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10th International OFEL Conference "Diversity, Equity and Inclusion: The Essence of Organisational Well-Being"

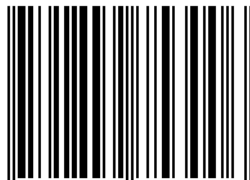
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Darko Tipuric, Ana Krajnovic, Nicholas Recker



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Editors:

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Ana Krajnovic, University of Zagreb, Croatia
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SPIRITUAL LEADERS OF THE BULGARIAN NATION

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ABSTRACT

This article briefly analyses the works of Acad. Mihail Arnaudov. He is an author of insightful research of a number of classics of the Bulgarian and world literature. His determination and persistence with which he worked on his research are incredible and admirable. The long-lasting research activity of Acad. Mihail Arnaudov is "sealed" on the pages of books, periodicals, prints and thematically collected clippings from Bulgarian and foreign publications. With the help of his numerous research works covering the topic of Bulgarian National Revival, Acad. Mihail Arnaudov managed to realize his noble ambition – to create a scientific epic of the spiritual leaders of his people, or the "Unforgettable" as he called them himself, during one of the most difficult and most glorious periods in the Bulgarian history. And with even more passion he kept studying life and works of post-liberation writers.

Keywords: *Social development, Spiritual leaders, Bulgarian nation*

1. INTRODUCTION

"If I am brave enough to introduce myself now, I will do so with the awareness that I will pay respect not just to an individual, but to a large group to which I belong too. I am part of one big chain. And two great generations represent this long chain – a generation of my lecturers in university, young people of the time, thirty to thirty-five years old, who had a very responsible job to do and who proved to be brilliant founders of science in Bulgaria. Ivan Shishmanov, Lyubomir Miletich, Benyo Tsonev, Atanas Ishirkov, Rosen Zlatarski – to name my best lecturers, whose spirits, I think, are here with you and me. I also belong to one other generation. These are my university friends, my colleagues from the Academy, my friends from the writing circle. There are so many names that I could not even mention all of them. Boyan Penev, Mladenov, Romanski and one more and another one, they make a really long list... If I have some accomplishments in our education and science, I owe it to the fact that I have always followed two ideals in my life, two idols. These were the science and the Homeland" (Arnaudov, 1968). With these words Acad. Mihail Petrov Arnaudov began his speech on the occasion of his 90th birthday. An honourable age and worthy of a well-deserved rest and peace, especially when you have experienced and have lived the life from the ministerial chair to the prison cell to receive world academic recognition. Arnaudov's longevity and life's work as a man, scientist and public figure are clear evidence of the strength of the Bulgarian gene. They reveal the great intellectual and spiritual capabilities of the Bulgarians to fully realize themselves and to live with dignity and honour. At the same time, they convince us that the realization of these capabilities is motivated by the need of an individual to become and be a person.

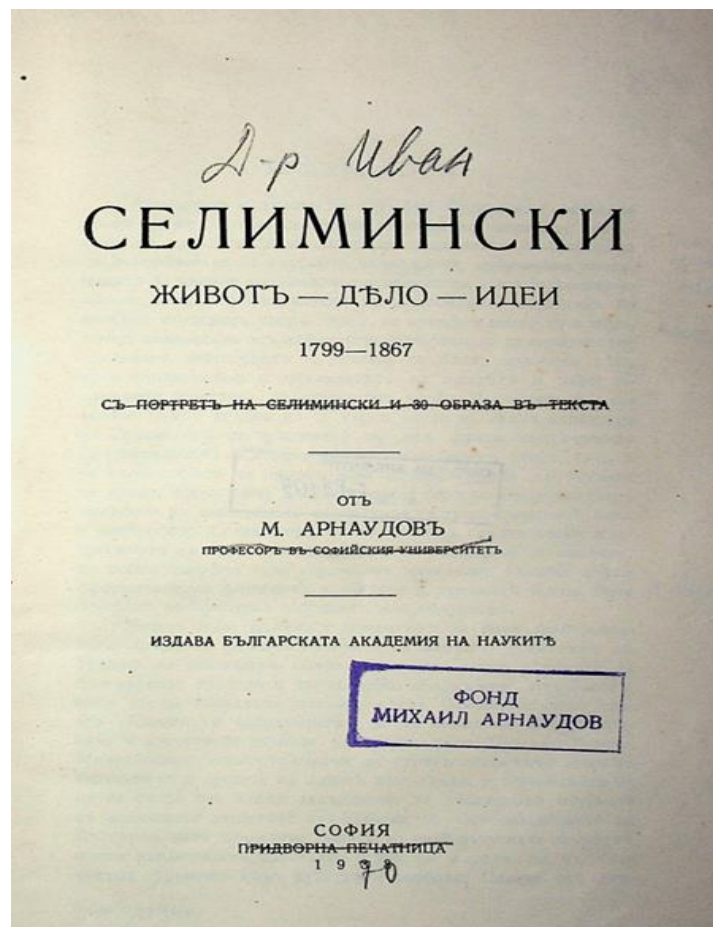
2. SPIRITUAL LEADERS OF THE BULGARIAN NATION

Assoc. Prof. Dr. Rusi Rusev wrote about his spiritual teacher: "Arnaudov's personal qualities, as well as his amazing consistency and steadfastness with which he manifested them over time, help us learn about ourselves through the best of our ethnocultural nature, which with its

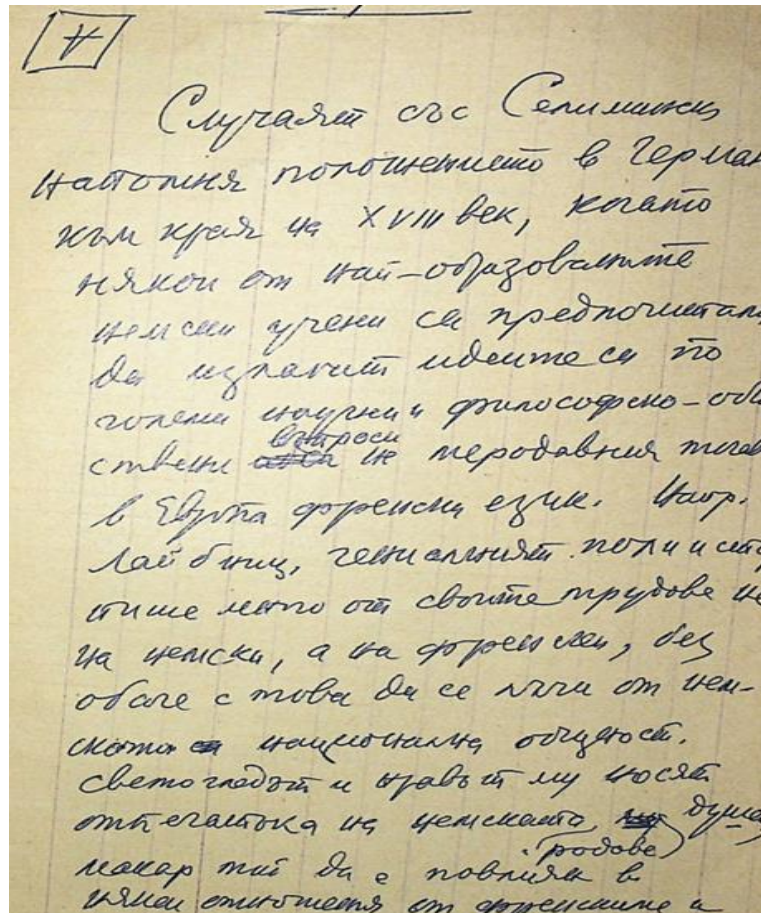
semantic and value significance reflects the universal value of the human in our country. To realize that the impressive life work of a person is possible only when he or she accumulates in himself the vital and creative energy of his people and merges their destiny with that of their homeland. We understand that the economic and cultural empowerment of the Homeland can be realized when we purposefully build both private and national personality according to the will of Mikhail Arnaudov, namely: ... through discipline, through high civic consciousness and the supremacy of moral, cultural and social values" (Rusev, 2020). Mihail Petrov Arnaudov was born on October 15, 1878 – just a few months after the Liberation of Bulgaria. During those years his hometown Ruse is a leading Bulgarian economic and cultural centre and the largest city of the Principality, one of the administrative centers of the young country. The city was influenced by modern European tendencies and this changed everyday lives of all its residents. The history of Ruse also includes certain national heroes of the era of the Bulgarian Revival. All this, undoubtedly, influenced young Arnaudov, his upbringing and aspirations. He received primary and secondary education in his hometown and afterwards studied Slavic languages and literature at Sofia University (1895-1898). Even as a student he demonstrated interest for academic activities. His academic interests guided him to Germany, where from 1898 to 1900 in Leipzig and Berlin he studied Indo-European linguistics, philosophy and literature under the supervision of A. Leskin, E. Windisch, F. Brugman, W. Wund, K. Geldner and others. After returning to Bulgaria, he worked as a teacher in high schools in Vidin and Sofia. He defended his doctoral thesis in philosophy, Slavic languages and literature and Indian studies under the supervision of T. Masarik, J. Zubati and I. Polivka in Prague in 1904. In 1907 he was deputy director of the National Library in Sofia, and in relation to his research work he visited London and Paris. He became Associate Professor in 1908 and Professor in 1919 in the Department of Comparative Literary History. In the period 1928 – 1944 he was head of the department. From 1921 to 1922 Arnaudov was Dean of the Faculty of History and Philology, in 1926 director of the National Theater and from 1935 to 1936 chancellor of Sofia University. In 1929 he was elected a full member – academician – of the Bulgarian Academy of Sciences (BAS). He is a member of the Ukrainian Academy of Sciences, the Hungarian Petofi Literary Academy; Honorary Doctor at the Universities of Heidelberg (1936) and Münster (1943). Chairman of the Union of Bulgarian Writers and editor of the magazine "Bulgarian Thought". For the first time his work was published in 1985 in the Ruse magazine "Izvor". He collaborated with many periodicals, including the magazines "School Review", "Collection of Folk Tales", "Journal of BAS", "Prolom", "Native Speech", "Education", "Sun", "Macedonian Review", "Slavic Voice", "November", "Testaments", "Serdika", "Literary Thought", "Folk Culture" newspaper and others. Acad. Arnaudov had numerous wide-ranging scientific interests, and his research impress with its scale. His works on folklore take the leading place, which make him one of the most important Bulgarian researchers in this field. According to Acad. Arnaudov, folklore is the basis of all literature and national culture. Folk tales and their classification, rituals and legends, ballad motifs in folk songs, mystifications and many more are in the heart of his research. His folklore works were also focused on the roots of Anastenaria, rituals originating from India, through Persia to Europe, and Kukeri (Kukeri - traditional rituals performed by costumed Bulgarian men and intended to scare away evil spirits). His research on the history of Bulgarian folklore, on the connections between fiction and folk art are also contributing. With great enthusiasm and consistency Acad. Mihail Arnaudov also studied the Bulgarian Revival. The subject of his scientific interests included the work of a number of prominent figures of the Bulgarian Revival, he collected numerous and diverse factual material, analysed and summarized it, tried to clarify the complex image of our cultural and political revival. He published over 50 monographs on Neofit Bozveli, Vasil Aprilov, Ilarion Makariopolski, Ivan Seliminski, Grigor Parlichev, Miladinovi brothers, Georgi Rakovski, Lyuben Karavelov, Paisii Hilendarski, Sofroniy Vrachanski and others.

