This type of tourism helps us to understand, appreciate, and preserve the environment and local culture. (Makian & Hanifezadeh, 2021) However, despite all the potential, there are many challenges that prevent its full implementation in practice. Given that no major research has yet been done on the challenges of ecotourism and its implementation in Serbia, we will cover the challenges of its implementation in other countries, as well as general challenges. Of course, most of these challenges apply to Serbia to a greater or lesser extent. Some of them are:

- Lack of access to capital – Lack of access to capital prevents the participation of the local population in ecotourism activities.
- Limited consciousness – If the awareness of the importance of ecotourism on the part of both tourists and hosts is insufficient, it is less likely that any party will turn to this type of tourism.
- Uncontrolled use of natural resources – Uncontrolled grazing, illegal hunting, and poaching are considered one of the main challenges of ecotourism in Albania. (Bego & Malltezi, 2011)
- Inadequate funding and poor infrastructure – Inadequate facilities and funding, as well as poor infrastructure and seasonal accessibility, are considered one of the main challenges to the implementation of ecotourism in Nigeria. (Ijeomah & Okoli, 2016)
- Lack of a clear vision and basic tourist infrastructure – Lack of clear vision, poor governance, as well as lack of basic tourism infrastructure are considered one of the main challenges in Sri Lanka. (Fernando & Shariff, 2017)
- Lack of partner programs and security issues – Lack of partnership programs, lack of staff, and security issues are some of the challenges facing ecotourism in Kenya. (Okech, 2011)
- Inadequate use of the ecosystem by residents – The lack of national strategies and regulatory frameworks along with the inadequate use of the ecosystem by the inhabitants of that place are one of the great challenges of Ethiopian ecotourism. (Teressa, 2015)
- Lack of operational plan and adequate services and personnel – In Turkey, one of the main challenges is the lack of an operational plan, the absence of responsible organizations, and the lack of adequate services and qualified personnel. (Cetinkaya, 2004)

In the literature, the concept of ecotourism is divided into 2 basic variants of ecotourism: hard and soft. "Hard" ecotourists are deeply interested in a specific eco-destination, possess solid knowledge of ecology, and are ready to travel under difficult conditions, even with greater physical effort, with little comfort, but want an authentic experience on a specialized ecotourism trip. "Soft" ecotourists have an informal interest in nature, they are less prepared for uncomfortable travel conditions and physical effort, their experience is more superficial, and they often achieve it with the help of a mediator (agency, guide) as part of a wider tourist experience. Apart from the mentioned "ideal" types of ecotourism, in real life they can be "harder"



## Book of Proceedings

or "softer", and there are also hybrid forms. The contradictory motivations of hard and soft ecotourism can be reconciled by their spatial and temporal separation: wild environments - hard ecotourism activities and developed parts - soft ecotourism destinations according to the formula 95%: 5%. Some national parks are dominated by soft ecotourists (95%) who visit a small and relatively developed area of the park (5%). At the same time, a small number of serious ecotourists spend a short time there because they want to visit the wild and undeveloped rest of the park (95%), so only a small part of the park receives most tourists, so the income generated there can be used to manage the rest of the national park. (Novakovic & Trumbulovic, 2016)

## CONCLUSION

Ecotourism is directly related to natural factors such as topography, hydrology, and meteorological and biological characteristics of destinations. It can be considered as an alternative approach to the protection of natural resources and biological diversity, and it contributes to the promotion of sustainable use of resources, the development of ecological experience, and the awareness of tourists about the environment. Ecotourism creates new employment opportunities based on local resources for people living in remote areas with worse economic conditions and higher unemployment rates. (Makian & Hanifezadeh, 2021)

In the case of the Republic of Serbia, some of the main challenges for the implementation of ecotourism are the following: lack of awareness, insufficiently good infrastructure, poor regulatory frameworks, insufficient community involvement, poor balancing of development and conservation, improper waste management, as well as political reasons that have affected image and perception of Serbia in the past. Solving these challenges requires cooperation between government agencies, local communities, businesses, nature conservation organizations, and ordinary residents. By adopting a holistic approach that focuses on responsible planning, community engagement, and sustainable practices, the Republic of Serbia can overcome these challenges and establish a thriving ecotourism sector. However, until work on solving these challenges begins in practice, it is difficult to imagine the successful implementation of ecotourism in the near future.