Apart from them, Acad. Mihail Arnaudov dedicated a number of smaller studies to the Bulgarian Revival, as well as articles and scientific reports. In them he explored the deep connection between personality and history. His works on the Revival present vividly and thoroughly the main aspects of the era. From June to September 1944, he was Minister of Education in the cabinet of Ivan Bagryanov. For this reason, the communist authorities would attribute “fascist views” to him after September 9 and arrest and sentence him by the People's Court to life imprisonment. His sentence was later reduced to 10 years in prison. Fortunately, while in prison, the Soviet academician Derzhavin arrived in Bulgaria, who turned out to be a good acquaintance and probably a friend of Mihail Arnaudov. He immediately wished to see him. This caused certain confusion – Arnaudov was in the labour camp in Belene and the Soviet comrade academician wanted a meeting with him. So, on the personal order of Prime Minister Valko Chervenkov, Arnaudov was taken out of the camp to meet with Derzhavin. After his release from prison, the Bulgarian Academy of Sciences made efforts to help him by assigning him specific scientific tasks and paying him remunerations so that he could carry out his research in peace. He continued his scientific activity at the Institute of Literature at the Bulgarian Academy of Sciences. He was the founder and editor of the magazine “Bulgarian Thought” (1925 - 1943), editor of a six-volume collection “Library of Bulgarian Writers” (1932 - 1939); editor of the publication “Bulgarian Folk Art” in 12 volumes. He received the Order of Civil Merit II Degree and the Order of St. Alexander II Degree, became honorary doctor of the University of Heidelberg and the University of Münster. He was awarded the Order of the People's Republic of Bulgaria I degree (1968) and People's Figure of Science (1969) (Aleksieva, 2022a). Being dedicated to science and education, in his speech on the occasion of his 90th birthday, Academician Arnaudov shared: “Science is something comprehensive, huge. It is great, as is the nature that is the subject of scientific research. Science is made by thousands and thousands and I would say even millions around the globe. It is no longer done as it once was, but in a completely new style – critical, analytical and rational. Today is the century of specialization.” (Arnaudov, 1968). Academician Mihail Arnaudov is the author of insightful research of a number of classics of the Bulgarian and world literature. His determination and persistence with which he worked on his research are incredible and admirable. The long-lasting research activity of Acad. Mihail Arnaudov is “sealed” on the pages of books, periodicals, prints and thematically collected clippings from Bulgarian and foreign publications. With the help of his numerous research works covering the topic of Bulgarian National Revival, Acad. Mihail Arnaudov managed to realize his noble ambition – to create a scientific epic of the spiritual leaders of his people, or the “Unforgettable” as he calls them himself, during one of the most difficult and most glorious periods in Bulgarian history. And with even more passion he kept studying life and works of post-liberation writers. His analyses are based on facts and show his great erudition and his ability to navigate perfectly in the complex art world of each of the artists he wrote about. An irreplaceable contribution to the history of Bulgarian literature is his multi-volume “Library of Bulgarian Writers”, brought to life due to the initiative and under the editorship of Acad. Arnaudov. The six volumes of the publication include research on the lives, work and ideas of 40 leading Bulgarian writers of the Bulgarian National Revival to the late 1920s. The authors of the essays were leading names in Bulgarian literary criticism, such as Vasil Pundev – one of the most interesting and promising critics in the early twentieth century, Georgi Konstantinov – an active contributor to magazines “Bulgarian Thought” and “Zlatorog” and who published his own History of Bulgarian Literature, Stoyan Mladenov, Stoyan Popvasilev, the founder of the Department of German language and literature at Sofia University Konstantin Galabov and others. Some of the texts were written by Mihail Arnaudov himself. The idea was that the publication would be just the beginning, or as Acad. Arnaudov called it “an introduction to a true history of literature”, which would be wrote down later (Aleksieva, 2022a).

The researcher's attention was also drawn to the life and work of Jean-Jacques Rousseau, Henryk Sienkiewicz, Alexander Pushkin, Johann Wolfgang von Goethe, François de La Rochefoucauld, Fyodor Dostoevsky and a number of other significant and prominent figures in European literature. Mihail Arnaudov also has numerous works in the field of literary theory. Some of his books that are worth mentioning are "Introduction to Literary Science", published in 1920. A revised and supplemented second edition was published in two parts: "Fundamentals of Literary Science" in 1942 and "Psychology of Literary Creativity" in 1931. The theoretical formulations in Arnaudov's works found their practical application in the surveys he developed. The most important idea of these works was the key role assigned to psychology in understanding the humanities in general. "Psychology of Literary Creativity" explored the creative process and artistic thinking, the relationships with observation and perception, prototypes and type, "creative instinct", "unconscious" and others. We can judge about the remarkable diligence and consistency of the author from the edits he made in each of his next editions. In 1938 Prof. Arnaudov published the book "Seliminski: Life, work, ideas 1799 – 1867", dedicated to the life of one of the main founders of the first Bulgarian emigrant organization in the capital of the United Principalities of Moldavia and Wallachia Bucharest – Dr. Ivan Seliminski. It contained some of the preserved documents about the turbulent life of the activist during the Bulgarian National Revival. Prof. Arnaudov's notes and comments on subsequent editions are preserved in the books themselves, stored in his personal library and in the numerous supplements he made.



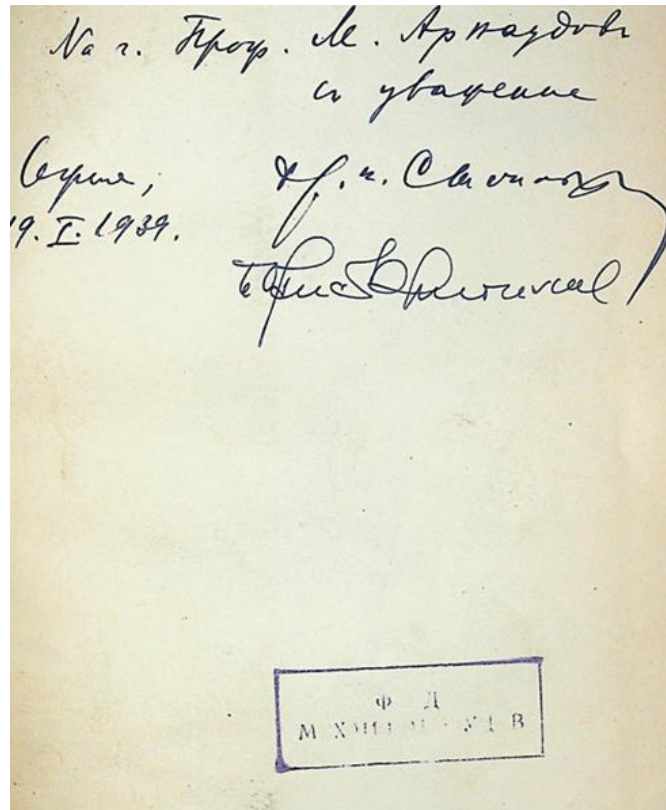
Picture 1: Prof. Arnaudov's notes and comments on subsequent editions preserved in the books themselves



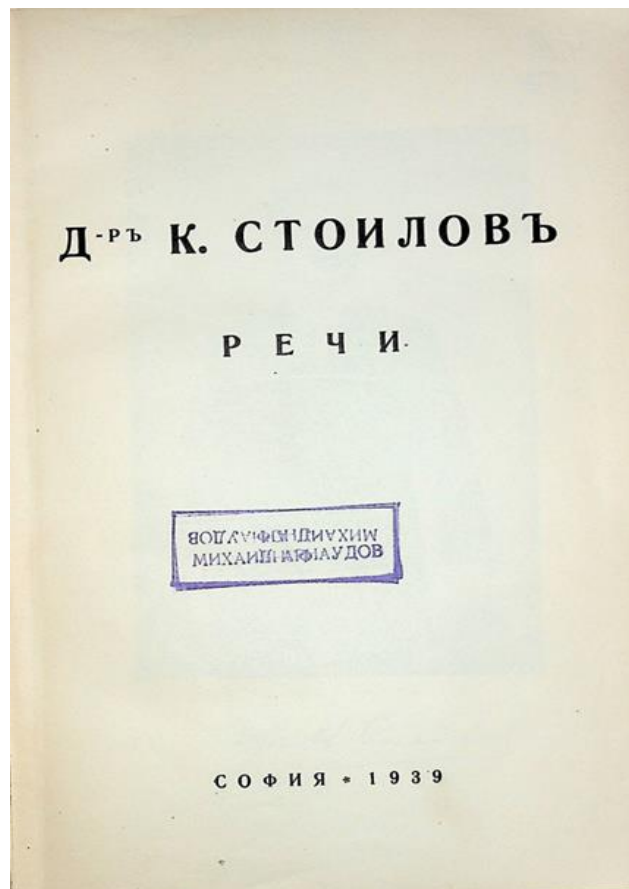
Picture 2: Prof. Arnaudov's notes and comments on subsequent editions preserved in the books themselves

The role and importance of words and books in the life of the Academician become obvious from the works he bequeathed to us and from the personal library collection, which is being preserved in his hometown. Among the numerous editions, the library includes extremely valuable preserved copies that carry the messages of Acad. Arnaudov's contemporaries, who often dedicated their editions to him or asked for an opinion and review. True pillars of time, these messages reflected a unique image of Bulgarian culture for a whole century. One of the researchers of Academician Arnaudov's work – Prof. Elena Georgieva, calls his personal library a "library – person" that keeps many references both to the work of the scientist – to his ideas, searches and aspirations, and to a kind of pantheon of images created as a result of his research and scientific developments (Georgieva, 2002). Among the copies of great interest are the messages of the academician from and to his friends, students and followers.

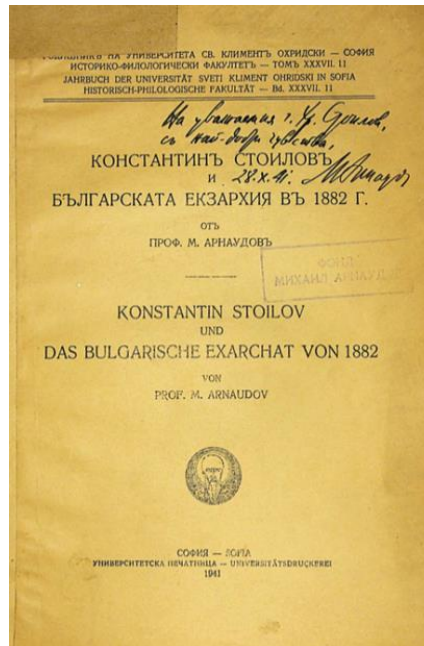
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Picture 3: To Prof. M. Arnaudov. Sincerely, Hr. Stoilov. Sofia, January 19, 1939

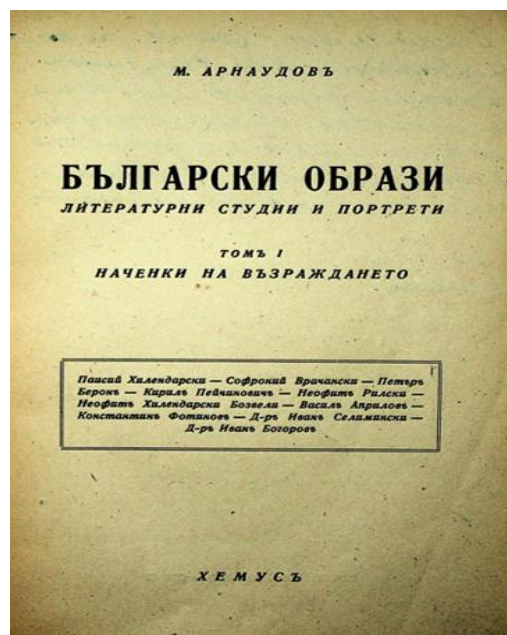


Picture 4: To Prof. M. Arnaudov. Sincerely, Hr. Stoilov. Sofia, January 19, 1939

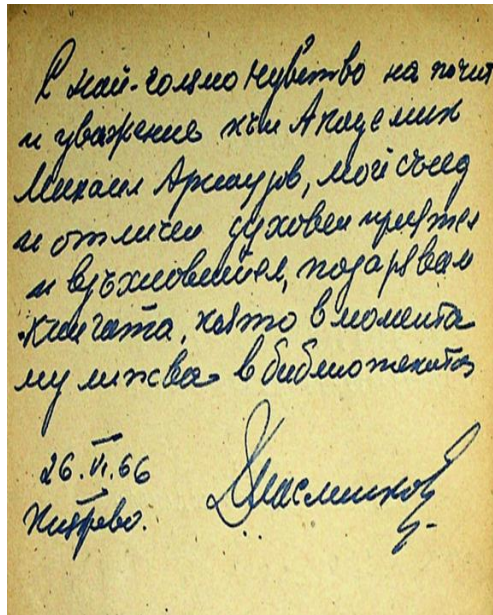


Picture 5: To Honorable Mr. Hr. Stoilov, my best regards. 28.X.41. M. Arnaudov

The acquaintance of Academician Arnaudov and Hristo Stoilov – son of the founder and one of the leaders of the People's Party – Konstantin Stoilov, led to an exchange of books and dedications, some of which were: “To Prof. M. Arnaudov. Sincerely, Hr. Stoilov. Sofia, January 19, 1939” (Picture 3), “To Honorable Mr. Hr. Stoilov, my best regards. 28.X.41. M. Arnaudov” (Picture 5). This passion for books can be confirmed by the message of Lyuben Maslinkov, with which he donated his own book of the Academician “Bulgarian Images”, the one missing in the collection. His written message was: “With the deepest sense of respect and honour to Academician Mihail Arnaudov, my neighbour and excellent spiritual friend and inspirer, I donate this book, which is currently lacking in his library. L. Maslinkov. 26.VI.1966 Knyazhevo”.

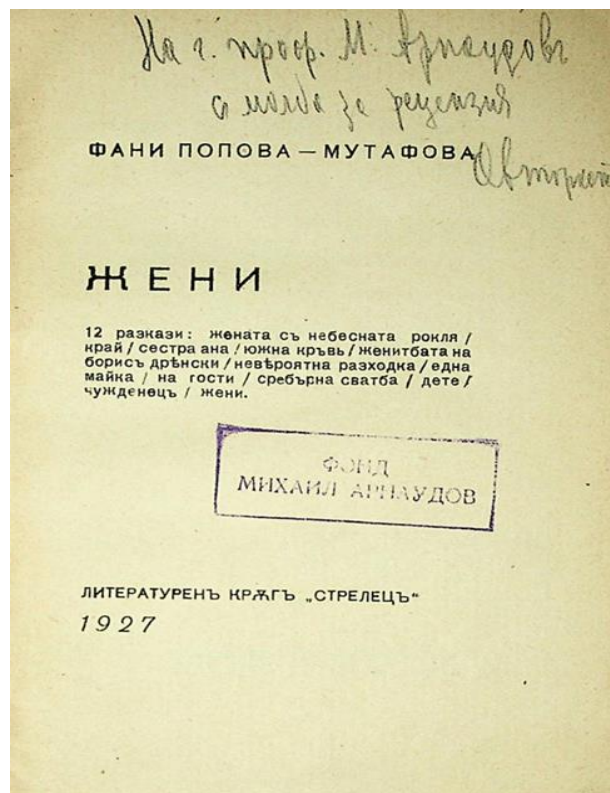


Picture 6: Message of Lyuben Maslinkov, with which he donated his own book of the Academician “Bulgarian Images”



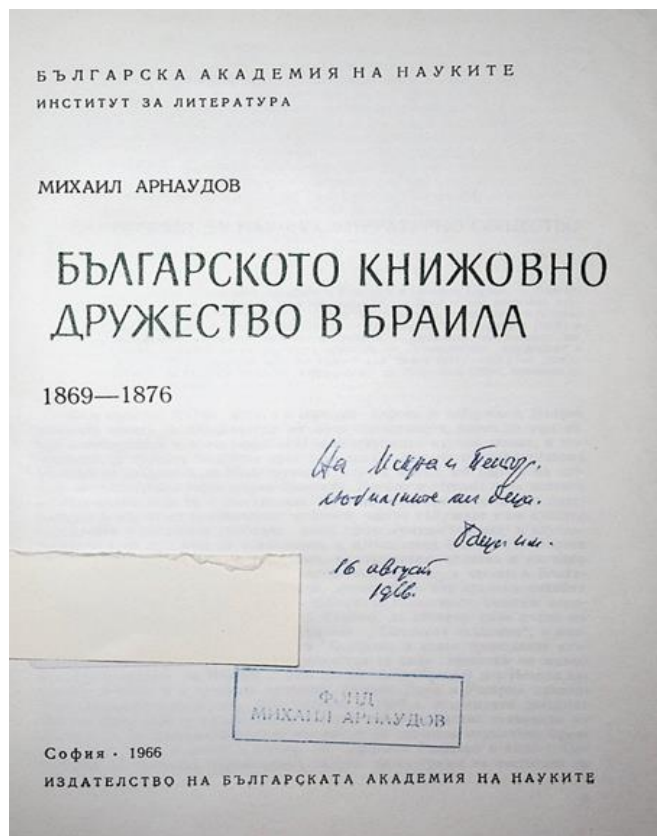
Picture 7: Message of Lyuben Maslinkov, with which he donated his own book of the Academician "Bulgarian Images"

We learn about the respect that Academician Mihail Arnaudov had among his contemporaries from the messages of his younger colleagues, who asked for his opinion on their works. One of them was Fani Popova-Mutafova. Even though she had already been known in Bulgarian literature, she gave the Academician the first edition of her stories not with dedication, but with a request for opinion and advice. The message on the book "Women" published in 1927 goes: "To Prof. M. Arnaudov with a request for a review. The author".



Picture 8: The message on the book "Women" published in 1927

The words that Academician Arnaudov wrote on the copies he presented to his closest relatives are touching and at the same time binding. He bequeathed his work “Bulgarian Literary Society in Braila. 1869 - 1876”, published by the Institute of Literature at the Bulgarian Academy of Sciences for his children with a dedication: “To Iskra and Peter, my beloved children. Your father. August 16, 1966” (Picture 9). He gave his grandchildren biographical research of the life and work of Goethe: “Goethe. Man, poet, thinker. Biography and pages of his works”, the first page of which contains the following message: “To my dear granddaughter Mihaila and to my beloved Dobri from their grandfather Mihail. Vlodaya. 5.III.67”. And it is no coincidence that each of his successors, although took their own path, some in a very close, others in a completely different field, always remained connected to knowledge and books, as his mediator.



Picture 9: The words that Academician Arnaudov wrote on the copies he presented to his closest relatives

Picture following on the next page



Picture 10: To my dear granddaughter Mihaila and to my beloved Dobri from their grandfather Mihail. Vladaya. 5.III.67

3. CONCLUSION

It is extremely hard to talk and think about Acad. Arnaudov nowadays within the linear dimension of time, the time as we know it. Because he keeps existing in the present. He is our contemporary, but also a teacher from the past and an ambassador from the future. The illusion of time limits was unknown to him and he had discovered the eternal truths of the world and man. Now more than ever we need to regain the ability to hear the voices of our nation's spiritual leaders. The voice of Mihail Arnaudov is one of them.

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DETERMINING THE RIGHT VALUE OF A STOCK – A NEW PERSPECTIVE ON VALUATING OF COMMON STOCKS

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ABSTRACT

The paper points out the importance of combining several appraisal methods in establishing the “right” value of a stock i.e. establishing if a stock currently is over or under valued on the market. Stated hypothesis implies that the value of a firm and value of a corresponding stock are tightly connected. The „right“ value of a company directly leads to the „right“ value of a related stock. The research topic is to find out i.e. to establish how and in what extent new appraisal approach Compounded Cash Flow method (CCF method) effects the value of a stock. The CCF method is theoretically well founded, applicable in practice and it serves for valuating any business. By this method the company's value can be estimated at the certain part of time and compared to the current stock price on the stock market, and the additional advantage of this method is risk elimination of misevaluating. The paper approaches the stock evaluation as an ideal segment of a firm and the quality of firm's business and its potentials are often strong indicators of the stock value in long term. Combined with the usual methods CCF method provides a more precise firm evaluation, i.e. more precise stock evaluation. The Composite indicator $[(C(hm))]$, which is explained in the paper, helps to come to a reliable value which will, after the comparison to the spot price of a stock, provides the information of a stock overvaluation or undervaluation.