## REFERENCES

- Bego, F., Malltezi, J. (2011). Ecotourism Opportunities and Challenges in Butrint, Albania, a Unique UNESCO and Ramsar Site. *Journal of Coastal Research*, 61, 150–157. <https://doi.org/10.2112/SI61-001.9>
- Bricker, Kelly, (2017). The International Ecotourism Society. Travel and Tourism Research Association: Advancing Tourism Research Globally. 11. Available at: <https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=2033&context=ttra>
- Cengiz, H., Eryilmaz, Y. (2006). The importance of cultural Tourism in the EU Integration Process. 2nd IsoCaRP Congress
- Cetinkaya, G. (2004). Challenges for ecotourism development in Çukurova delta Biosphere Reserve, Turkey. *Budownictwo*, 89–96.
- Devic, S. (2010). Kulturni turizam u Evropskoj Uniji. Univerzitet Singidunum. 53. Available at: <file:///C:/Users/Ana/Downloads/DR%20-%20Kulturni%20turizam%20u%20Evropskoj%20uniji.pdf>
- Fernando, S. L. J., Shariff, N. M. (2017). Wetland ecotourism in Sri Lanka: Issues and challenges. *Geografija – Malaysian Journal of Society and Space*, 9, 99–105.
- Fiji Sales and Marketing Inc. (2020). What is Ecotourism? Concept Explanation & Goals. <https://www.turtlefiji.com/what-is->



**Book of Proceedings**

ecotourism/#:~:text=The%20overarching%20goal%20of%20ecotourism,preserve%20their%20communities%20and%20culture.

Gossling, S., Hultman, J. (2006). Ecotourism in Scandinavia. Lund University, Helsingborg, Sweden. 98-99. <http://sherekashmir.informaticspublishing.com/658/1/9781845931346.pdf#page=110>

Guerra, J. (2015). What is ecotourism?. Association collégiale Hopineo <https://hopineo.org/en/meet-kelly-bricker-ties-the-international-ecotourism-society/#:~:text=This%20means%20that%20those%20who,for%20both%20visitors%20and%20hosts>.

Ijeomah, H. M., Okoli, C.I.C. (2016). Challenges of Ecotourism in Selected Destinations of Nigeria. *International Journal of Agriculture and Rural Development*. 19, 2655–2668.

Makian, S., Hanifezadeh, F. (2021). Current challenges facing ecotourism development in Iran. *Journal of Tourismology*, 7(1), 123-140. <https://dergipark.org.tr/en/download/article-file/1350909>

Mazilu, M. (2012). Sustainable Tourism of Destination, Imperative Triangle Among: Competitiveness, Effective Management and Proper Financing. University of Craiova. 5-34. Available at: [https://www.researchgate.net/publication/221925572\\_Sustainable\\_Tourism\\_of\\_Destination\\_Imperative\\_Triangle\\_Among\\_Competitiveness\\_Effective\\_Management\\_and\\_Proper\\_Financing](https://www.researchgate.net/publication/221925572_Sustainable_Tourism_of_Destination_Imperative_Triangle_Among_Competitiveness_Effective_Management_and_Proper_Financing)

Novakovic Kostic, R., Trumbulovic, Lj. (2016). Ekoturizam. Visoka poslovno tehnička škola strukovnih studija Užice.

Okech, R. N. (2011). Ecotourism Development and Challenges: A Kenyan Experience. *Tourism Analysis*, 16(1), 19–30. <https://doi.org/10.3727/108354211X12988225899967>

Teressa, D. K. (2015). Development of community based ecotourism in Wenchi Crater Lake, Ethiopia: Challenges and prospects. *Journal of Hospitality Management and Tourism*, 6(4), 39–46. <https://doi.org/10.5897/JHMT2014.0133>

TSoM (Toronto School of Management) team. (2019). What is ecotourism and why is it important? Available at: <https://www.torontosom.ca/blog/what-is-ecotourism-and-why-is-it-important#:~:text=Ecotourism%20has%20been%20identified%20as,which%20significantly%20helps%20the%20environment>.