Keywords: *stock value, firm value, Discounted Cash Flow, Compounded Cash Flow*

1. INTRODUCTION

There is a time discrepancy between the release of business results of a firm and its effect on the price. The reason for that is market psychology and something that W. Buffett calls “institutional imperative”¹. To this mimicking phenomenon add a widely-spread manager's greed phenomenon. While the stock owners suffered great loss, managers, brokers, journalists-promoters, who caused the stock market crash, earned a lot of money. Many of them have, directly or indirectly, persuaded people to invest and buy stocks, while they have themselves made opposite moves on the market. The basic idea of this paper is that is possible determine the level of overvaluation or undervaluation of a stock on the market. This thesis implies the assumption of “the cynical market”, in this case, the stock market, which knows the price of each stock, but not its value. To determine the level of overvaluation or undervaluation, this paper starts from certain hypothesis: buying stocks means buying the firm, the results of firm's business will adequately influence the price of the stock. Both realized and planned business results are imperative when investing in stocks. The paper presupposes a strong connection between the value of a firm and the value of that firm's stock. Four types of value are considered: Book Value (BV), Market Value (MV), Discounted Cash Flow (DCF) and Compounded Cash Flow (CCF)². By connecting DCF, CCF, and BV, in relation to the current MV, it is possible to relativize the dealing price of a stock.

¹ Hagstrom, R.G. (2008) p.126

² Designation of the CCF model (Compounded Cash Flow) is determined by the analogy of the DCF (Discounted Cash Flow)

T. Piketty's thought supports the prior statement. He believes that a lot is arbitrary and uncertain with the price that financial markets determine for the firm's intangibles at a certain moment.³ The goal of this paper is to define a reliable method for determining a possible discrepancy between the realistic price of a stock and its price on the stock market at a particular moment and to provide practical assistance or at least try to determine approximately the true value of a stock, i.e. to understand the "wisdom" behind stock trading. The purpose of the paper is to reduce the risk when investing in stocks and to determine the level of overvaluation or undervaluation of a stock. The basic hypothesis is to determine the true value of a stock by determining and connecting multiple types of the value of a firm, implicit and stocks.

2. DETERMINING THE VALUE OF THE FIRM

It is not possible to give a clear and an unambiguous answer to this simple question. The reason for that is there are at least two types of problems, or two types of valuation approach: who does the valuation and what methods are used. The prior type refers to the valuation aspects and preferences, and the latter is connected to the prior and refers to different, often opposite, methods of valuation. Issues related to the firm's valuation are important if the assumption is that one stock represents an ideal, very small and important part of the entire firm. Subsequently, the value of the firm is reflected on the value of a stock. So, if the value of the firm is determined, so is the value of a single stock of that firm. If we also know the value of that stock on the stock market it is possible to determine the discrepancy between information.⁴ Firm valuation in international business has been one of the crucial issues of microeconomic financial analysis for few decades. It doesn't only imply valuating certain firms but different investments as well. Considering frequent usage of this term it is necessary to clearly define it. The statement in B. Graham's capital work "The Intelligent Investor" – *An investment operation is one which, upon thorough analysis, promises safety of principal and an adequate return - would be the most appropriate one.*⁵ There are three most commonly used firm valuation methods and each is based on a specific problem approach.⁶ *The book value method (BV)* is considered to be the easiest to apply, and it's based on the balance sheet of a being estimated with the additional asset modification and liquidation costs (asset selling costs, collecting claims, obligations towards employees, suppliers, amortization correction, etc.). Shortly, the assessor checks and adjusts balance sheets according to the instructions of the International Accounting Standards. Firms with greater assets (factories, hotels, etc.) are better protected with the use of this method, i.e. they are more valuable than the firms whose assets are intangible. After the assessment and revision of all accounting elements, the assessor subtracts all liabilities from total assets of the firm and comes to the book value.

$$\text{Total Assets} - \text{Total Liabilities} = \text{Net Value of a Firm} \quad (1)$$

The value of the firm calculated by this method is often the lowest value of the firm. The advantages of this method are simplicity, speed, and transparency. It is based on balance sheet data and is suitable for the recently started firms in their early stage of development. The disadvantage is its static quality because the assessment is done on a certain date and it does not consider prior business or the business potential of that firm. In other words, firm's assets are assessed, but not the business and potential effects of that business.

³ Piketty, T.(2013) p.60

⁴ See more details on this topic at: Cuthbertson, K. & Nitzche, D. (2008) pp.126-145

⁵ Graham, B. (2006) p.27

⁶ See more on this topic at: Pike, R. & Neale, B. (1993) pp.158-170

Market or valuating by indicators method is popular due to its simplicity. To get the real value, multiply the price and earnings ratio (P/E) with the earnings of the entire firm. This method is based on assumption that it is possible to find a firm with stocks rating on the stock market which is similar to the firm which is being assessed, and determine the adequate multiple for the specific firm, having in mind the differences between the compared firm and the assessed firm. The advantages of this method are simplicity, speed, simplicity of the presentation of the results and the fact that the results reflect the current state of the market. Unfortunately, the disadvantages surpass the advantages. The critical issue is the oversimplification and neglect of key business indicators of every firm (sources and generators of income, expense and profit) so the value obtained by this method (regardless of the type of the multiple) is highly approximated and often gives the wrong value of the assessment, and makes room for data manipulation.

Discounted Cash Flow valuation method (DCF) is the basic valuation method, taking in to account the discontinued future values of the expected cash flow, and the basic relation is:

$$DCF = \sum_{t=1}^n CF_t \left[\frac{1}{(1+k)} \right]^t \quad (2)$$

DCF = Discontinued Cash Flow

CF_t = Cash Flow in the year t

k = Discount rate

n = Number of periods

Unlike the market or valuating by indicator method, DCF method is based on firm's fundamental business. During the valuation process it is necessary to consider the basic characteristics of the firm and to understand the type of business involved. Finally, this method mainly values business and not only the assets. *Compounded Cash Flow valuation method (CCF)*⁷ is the value of the firm obtained from the sum of the past and corrected CFs of the income, gross profit, and similar categories (Which of possible categories (net, gross profit, FCF, EBIT, NOPAT, etc.) will the assessor consider depends on a particular case, but it must be thoroughly explained) in period "n" and balanced at the end of that particular period at the rate of its own Internal Rate of Return (IRR). The suggested IRR is the average balance rate, but it should be expanded into the True Rate of Return (TRR). The mathematical expression of this model is as follows:

$$CCF = \sum_{t=1}^n CF_t (1+k)^{n-t} \quad (3)$$

CCF=Compounded Cash Flow

CF_t=Cash Flow in the year t

k=Internal Rate of Return

n=Number of periods

The advantage of this method is that it considers the business of a firm balanced in past periods, unlike the opposite DCF method which represents the sum of discounted future business promises.

⁷ For details consult: Speranda, I. (2012)

It is clear that this method is “regressively dynamic” and represents in its approach an opposition to the DCF method which is why it is its corrective⁸. DCF (Discounted Cash Flow) is a method of valuation that considers calculations of the discontinued future values of the expected cash flows. CCF (Compound Cash Flow) is a method that considers the balanced values of cash flows.

3. SOME METHODOLOGY APPROACHES TO THE FIRM VALUATING

Valuation concept i.e. different methodology approach to firm valuation which this works suggests and describes in short, is based on the DCF valuation concept, simultaneously aiming at eliminating the disadvantages of the method, firstly the possibility of manipulating with entry information for valuation (income, expenditure, profit and similar) and manipulating with arbitrary (regardless to skillfully disguised complicated math formulas) determination of discounted rate. Observing well known CAPM model, is evident that the costs of owner’s equity or discounted rate are composed of rate of return to *risk free* (although such literally doesn’t exist) asset which itself is composed of inflation rate and real rate of return. In AAA credit rating countries (USA, Great Britain, France), T-Bonds have risk-free rate of return. In other countries with lower credit rating BB (Brazil, Bulgaria, Croatia and similar), T-bonds have Country Risk Premium which must be considered as well. (Estimations by S&P) Abbreviation E(R) as a result of CAPM calculating stands for extra return; it is actually the rate that certain investor demands in order to invest into stocks and not in T-bonds, enlarged for systematic risk (β) of firm’s economic sector. Finally, there is α representing the risk measure (volatility) of certain firm. So, future profits, resulting from the cost / income difference and based on firm’s business plans for the next 3,5,... years (being the plans made by the very management of the firm) are discounted by the rate (gained by the previously described procedure). The investor is now buying firm’s value, along with presumptive future profits on which the valuation was based.

The basic concept of the new approach (method):

- Usage of historically (relatively) reliable information from the firm’s financial documents in certain past period of time ($n= 5, 10, 15\dots$ years).
- Income and similar categories from the financial statements are discounted to present value at the rate equal to internal rate of return (IRR) of the firm realized in the observed period of time.
- All information previously deflated by using official inflation rates (provided by the Croatian National Bank, Croatian Bureau of Statistics or similar sources).
- *Business as usual* is a starting point, and “so called” *residual value* is not taken into the account.

The relation between CCF and rather notorious DCF method can be illustrated as in figure 1.

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⁸ Speranda, I. & Piplica, D.(2016)

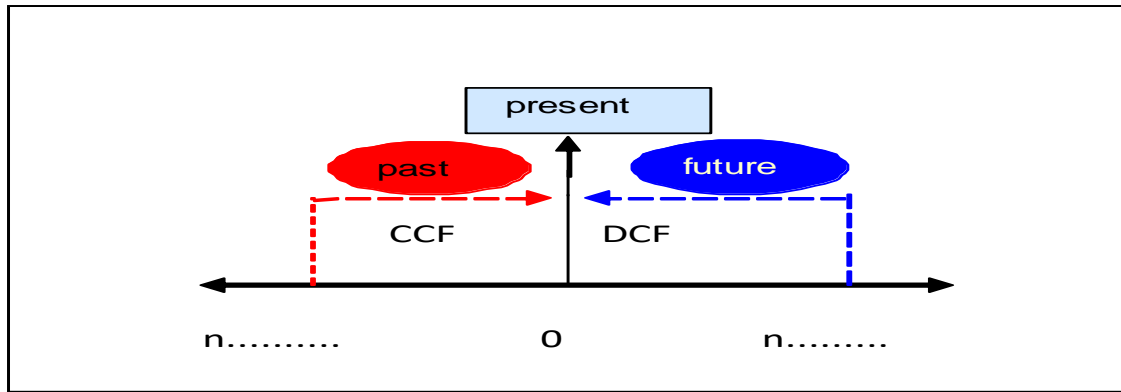


Figure 1: Illustration of the DCF and CCF Methods
 (Source: Author's own illustration)

It is completely clear that the concept is based on actual, logical and easily available information, making this model reliable in terms of evaluation. In this model, CCF equals the firm's value obtained as a sum of historical, revised cash flow income, gross income and similar categories in n periods and compounded at the IRR in final observed period. Appraisal's choice of category (profit, gross profit, FCF, EBIT, NOPAT...) differs from case to case provided that thorough explanation about chosen category is given. Proposed average compound rate is IRR (Internal Rate of return) which should be spread to so-called MIRR (Modified Internal Rate of Return) or TRR (True Rate of Return) as it contains calculated reinvestment rate.

$$MIRR = \sqrt[n]{\frac{\sum(CF) \cdot (1+rR)^{n-i}}{\sum Ki(1+r)^{-i}}} - 1 \quad (4)$$

Where MIRR is modified IRR equal to nth root of the quotient of the sum of free cash flows during the duration of the investment compounded by the rate of the average capital cost and capital and sum of the discounted investment, i.e. capital.

When determining IRR, the problem of multiple internal rate of return might appear. There are many approaches and possibilities of resolving such a problem.⁹

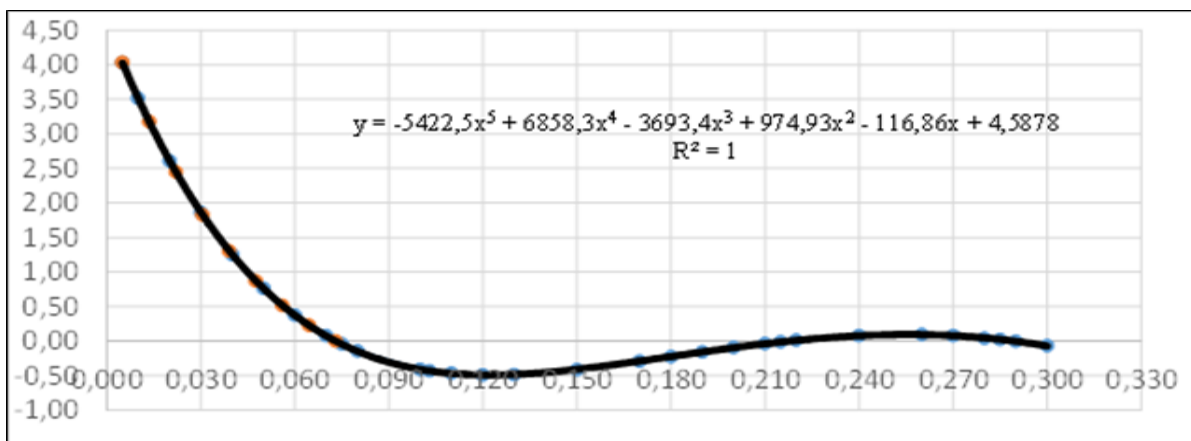


Figure 2: An Example of triple IRR
 (Source: Author's own illustration & calculation)

⁹ For more on that topic see at: Cuthbertson, K. & Nitzsche, D.(2008); also see: Hazen, G.B. (2003) ; Speranda I., Speranda, Z. (2019)

4. DEFENSIVE INVESTOR

A defensive investor is, by definition, an investor who is interested in a safe and careless yield.¹⁰ This simple definition that emphasizes safety and risk elimination best describes the conservative approach to investment on the stock market, also advocated by the authors of this paper. The logical conclusion from this definition is that the investment is preceded by a thorough fundamental analysis that considers the past, the present and the future of a stock and that implies the study of the firm's business and the analysis of the future and of the past business¹¹. The link between the economic-financial performances of the firm and the performances of the stock is defined in next table.

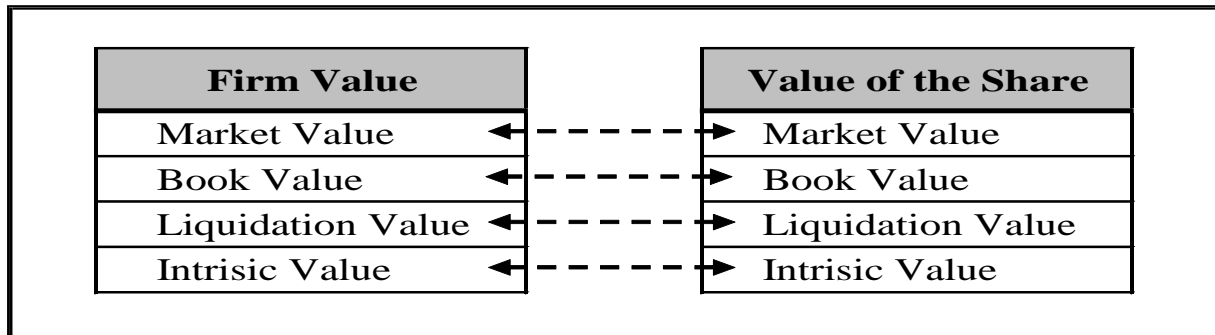


Figure 3: Relationship between Firm and Stock Value
 (Source: Author's own illustration)

It is evident that the suggested relationship intends a business analyst for the analysis and valuation, and not a market or macroeconomics analyst. Figure 2 implies that certain stock values can be calculated through the valuation of certain values of the firm. So, the question is: if the key types of value are valued, how to know which one is "the right one"? How to come to a reliable value which will, after the comparison to the spot price of a stock on a stock market, give the information of overvalue or undervalue of a stock? Composite indicator [(C(hm))] indicator has a deciding role in the answers to the questions in the prior paragraph, and it can be mathematically calculated like this:

$$C(hm) = \frac{N}{\left[MV \left(\frac{1}{BV} + \frac{1}{DCF} + \frac{1}{CCF} \right) \right]} \quad (5)$$

Where:

N= Number of values in set

MV= Market value

BV= Book value

DCF= Value calculated by DCF method

CCF= Value calculated by CCF me

It is evident that the indicator is based on the harmonic mean of the relation of the value calculation: BV, MV, DCF, and CCF. In other words, the indicator indicates the average (harmonic) mean of the relationship of market value and the values provided by the other methods of valuation. In any case the indicator of overvalue or undervalue of the firm and of the stock is provided.

¹⁰ Graham, B. (2006),

¹¹ See more on this topic at: Jain, P.C. (2010) pp.25-35; 281-282

Interpretation of the indicator [C(hm)]:

- Indicator is always > 0
- If it is <1 the stock is overvalued
- If it is >1 the stock is undervalued
- If it is =1 the stock has “the right value”

The values of the indicator are always in the range from 0 to ∞ because of the statistic and mathematic nature of the indicator (negative numbers cannot be inserted and it cannot be divided by 0).

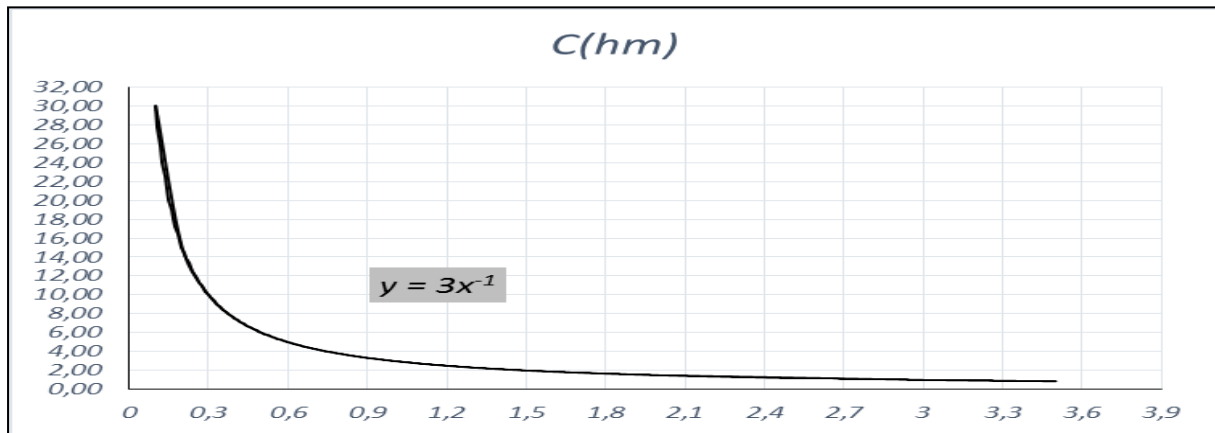


Figure 4: C(hm) Interpretation
 (Source: Author’s own illustration & calculation)

The figure above shows the mathematical explication C(hm) of the indicator in the form of the function $y=3x^{-1}$ where the dependent variable C(hm) is the value, and independent reciprocal value of the arithmetic mean is the value of the reciprocal values of the element.

4.1. An Example of Using Composite Indicator [(C(hm))]

Financial reports of the unknown firm with somewhat modified amount are used to demonstrate practically the application of the new indicator. The table shows the basic information necessary for the calculation of the indicator.¹² (Table 1)

n	Value (as of the end of year)	Amount (KN)
1	Nominal Value per Share	220.00
2	No. of Shares (total)	6.520.022 (pcs)
3	Firm's Book Value	1,772,702,147.94
4	Firm's Market Capitalization	2,060,326,952.00
5	Firm's CCF Value	2,745,776,864.86
6	Firm's DCF Value	1,638,155,527.50

Table 1: Valuated Amounts
 (Source: Author’s own calculation)

Inserting all familiar and necessary data into the relation (4) will calculate the value of the [C(hm)] indicator. (Table 2)

¹² Speranda, I. (2018)

value	amount (kn)	ratio (MV=1)
MV	316,00	1,0000
BV	269,47	1,1727
CCF	251,25	1,2577
DCF	421,13	0,7504
C(hm)	0,943	/

*Table 2: C(hm) Calculator
 (Source: Author's own calculation)*

The value of the indicator up to 0,943 indicates the light average overvalue of the stock about 6% in relation to the market value at a particular moment of. Although the market value exceeds all stated values, except DCF, which obviously optimistically estimates the value 33% over the market value and 56% over book value. Based on the business as usual the increase of the value in relation to the future business plans CCF to 68% the final overvalues of only 6% is the consequence of the corrective effect of the composite indicator. $C(hm)=0,943$ simply indicates that the potential investor who buys at the market price get 0,94 units of average composite value for one unit of market price, which means that the stock is overvalued. If the indicator is larger than one, it would indicate that for the unit of the market value gets exactly that much more of the average estimated value, and that indicates the undervalue. The prior analysis fits very well to the investment philosophy of W. Buffet and other investors who prefer the so-called investment into growth (Jain, 2010, 43) and the value of the firm, and that is the one who invests into firms with relatively low P/E ratio or market-to-book value (MV/BV) (Jain, 2010, 69). This indicator also significantly contributes the decrees of the investment risk, which is one of the most important factors for Buffet's reliable investment (Jain, 2010, 75). It is important to say that the assumption of the price of a certain asset depends on the general enthusiasm for that asset (company, stock) which can lead to the so-called self-realization phenomenon: as long as someone hopes to sell something for more that it was bought for, it is acceptable to pay over the real value of that asset (considering that the basic value is unsure) and in that way yield to the general enthusiasm. For that reasons the speculative balloons, which consider the stock market capital, are as old as the capital (Piketty 2013, 193-194). The downside is that the negative values or zero value cannot be inserted into the indicator. That is not such a bad thing because if there is a negative value or zero value, you shouldn't invest in that stock. The advantages of the suggested method are simplicity and adaptability.