Book of Proceedings

***UNDERSTANDING CONSUMER WORD PREFERENCES USING  
THE MAXFIDD METHOD – CASE STUDY***

*Lea Cok<sup>1</sup>  
Jani Toroš<sup>2</sup>*

***ABSTRACT***

*Credibility in advertising messages is currently a pressing issue discussed by an increasing number of researchers. The phenomenon of distrust in advertising messages is growing and becoming more widespread, which is detrimental not only to sellers but also to consumers, as there are many products and services that can improve people's lives. With this research, we will delve into the phenomenon of distrust and consumer behavior, aiming to explore consumer word preferences through innovative semantic approaches using marketing methods, particularly MaxDiff.*

***Key words:*** consumer, consumer word preferences, marketing, marketing methods

***JEL Classification:*** M31, P36

***INTRODUCTION***

»Advertising may be described as the science of arresting the human intelligence long enough to get money from it.« (Emodi 2011). It seems that acquiring money is a result of a good advertising strategy and other circumstances, but we wonder if that is a sufficient motivation to establish a relationship with users that can offer long-term loyalty and, consequently, the sale of products and services?

Advertising is an integral part of communication. »The most important factor in communication is the attainment of a point of understanding of the meaning.« (Emodi, 2011). According to Emodi, meaning is divided into two aspects, where the first is the meaning as the relationship between language and the external world (referential or denotative meaning), that is, between the word and the concept it denotes. In the second aspect, it involves the mental state of the speaker, reflected in various personal, emotional nuances (affective or connotative meaning). Therefore, denotative meaning is the literal or general dictionary meaning, while connotative meaning is evaluative, presumed, or emotional meaning.

Vasiloai (2020), the author of article discusses the ambiguity of advertisements on a semantic level. It is argued that advertising language should be relatively vague on the lexical-semantic level. The importance lies in the creator infusing their background and a collection of connotative meanings and associations that they firmly stand behind, even if the meaning may appear unclear at first glance.

Cortés de los Ríos (2002) mentions a semiotic advertising strategy characterized by advertisers enhancing the meaning of a concept with another. Since advertising stimulates cognitive processes that generate images and associations, metaphorical language is significant in advertising. Advertisers seek the most effective metaphor, i.e., a concept that best connects with the advertised company, taking into account the reader's physical and cultural experiences.

Cortés de los Ríos (2002) mentions in his article a semiotic advertising strategy characterized by advertisers enhancing the meaning of a concept with another. Since advertising stimulates cognitive processes through

---

<sup>1</sup> Faculty of Applied Social Sciences, Ljubljana, Slovenia, PhD candidate, lea.cok@gmail.com

<sup>2</sup> Innovative Management Institute, Ljubljana, Slovenia, jani.toros@imi-institute.org



## Book of Proceedings

which we create images and associations, metaphorical language in advertising is significant. Cortes de los Rios (2002) points out that the advertiser seeks the most effective metaphor, i.e., a concept that best associates with the advertised company, taking into account the reader's physical and cultural experiences. In the study by Kim et al. (2012) they highlighted that the structural process and mechanism through which metaphors influence consumer perception formation and attitudes towards advertising are still not clear, even though previous research has shown that the use of metaphors is favorable for advertising. They were interested in how metaphorical messages affect the credibility of advertising messages and the relationship with the advertiser. The research questions also addressed different types of responses to the processing of metaphorical messages, which are reflected in the consumer's attitude towards the advertisement, and what can happen to the structural relationship in case advertising conditions change. They approached this complex set of questions through multidimensional causal modeling. They argue that understanding cognitive and affective elaboration and balancing these two factors leads to the desired consumer response. The significant role of cognitive elaboration for conditions of high involvement suggests that metaphorical messages should be designed to stimulate more such thoughts. A greater amount of affective elaboration could thus lead consumers to evaluate the advertisement positively.

Rajaobelina et al. (2019) mention the impact of relational advertising as a relationship experience in advertising, which they refer to, following the proposal of Johar and Sirgy (1991), as "value-expressive appeal in advertising." They state, "Value-expressive appeal relates to an image of a user's advertised product or brand and proves effective when the consumer is persuaded by means of self-congruity (congruence between product-user image and consumer image (actual self-image, ideal self-image, social image and ideal social image))."

If we simplify, the relationship between an advertisement and a consumer is established when the consumer identifies with the advertisement. Could it be said that identification reflects in the choice and perception of words, and how does identification manifest in consumer behavior?

Consumer behavior is both rational and irrational. The neoclassical economic theory views the consumer as a logical thinker whose intention is rational within limited information and cognitive capacity. Therefore, they will narrow down their choices to a limited set of prominent alternatives, evaluating them against a limited number of criteria (Schmid, 2004). The decision is made when a solution satisfies the criteria set for the goal, but here arises the question of whether this decision will satisfy the consumer?

The paradox of choice is a phenomenon described by (Schwartz, 2004) where an excess of choices can overwhelm an individual, as they must analyze and compare various options due to the fear of making the wrong decision. Perhaps this is one of the symptoms of the need for rapid decision-making, where we make thousands of decisions daily and may run out of cognitive capacity to process optimal decisions, which may also contain irrational elements.

There are two systems by which our brains operate within the framework of the theory of dual processing (TDP), popularized by Daniel Kahnemann in his book "Thinking, Fast and Slow" in 2011, even though the theory of dual processing has a longer history in cognitive and social psychology (Venkatraman et al., 2020). Kahnemann's theory of dual processing operates in such a way that when making decisions, people first rely on the more automatic System 1 (the default mode), and then occasionally switch to the deliberate System 2 (which intervenes or overrides the default mode of System 1).

In the article by Venkatraman et al. (2020), they argue that brain processes are much more complex, and cognitive processing is not binary (they also mention in the field of marketing and, consequently, we believe the same applies to advertising). Instead, multiple types of processing occur simultaneously (biased heuristics, logical intuition, deliberate approaches), and regulatory control processes are triggered early in the decision-making process, which poses serious challenges to the traditional interventionist TDP. An independent, regulatory process monitors and guides the various processes, literally interrupting automatic responses and allowing for decision or behavior adaptation based on context and resource availability. All of this is deeply influenced by context, goals, previous connections and experiences stored in memory, as well as bodily sensations, which combine with these other factors to generate emotions.



## Book of Proceedings

Latest economic and marketing literature, especially mentions experiential choice of services and products, where experiential marketing »advocates for the exploitation of intangible elements linked to the emotional value perceived by customers« (Gentile et al., 2007) An example of a study conducted by Rajaobelina et al. (2019) explores the impact of increasing credibility in a banking context through experiential advertising, influenced by five dimensions - cognitive, emotional, sensory, relational, and behavioral dimensions. The purpose is to determine whether increasing the credibility of banks through experiential advertising strategy could help regain consumer trust. The proposed conceptual model of the five dimensions of experiential advertising has a positive impact on advertising credibility. The results indicate that the structure of experiential advertising is unstable, from which one could also infer that the credibility of advertising messages is unstable.

Advertising, besides informing the public about its activities, also reflects an understanding of potential customers who can identify with the content of the advertising message if it triggers emotional responses in the reader. In this case, cognitive processes are accelerated, which can lead to faster message memorization. If, according to Wittgenstein, words are patterns of intentions, then the language of advertising is a medium that aims to influence consumer behavior. Are there specific words that influence consumer behavior? We are interested in whether there are particular words to which Slovenian consumers are more receptive in advertising messages and what those words might be. According to Wittgenstein, language operates by evoking mental images of how things exist in the world; language is essentially a pattern of intentions. Through words, we can paint a picture of facts.

Certainly, the trend is leaning towards enhancing value through experiential marketing, as consumers evidently anticipate more than just products and services. Alternatively, more innovative communication approaches may contribute to consumer awareness that, beyond making a purchase, they can also simultaneously invest in fortifying a value system they believe in.

### ***RESEARCH PROBLEM***

The central problem of this research is that the effectiveness of advertising messages is diminished due to distrust. Darke & Ritchie (2007) demonstrated in their article that deceptive advertising generates distrust, which negatively influences people's responses to further advertising from the same source and also from other sources. Initial deception leads to negative beliefs about advertising and marketing in general, thus undermining the credibility of subsequent advertising (Darke and Ritchie, 2007).

Newell et al. (2015) confirmed their hypotheses in their study, indicating that higher levels of perceived deception are associated with lower levels of perceived company credibility. Participants in the study were less favorable towards the advertisement, held less favorable attitudes towards the advertised brand, and consequently, had reduced purchase intentions for the advertised product. Furthermore, the study found that the perception of deception is sufficient to create negative emotions towards the advertisement, regardless of whether the advertisement is objectively deceptive or not. "Therefore, marketing and advertising managers must exercise caution in the development of campaigns" (Newell et al., 2015).