5. CONCLUSION

This paper defines and explains the new method and the related indicator which can help the evaluation of the relation of the value of a particular stock and its current market value. That represents a concrete instruction whether to buy or sell a stock, and that significantly decreases the investment risk (although it is impossible to eliminate it). For that reason, the conclusion is that $[C(hm)]$ indicator significantly contributes to the reliable valuation of the "upside potential" principle and the "downside risk" principle, as an intrinsic feature of every analysed stock. Furthermore, the suggested indicator can be redefined and supplement with the values that an analyst believes have to be added. This confirms the hypothesis from the introduction that it is possible to determine the true value of the stock by establishing more than one value of the firm, and implicitly, the value of the stock. Combining these values will give the true value of the stock. Finally, the set goal of this paper, to define the reliable method for determining the relation between the price and the value, has been reached, fulfilling the purpose of this paper.

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ECONOMIC AND LEGAL ANALYSIS OF THE SUPREME COURT'S PRESIDENT REPORT REGARDING BANKRUPTCY CASES: STARTING THESESES

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ABSTRACT

Since we live in times of rapid social changes in all spheres of human activity, the alleged purpose of which is to create better living conditions, it is extremely important for economic and legal science and practice to provide adequate explanations on the interpretation of the legal norm, the development of certain branches of law, and the interpretation of the existing economic environment. Statistical data for the purposes of this analysis are numerical indicators of the volume of work of the courts in the field of bankruptcy proceedings in a period of one year, based on official data from the Supreme Court of the Republic of Croatia. It must be acknowledged, however, that the statistics now available generally show only half the truth—they tell us about the number and types of submissions, but they tell us nothing about the failure of reorganization negotiations, the impact of insolvency on third parties or communities, or the long-term success or failure of bankruptcy, pre-bankruptcy or consumer bankruptcy plans. Moreover, the statistics do not reveal what is most important: how completed pre-bankruptcy settlements, bankruptcy plans, and consumer bankruptcy plans work in practice, specifically, whether the debtor has properly fulfilled assumed obligations to creditors and, if assumed obligations have not been fulfilled, whether liquidation bankruptcy or foreclosure proceedings have been initiated as a last resort, with no chance of a fresh start. Although the statistics of the entire Report of the President of the Supreme Court on the state of the judiciary for 2020 suggest an improvement in the quality of court work, this research assumes that the analysis of only quantitative indicators of judicial institutions cannot provide a complete picture of the quality of judiciary and that there is room for the functionalization of bankruptcy legal protection. Accordingly, the aim is to propose certain activities that will result in appropriate changes in practice and regulations where it is necessary.

Keywords: *Bankruptcy cases, Directions of reform, Report, Statistics, Supreme Court, 2020*

1. DISCUSSION FRAMEWORK

The new bankruptcy act (hereinafter: BA) entered into force on September 1, 2015 (Bodul and Vuković, 2015; Bodul and Nakić, 2018.). Since the Bankruptcy Act has been amended seven times since 1996, the legislator decided to pass a new law. However, with regard to the bankruptcy proceedings it is only an amendment to the existing law, while the pre-bankruptcy

procedure has changed significantly. The BA (OG, No. 71/15, 104/17) returned the institute of bankruptcy plan and introduced the rules of pre-bankruptcy settlement. The institute of pre-bankruptcy settlement is now regulated in such a way that it is fully conducted before the court, but the debtor can use this possibility only until the presumption on the basis of which the bankruptcy proceedings must be opened has been fulfilled. However, in practice, perhaps the most important change is the obligation of the Financial Agency (hereinafter FINA) to file a bankruptcy petition if the legal entity has recorded unexecuted payment bases in the register of payment bases for a continuous period of 120 days. However, in almost two years of application of the new BA, it has been noted that the number of pre-bankruptcy proceedings initiated is relatively low (273 proceedings initiated), with the restructuring plan accepted and the pre-bankruptcy agreement confirmed in only 58 cases. Therefore, the Act Amending the Bankruptcy Law, which entered into force on November 2nd 2017, primarily aims to facilitate pre-bankruptcy proceedings by prescribing realistic deadlines for the implementation of certain measures in the proceedings. The Consumer Bankruptcy Act (OG, No. 100/15, 67/18) has been implemented based on the postulates of financial rehabilitation (hereinafter: CBA). In the bankruptcy plan and pre-bankruptcy proceedings as an alternative to liquidation bankruptcy, certain similarities with the consumer property bankruptcy proceedings can be observed, since the "economic recovery" of the consumer as the subject of the proceedings is the primary objective (Art. 2). However, consumer bankruptcy proceedings have a specific substantive objective that relates only to the rehabilitation of debtors, which is a *differntia specifica* compared in relation to corporate bankruptcy (Bodul, 2011).

2. METHODOLOGY OF THE WORK

The dynamics of bankruptcy statistics in the Republic of Croatia is not sufficiently researched, both because of structural instabilities and because of the frequent reforms of the bankruptcy system, the primary goal of which is to terminate bankruptcy proceedings as quickly as possible. As a result, the phenomenon of insolvency has not been systematically addressed and no serious research has been conducted on the reasons that prevent the expeditious completion of bankruptcy proceedings, but only frequent reforms of the regulations have been carried out because it was currently thought that they would quickly lead to some acceptable results. Thus, the paper does not claim to provide a comprehensive analysis, but the problem identified by the authors refers to the insufficient analysis of the impact of (pre)bankruptcy proceedings and consumer bankruptcy proceedings. This is certainly supported by the fact that the Ministry of Justice and Pulic Administration and public authorities (FINA, Commercial Court, Supreme Commercial Court, Municipal Court, District Court, Supreme Court, Tax Administration) have partial competences related to (pre)bankruptcy proceedings and consumer bankruptcy proceedings, and it is not clear who is responsible for the proceedings as a whole. As a result, there is no unified system for monitoring the status of cases or relevant statistics that would serve as a starting point for evaluating the measures applied and appropriately formulating new ones. The existence of clear indicators would certainly facilitate the current evaluation of the implementation of all insolvency procedures, as it would be free from any bias. As a result, in the Republic of Croatia it is still not possible to relate the number of bankruptcies to any economic variables and the analysis of bankruptcy statistics is limited to a simpler form of observation of the frequency of bankruptcies. Therefore, the analysed statistics, although scarce, provide only a basic insight into the dynamics of consumer and business bankruptcies in the Republic of Croatia for the period of 2020, with the aim of determining whether the numerical indicators have achieved the goals defined by legal and strategic acts. For the purpose of the work, telephone interviews were conducted with representatives of bankruptcy proceedings. The perspective of each interviewee is based on the knowledge and decades of experience gained in the practise of applying the bankruptcy law, which is certainly an

important factor in assessing the improvement, but also the degree of optimization of the existing legal framework. Due to the discretion of the interlocutors, their names are not mentioned in the text.

2.1. Numerical / quantitative data on consumer bankruptcy proceedings and comments

With the adoption of the new Consumer Bankruptcy Act in 2015, the possibility of bankruptcy over the assets of all natural persons was introduced into the Croatian legal system. Municipal courts have jurisdiction to conduct consumer bankruptcy proceedings, while certain county courts decide on appeals against first-instance decisions. With the entry into force of the provisions of the Act Amending the Consumer Bankruptcy Act on January 1, 2019, the courts have received an extremely high number of cases of simple consumer bankruptcy proceedings. In February 2019 alone, 10,718 cases were received, while the largest number of cases were received in March 2019 (31,830) and April 2019 (34,198). Thereafter, the courts continued to receive fewer cases, a trend that continued through 2020, when the inflow of this type of case decreased by 81%, from 96,041 to 18,463 cases. Compared to 2019, the inflow decreased from 1,289,716 cases to 1,178,265 cases, or 9% of the total number of cases received in 2020. The smallest share of the total number of cases received by the district courts relates to cases of regular consumer bankruptcy proceedings. In analysing consumer bankruptcy proceedings, one of the major shortcomings of the CBA is the fact that the proceedings fall under the proper jurisdiction of district courts, not commercial courts, which traditionally conduct these types of proceedings, raising the question of whether courts that do not specialise in these types of cases will be able to adequately conduct and ultimately enforce them. Indeed, the objective need for courts to specialise is not a whim, but a necessary result of the requirement for effective bankruptcy protection, and the fact that district courts are unfamiliar with complex bankruptcy issues calls into question the possibility of adequate consumer bankruptcy proceedings. Although there are hundreds of thousands of blocked citizens, case law indicates a modest number of regular consumer bankruptcy proceedings in Croatia, somewhat reminiscent of the anti-commons problem, i.e., a problem that is not reflected in the race of creditors or debtors to cancel their debts, but in their passive behaviour. Thus, although the CBA provided a procedure with clear deadlines and legal consequences, clear enough to allow the debtor and the creditor to find their own solution to the problem, and allowed for a more efficient plan-making mechanism and ensured compliance with international standards, it lacked an outcome. However, the impact of the CBA on accelerating the process will be limited unless existing institutional capacity is improved. The extent to which the CBA's goals can be achieved depends on a number of factors, such as reforming the incentives for willingness to become a trustee in consumer bankruptcy cases.

2.2. Numerical / quantitative data on corporate bankruptcy proceedings and comments

In accordance with the provisions of Art. 21. of the Courts Act (OG, No. 28/13, 33/15, 82/15, 82/16, 67/18, 126/19, 130/20), commercial courts, as courts of first instance, conduct both pre-bankruptcy and bankruptcy proceedings. Analysis of commercial court proceedings by type shows that bankruptcy proceedings also account for the largest share of the total number of proceedings received. However, the settlement rate for bankruptcy cases is over 100%, which means that more cases are settled than new ones are received. For both unresolved cases and resolved cases, one of the most important indicators is the duration of resolved cases. At the same time, the indicator DT (indicator of the duration of the settlement of cases) shows that the commercial courts take the most days to settle bankruptcy cases, which take 360 days on average. Compared to the previous year, the time needed to dispose of bankruptcy cases has increased from 308 to 360 days, which is still within the acceptable range of one year. This is certainly due to the COVID-19 pandemic as well as the earthquake that hit Zagreb.