The second issue of the research work is that deceptive advertising in Slovenia violates Article 12 of the Consumer Protection Act ([link in the source](#)).

On this topic, we came across an article where (Xie et al., 2015) conducted two experiments to separate the effect of harm on consumer attitudes towards the brand and purchase intent when perceived deception occurs. The research also explored how expected harm could influence a consumer's response to the "diagnosis of perceived deception." This relates to the relative importance in potential deception when consumers evaluate advertised products and brands. The article points out that the effect of the magnitude of expected harm due to deception has been studied less than previous behavioral advertising research, which focused on how consumers might be misled by the claims and implications of advertising messages. The results indicate that the relative importance of perceived deception can affect expected harm. This



## Book of Proceedings

means that the negative effect of perceived deception can be intensified when the expected consequences of deception are perceived as more severe.

In the article by Jakomin et al. (2022) the researchers investigated how retailers advertise environmentally friendly packaging of green products available in online stores using the Maxdiff method. Based on the results, they found that less than a third of respondents trust manufacturer information about green products, even though two-thirds of respondents are willing to pay more for green products. Is this solely the result of inadequate advertising of green products in online stores, or is it also a symptom of distrust in advertising messages in general?

Are there words and phrases that could restore credibility to advertising messages where there is no intent to deceive and only to promote products or services? We are aware that there are many factors that can influence credibility, but could we "soften" the attitude of distrust in advertising messages by understanding the word preferences of consumers?

### ***METHODOLOGY***

MaxDiff (Maximum Difference Scaling) is a market research method, also known as "best-worse scaling," used to understand the relative preference differences among multiple elements or attributes—in our research, words—to gain insight into which words respondents associate with trust. MaxDiff can play a very important role in looking at buying motivation, seeking benefits, and exploring the sensitivity of benefits to the tools of marketers, "where members of preexisting groups are often found to be indistinguishable from one another." (Cohen, 2003)

The MaxDiff model operates under the assumption that respondents act as though they are evaluating every conceivable pair within each subset. They then select the pair with the greatest difference as the best-worst or maximum difference pair. Consequently, one could consider MaxDiff as a more streamlined approach to gathering paired comparison data.

With Hypothesis 1, we claim that there is a statistical difference in the preferences of words among respondents.

With the MaxDiff method, the question arises: Which words in advertising messages do respondents prefer? Respondents in the questionnaire mark the most and least preferable attribute - the word associated with trust, where all 12 words (6 adjectives and nouns) are equally represented. With Hypothesis 1, we claim that there is a statistical difference in word preferences among respondents, addressing the research question: Do respondents prefer different combinations of adjectives and nouns differently? Since respondents make choices rather than expressing strength of preference using some numeric scale, there is no opportunity for scale use bias.

The analysis of word preferences will be conducted using an independent sample T-test, which provides insight into whether there is a significant statistical difference between two sets of data, yielding a p-value as the probability that must be less than 0.05, or less than a 5% chance that the result is random. The T-test is used to compare the means of two or more groups, where we would compare three different demographic groups. Respondents must also have Slovenian citizenship, which they will need to indicate at the beginning of the survey questionnaire, as there is a difference in processing words in their native language or another language - the emotional component. Additionally, they must currently be residents of Slovenia - the cultural component.

The purpose of quantitative data in this research is to obtain objective, numerical results on consumer advertising preferences, where the focus is not so much on why consumers prefer certain words and phrases, but rather which words carry greater persuasive power as a springboard to build trust in advertising messages.

So far, we have managed to get results from 140 respondents, and our next step is the analysis of the results and writing the discussion.



## Book of Proceedings

### **CONCLUSION**

In conclusion, this research project addresses the pressing issue of credibility in advertising messages, which has become a growing concern due to the increasing phenomenon of distrust among consumers. The erosion of trust in advertising not only affects sellers but also hampers consumers' ability to make informed choices about products and services that could improve their lives. This study explores the phenomenon of distrust and its impact on consumer behavior, focusing on the preferences for specific words in advertising messages using innovative semantic approaches, particularly MaxDiff.