It should be noted that the Act on Intervention Measures in Enforcement and Bankruptcy Proceedings (OG, No. 53/20) was in force for the period of special circumstances from May 1st, 2020 to October 18th, 2020, and according to the provisions of Article 6 of the said Act, the reasons for bankruptcy that occurred during the period of special circumstances within the meaning of this Act were not a prerequisite for filing a petition for the opening of bankruptcy proceedings. Therefore, the President of the Supreme Courts indicates that the problems in the economy as a result of the pandemic are still present to some extent, so it was expected that in 2021 there will be some increase in the number of bankruptcy cases. The Report also shows the inflow of bankruptcy cases. The inflow of cases implies the cases received in the observed period. However, analysing the Report, it is not clear whether the inflow of cases has increased from year to year, and for that purpose the available statistics of High Commercial Court (HCC, 2021) should be analysed. Moreover, one of the important parameters in the analysis is the number of judges dealing with bankruptcy cases. In general, the same number of bankruptcy cases was resolved in 2020 as in 2019, but it is not clear whether the number of judges working on bankruptcy cases increased or decreased, because if we look at the average number of resolved cases per judge, the statistics would look different. The resolution of disputes through arbitration is a direct function of the basic goals of bankruptcy proceedings: 1) the greatest possible satisfaction of bankruptcy creditors, 2) minimal costs, and 3) short duration (Article 262 of the Civil Code). However, the symbolic and almost no indicators of the results of resolving disputes through arbitration in bankruptcy show that the arbitration procedure has not gained the popularity that was expected with its introduction. It should be emphasised that the methodology on which this research is based deals directly with the legal framework and its compliance with international standards and best practises. The authors believe that the solutions offered by BA are modern and show the tendency to introduce the market logic in resolving debt-creditor relations in bankruptcy proceedings. For example, Directive (EU) 2019/1023 (OJ L 172, 26.6.2019, pp. 18-55), the provisions of which must be implemented in the upcoming amendments to BA, does not provide for "revolutionary" solutions, especially with regard to preventive restructuring, as the Croatian regulations for pre-bankruptcy proceedings are essentially in line with the solutions contained in the Directive. Moreover, the Report of the President of the Supreme Court on the state of the judiciary in 2020 and the status of bankruptcy proceedings, while not showing the results of completed bankruptcy proceedings, identifies some problems affecting the results and proposes recommendations that are likely to be important in achieving the objectives of bankruptcy proceedings. And so:

- a) it is necessary to require the Bankruptcy Manager (BM) to submit turnover data on all accounts of the debtor in electronic form to the court file. This will add to the already transparent process (random allocation of cases from the BM, publication of all documents on the e-bulletin board website of the courts). However, it is also partly the result of bankruptcies attracting media attention, where theory and practice show that proposals to open bankruptcy proceedings, especially if they involve large companies with many employees, have a great chance of attracting media attention. Unfortunately, most of the media, as well as the general public, do not understand the complexity of bankruptcy proceedings and their impact on socioeconomic relations. The BM often becomes a target of public criticism. Some will attack its credibility or impartiality based on special interests. Debtors and creditors may complain that the BM is "too demanding", that it is difficult or sympathetic to one side in the proceedings. Politicians may join in this public criticism. The public is likely to see the opening of bankruptcy and the entry of the BM into businesses as the immediate cause of business closures, layoffs, often perceiving all of this as fraudulent behavior, etc., and not realizing that the problem is really insolvency and that bankruptcy and pre-bankruptcy procedures are the solutions.

The problem arises from the variety of objectives that arise from the initiation of bankruptcy proceedings, but also from the fact that an efficient bankruptcy procedure must achieve many, often incompatible, objectives.

- b) the compensation of the BM needs to be further regulated by the Compensation Ordinance, and the total compensation of the BM should not be higher than the salary of the bankruptcy judge for a period of one (or two) years. This type of legal evaluation or thesis is superficial and reduces to only two sentences in the Report. Indeed, one of the fundamental questions in bankruptcy is: how to design a system of fees and rewards that provides an appropriate incentive for the BM? The system of rewards must be predictable, fair, and encouraging, but also flexible so as to be applicable in very different circumstances - bankruptcy or reorganization, legal entities of different sizes, but also in special circumstances, exempli gratia, when changing the BM. Otherwise, the risk of inadequate BM advocacy and thus "expensive and slow" proceedings increases. The issue of adequate remuneration and fees depends on the context in which the bankruptcy proceedings are conducted. Therefore, when analyzing the fee and incentive system, it would be wrong to make the aforementioned thesis without taking into account the specific circumstances, such as the number and quality of the BM, the type of appointment, the relationship between the bankruptcy judges and BM, the legacy cases of the previous bankruptcy system, the corporate structure, the expected average bankruptcy estate, the representation of reorganization proceedings in relation to bankruptcy resolution, etc. Comparative experience shows that the compensation and reward system is closely related to the position of creditors in the selection of BM. Basically, compensation and reward systems can be as follows: they can be set by creditors in agreement with BM (bargain based); they can be prescribed by a scale that takes into account additional criteria such as time or complexity of the case (regulation based) and they can be based on the calculation of time spent on the case - according to a specific schedule/ daily allowance (cost or time-sheet based). Basically, doctrine shows that most systems allow creditors to self-recognize interest and motivate BM because ultimately it is their assets that are at stake. An approach that allows supply and demand to be matched, i.e., BM on the one hand and creditors on the other, would lead to a market formation of the price of BM labor. The success of the application of this system depends on several factors, primarily who selects the BM and the ability to conduct adequate monitoring supervision. Potential problems arise in small and medium-sized bankruptcies or when bankruptcy creditors have conflicting interests. Therefore, even in developed bankruptcy systems, the rules on the basis of which the amount of the award and the way of calculating the fee are determined need to be more precisely defined. The expected reward and compensation in the case of the applied tariff can also be considered as a reserve criterion for BM prices, which puts the BM in a relatively better negotiating position. Most countries, both those with case law tradition and those with civil law tradition, use a combination of these systems. In those countries with case law tradition reward and compensation are formed by negotiations of creditors and BM, with the possibility of using scales. The civil law oriented countries mainly use the prescribed scale model. The problem in practice is that creditors often behave disinterested or passively during bankruptcy proceedings and do not want to take an active role to ensure the maximum protection of their interests. They leave it to BM to "run the business, which is important because bankruptcy judges do not have the ability to run the entire proceedings, while at the same time they are much more likely to write petitions and objections to the work of both the court and BM.
- c) the duration of the electronic public auction or bidding before FINA must be shortened and further transparently regulated. The advocated public access to auctions is something that

will certainly contribute to the transparency of sales, but while the introduction of new technologies is positive in any case, the question is whether the same could be achieved in and through the courts? This is all the more true as the sale of bankruptcy properties is nowadays portrayed in a negative light in the media. Therefore, the parties should be given the opportunity to exercise their rights in court proceedings.

- d) without going into detail, the Report also modestly addresses how the justice sector as a whole is managed, i.e., who decides on its structure, how activities are regulated, and what resources (such as financial and human) are required. In this context, it is proposed that bankruptcy and other insolvency proceedings / pre-bankruptcy proceedings be conducted in commercial courts / in larger courtrooms equipped with audiovisual equipment. With few exceptions, the financing of the courts is inadequate and represents a significant obstacle to the efficiency of the judiciary, so the financial impact of this recommendation is not yet fully foreseeable from today's perspective. Indeed, anecdotal evidence suggests that some courts are still relatively well funded, while there are other parts of the country where courts are in dire financial straits. This is interesting because funding is centralized, which means that something like this could not happen, because a centralized approach to funding means that the risks of providing inadequate services should be spread evenly among all recipients of funding.
- e) prevent companies with bankruptcy or pre-bankruptcy grounds from merging because this avoids the initiation of bankruptcy or pre-bankruptcy proceedings. In modern democracies, entrepreneurial and market freedom, i.e., the market economy and competition, are regarded as the basis of the economic structure, but also as a human right and fundamental freedom that enjoys constitutional protection. However, the state cannot rely exclusively on the principle of laissez-faire, but such a determination of the state requires, in addition to the guarantees of corporate freedom, the need for state intervention. In this sense, the question can be asked - is it possible and permissible to apply the measure of restricting entrepreneurial and market freedom by preventing mergers in companies where there are bankruptcy or pre-bankruptcy grounds? Indeed, a legally similar but not identical solution exists in the area of tax law. With the amendments to the General Tax Act (OG, No. 78/12), the Croatian legislator adopted a measure that it called "abuse of rights" in order to stop the very widespread practise of establishing new companies with the aim of transferring business or profits to the new company after the previous company was over-indebted. Under the protection of a separate legal personality of the company, the members of the corporation could continue their business after having previously over-indebted the company, without any risk of their personal responsibility being called into question. Therefore, the measure in question, which restricts entrepreneurial and market freedom, must be considered and analysed in detail in light of the principle of proportionality, which states that freedoms and rights may be restricted only to the extent necessary to achieve the objective pursued by that restriction. The above should also be analysed from the perspective of inviolability of property, i.e., the right to peaceful enjoyment of property, which is a fundamental constitutional guarantee that ensures the exercise of economic (entrepreneurial) activity.

Since numerical indicators do not provide a complete picture of the bankruptcy problem, the authors also included qualitative indicators obtained by analysing the content of final judgments. The analysis of the verdicts indicated the consistency and unambiguity of the argumentation, so the analysed sample of cases suggests a high quality of the substantive aspects of the verdicts.

However, it is feared that this will change due to the announcements of the Ministry of Justice to raise the judicial standard (Framework Criteria for the Work of Judges). The doctrine states that second instance judges often look for any (not necessarily valid) reason to revoke/ annul a first instance decision in order to save the time needed to analyse the merits of the case. Due to the pressure on first instance judges just described, objective reasons for overturning their decisions will also be more frequent in the second instance. As a result, first instance judges who are more conscientious about procedural discipline, such as suppressing procedural abuses by the parties and rejecting their unnecessary motions, will suffer. The doctrine goes on to say that "a large proportion of cases will be resolved essentially over a longer period of time in the overall decision-making process, even though statistics will show a shorter average duration of disputes."