The literature review provided a comprehensive overview of relevant studies and theories related to advertising, consumer behavior, credibility, and the use of language in advertising. Notable contributions from Vasiloaia, Cortés de los Ríos, Kim et al., Rajaobelina et al., and others were discussed to frame the research.

Deceptive advertising was shown to generate distrust, leading to negative attitudes towards advertising and reduced credibility for subsequent messages. The study also highlighted the legal implications of deceptive advertising in Slovenia.

The methodology section introduced the MaxDiff method as a means to understand word preferences among respondents and explore which words are associated with trust in advertising messages.

This research contributes to the understanding of how specific words and phrases can influence consumer behavior and trust in advertising. By identifying words that resonate with consumers, marketers and advertisers can tailor their messages to improve credibility and build stronger relationships with their target audience. Ultimately, the findings of this study have the potential to enhance the effectiveness of advertising strategies and benefit both consumers and advertisers in the long run.

If the assumption—that certain words and their syntax influence the evaluation of credibility and trust-building with consumers—proves to be correct, then the original contribution could provide advertisers with new insights into the semantics of advertising. By making minor adjustments and using appropriate words (without excessive interference in marketing strategy), consumers may not only recognize the potential offered by a product or service but also trust that they are investing in a value system they believe in.

If it turns out that certain words in the Slovenian advertising space are more effective than others and can be proven to have an actual impact, implementing similar research methods could provide companies with measurements of responses to their existing slogans or advertising messages. Additionally, responses to proposed new versions (in line with the findings of the dissertation), focusing on the practical implementation of changes based on research findings, could help improve their image of credibility in the eyes of consumers and, consequently, increase sales without resorting to deceptive advertising. In this case, based on the acquired data, new advertising strategies could be developed, tested in practice, and further improvements could be made based on effectiveness and feedback.

### **REFERENCES**

Cohen, S. H. (2003). Maximum Difference Scaling: Improved Measures of Importance and Preference for Segmentation. [www.sawtoothsoftware.com](http://www.sawtoothsoftware.com)

Cortés de los Ríos, M. E. (2002). Cognitive semantics and axiology: a new proposal to study metaphor in economics advertising discourse. *Revista Alicantina de Estudios Ingleses*, 15, 39. Available at: <https://doi.org/10.14198/RAEI.2002.15.03>

Darke, P. R., & Ritchie, R. J. B. (2007). The defensive consumer: Advertising deception, defensive processing, and distrust. *Journal of Marketing Research*, 44(1), 114–127.





**Book of Proceedings**

Emodi, L. N. (2011). A Semantic Analysis of the Language of Advertising. *International Multidisciplinary Journal, Ethiopia*, 5(4). [www.afrevjo.com](http://www.afrevjo.com)

Gentile, C., Spiller, N., Noci, G. (2007). How to Sustain the Customer Experience: An Overview of Experience Components that Co-create Value With the Customer. *European Management Journal*, 25(5), 395–410.

Jakomin, E., Novak, I., Štefanič, J., Toroš, J., Elesini, U. S. (2022). Use of MaxDiff method in selecting green packaging attributes that influence purchase decisions in online shops. *Packaging Technology and Science*, 35(12), 879–892.

Kim, J., Baek, Y., Choi, Y. (2012). The structural effects of metaphor-elicited cognitive and affective elaboration levels on attitude toward the Ad. *Journal of Advertising*, 41(2), 77–96.

Newell, S. J., Goldsmith, R. E., Banzhaf, E. J. (2015). The Effect of Misleading Environmental Claims on Consumer Perceptions of Advertisements. *Journal of Marketing Theory and Practice*, 6(2), 48–60.

Schwartz, B. (2004). *The Paradox Of Choice: Why More Is Less*. The Paradox Of Choice: Why More Is Less. Harper Collins Publisher. <https://works.swarthmore.edu/fac-psychology/198>

Vasiloaia, M. (2020). Semantic Ambiguity in Advertising Language. *Economy Transdisciplinarity Cognition*, 23(2), 95–99.

Xie, G. X., Madrigal, R., & Boush, D. M. (2015). Disentangling the Effects of Perceived Deception and Anticipated Harm on Consumer Responses to Deceptive Advertising. *Journal of Business Ethics*, 129(2), 281–293.

<http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO3587&d-49683-s=3&d-49683-p=1&d-49683-o=1>

<https://sawtoothsoftware.com/maxdiff>