3. INSTEAD OF A CONCLUSION

We believe that insolvency regulations are normatively sound in terms of legal systematics, legal techniques and consistency of standardization, to which the commercial courts have certainly contributed through their jurisprudence and action, as well as through the intensive and constant elaboration of legal solutions. However, given the fact that the issue of bankruptcy proceedings in countries with a long market tradition is a dynamic area where new solutions are sought to follow the trend of changes in the international economy, the question of the appropriateness and necessity of changes in insolvency law is extremely topical. Moreover, after several decades of intensive reforms of the judicial system, the Republic of Croatia continues to face major challenges in establishing a functioning judicial bankruptcy system. We believe that this is due to the fact that there is a conflict between two principles in bankruptcy proceedings. One is to conduct the proceedings in the shortest possible time and the other is to satisfy the creditors with the highest possible percentage. However, these two goals are mutually exclusive, as bankruptcy petitions are usually filed after the culmination of poor business decisions, complex debt-creditor relationships, and often various business abuses and criminal acts, etc. These problems create a vicious cycle in which it is very difficult to prioritize needed reforms. Ultimately, this Report does not show a comprehensive picture of the situation, as it is not clear how many bankruptcy proceedings were completed due to insufficient bankruptcy assets or without dividing assets among creditors, the structure of creditors is not visible, or who the largest and most frequent creditors are, the private sector, the public sector, or employees. Moreover, it is not clear whether bankruptcy proceedings are initiated within the statutory time limits *et seq.* While there are a number of reforms that would be both important and urgent, there are also those that must be given priority, as they can help create an environment for more ambitious structural reforms. Indeed, this implies a revision of both the "bankruptcy policy" and the policy's relationship to bankruptcy with a view to solving key judicial problems. This is confirmed by the analyzes of the judicial system of the Republic of Croatia carried out by the EU in recent years, in particular by the Report on the Rule of Law in the Republic of Croatia for the purposes of drafting the Commission's Annual Report on the Rule of Law in the EU Member States (European Commission, 2021).

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LITERATURE:

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MENTORSHIP SUPPORT AND COMPETENCIES FROM HOTELS' AND RESTAURANTS' MANAGERS VIEWPOINT- THE ADULT EDUCATION PROGRAMS

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ABSTRACT

According to the definition of the European Union, lifelong learning means acquiring and renewing all types of skills, interests, knowledge and qualifications from pre-school to post-retirement and promoting the development of knowledge and skills that will enable citizens to be adapted to the "knowledge society" and actively participate in all spheres of society, and economic life. The adult education in the Republic of Croatia is highlighted as an important component of the education system, and it is confirmed by a number of important strategic documents. In this regard, the aim of this paper is to investigate the competency-based mentorship and the mentorship support from hotels' and restaurants' managers point of view in the area of adult education programmes, which still are and will be developed within the Regional Competence Center Dubrovnik. The holder of the program is the Tourism and Catering school Dubrovnik. For the purpose of the paper the primary, online research has been used. The research has been carried out including the sample of 50 hotels and restaurants managers (N = 34 hotels and 16 restaurants). The interviewees have been Food and beverage managers and persons responsible for employments in the area of Dubrovnik-Neretva County. The research has been carried during November and December 2021. For analysing the data the descriptive statistics, based on the Mean value (M) has been used. According to the results of the research it is visible that the highest level of importance had clear communication. Very high level of importance have had competences such as: resolving conflicts, managing group dynamics, specialist knowledge within one's own field of study, motivation, self-confidence, possibility to involve different perspectives, criticism, emotional stability, resistance to stress, enabling students to apply what they have learned. The competences such as application of specialist didactics within one's own area of teaching, using the life experience of the participants in teaching activities, planning the offer of tuition according to the available resources (time, space, equipment, etc.), orientation to the needs of the participants, creativity, flexibility, maintaining mentors own professional role, recognizing one's own learning needs, setting own learning goals, using one's own life experience within the teaching environment, the monitoring the learning process, conducting regular formative assessment and dialogues between students and teachers, analysis of barriers to learning, empathy and carefulness are found out as important. The less important competences are: support to non formal learning, wide repertoire of methods available, curiosity, assessment of learning outcomes, assessment

of student entry level. Most of the respondents was willing to accept students and to adapt their practice according to the specific features of the programs. The most of the respondents were also willing to reward mentors (with financial reward). The managers in hotels and restaurants were willing to reward the students, too, and although they mostly considered it should be financial reward, some of them considered that it should be non-financial reward.

Keywords: *adult education, mentorship, competences, support, primary research, Dubrovnik*

1. INTRODUCTION

The hospitality sector is one of the key drivers of the European economy, in terms of employment and direct contribution to the economy (close to 5% of GDP). Together with tourism, the hospitality sector is the 3rd largest activity in the EU (<https://www.hotrec.eu/>). TOMAS Croatia 2019 survey, shows that the number of visitors to both continental and coastal parts of Croatia is growing, which gives us clear indications that the demand for professional staff is growing and can respond to all modern trends in gastronomy. Analysis of deficit and surplus occupations based on national and Eurostat data from the Labor Force Survey 2019 (<https://ec.europa.eu/social>) indicates that cooks, and especially cooks at a higher level of skills ("chefs"), are extremely deficient occupations at the European Union level. The study clearly points to the conclusion that the solution lies in raising the workforce with these qualifications. In this regard, the aim of this paper is to investigate the competency-based mentorship and the mentorship support from hotels' and restaurants' managers points of view in the area of adult education programs which still and will be developed within the Regional Competence Center Dubrovnik. The holder of the program is Tourism and catering school Dubrovnik. The Tourism and catering school Dubrovnik has existed for more than 75 years and that fact is not surprising, since the tourist industry is the keystone of the overall economic development in the area of Dubrovnik Neretva County. School programs are offered in the catering sector for cooks, waiters and pastry cooks as well as in the tourism and hospitality sector in which students are educated to gain knowledge in the field of tourism such as working in hotel establishments, travel agencies as well as in other tourist areas. Tourism and hospitality employees are highly demanded so educational attention is paid on learning foreign languages The Tourism and catering school Dubrovnik has produced numerous professionals who, with their skills, have made Croatian catering and tourism renowned. In this context, the excellence of educators/mentors has to be appreciated. The school is keeping close contacts with industry partners. The School is active in the field of adult education providing programs to adult learners with the goal to raise the level of their competencies and employability skills. The main purpose of the research which has been carried in Dubrovnik Neretva County was to find out what kind of competences have to be involved in adult education programs as well as to explore the level of their importance. The goal of the paper was also to explore the willingness of managers to support mentorship on different ways.

2. ADULT EDUCATION

Some of the existing definitions define adult education as: 1. a whole set of learning processes, formal and other, in which adults develop their skills, enrich their knowledge and improve their technical or professional qualifications or redirect them to meet their own needs or the needs of their societies. 2. all forms of adult learning undertaken after completing the initial cycle of education and training started in childhood, regardless of how long the cycle lasts and therefore higher education started before entering the labor market is not considered adult education; 3. all forms of non-professional adult learning, whether formal, non-formal or informal ((European Commission). So, according to the definition of the European Union, lifelong learning means acquiring and renewing all types of skills, interests, knowledge and qualifications from pre-school to post-retirement and promoting the development of knowledge

and skills that will enable citizens to be adapted to the "knowledge society" and actively participate in all spheres of society. and economic life. The adult education in the Republic of Croatia is highlighted as an important component of the education system, and it is confirmed by a number of important strategic documents. The most important steps in the development of the adult education system are the Government's adoption of the Adult Education Strategy in November 2004, the establishment of the Adult Education Agency by Government in May 2006 and the passage of the Adult Education Act in February 2007. The Adult education in Croatia includes the entire process of adult learning intended for the exercise of the right to free development of personality, training for employability: acquisition of qualifications for the first profession, retraining, acquisition and deepening of professional knowledge, skills and competencies and training for active citizenship. In the implementation of education, a distinction is made between institutions that conduct formal education and organizations that conduct non-formal adult education. Formal education organizations are adult education institutions. Informal programs can be implemented by various organizations (institutions, associations, companies). An adult education institution is established by the founding act, and the founders can be natural or legal persons. The establishment and the statute is passed by the founder. The founder of an adult education institution submits a request to the Ministry of Science and Education to assess the compliance of the founding act with the law. After the Ministry issues a decision on conformity assessment, the founder submits an application to the competent commercial court for the entry of the adult education institution in the court register. Once the institution has been entered in in the register of the commercial court and has acquired legal personality, it can start operating (<https://eacea.ec.europa.eu/>).

Type of organization	Number of organizations
Primary school	22
Secondary school	205
Public Open University	131
High education	30
Foreign language school	15
Else	167
Without specified species	72
Total	642

*Table 1: The adult education organizations in Croatia
 (Source: <https://www.asoo.hr>)*

Adult education is based on the principles of:

- lifelong learning;
- rational use of educational opportunities, territorial proximity and accessibility of education to all under equal conditions in accordance with their abilities;
- freedom and autonomy in choosing the manner, content, form, means and methods;
- acceptance of diversity;
- professional and moral responsibilities of andragogical workers;
- guarantees of the quality of the educational offer;
- respect for the personality and dignity of each participant.

Adult education is a multidimensional process. It starts from the psychological goals of education, social and professional reasons. The internal goal of education is the desired cognitive, psychomotor and affective changes of the person (psychological development of the individual) that are the result of organized learning.

From the point of view of the individual's position in the labor market, some important functions of adult education can be highlighted: adaptation to changes in new technologies, improving skills through continuing vocational education, creating conditions for advancement in the workplace, compensating for missing and necessary qualifications according to the labor market needs (Barić, 2011). Lifelong learning of all categories of society, especially entrepreneurs, is of great importance for the Republic of Croatia and EU. Bejaković emphasizes that the EC imperative is that EU member states and future members should develop a flexible and clear way of achieving lifelong learning and adult education in order to improve employability and ensure easier entry of young people into the labor market" (Bejaković, 2007, 33). Formal education is mainly within the school system, and is developed in various educational institutions. Formal adult education includes:

- a) primary adult education,
- b) adult secondary education; acquisition of secondary school or vocational education, lower vocational education, retraining, training and advanced training,
- c) higher education.

Non-formal education is also organized learning that takes place independently of the formal education system and usually does not provide the official certificates. It can be organized in the workplace, through the activities of various societies, associations or as a complement to the formal education system (such as music schools, sports clubs, unions, political centers etc. Informal learning should be considered as very important and necessary (Kuka, 2012). Self directed adult learning means activities in which an adult independently establishes control over the learning process as well as responsibility for learning outcomes (Zakon o obrazovanju odraslih, 2010). In recent years, various European projects have addressed professional issues development of employees in adult education and their (core) competencies (Bernhardsson, Latke 2011). The research varied in scope and focus and is not directly comparable. One of them is the Grundtvig project "AGADE - a good teacher for adults in Europe", which lasted from 2004 to 2006, and was coordinated by the Estonian Informal Association for Adult Education and partners from Hungary, Ireland, Latvia, Lithuania, Portugal, Sweden and Norway. A set was developed within this project minimum criteria for adult teacher competence and a modular course training that combines elements of distance learning and direct education contact (Jääger, Irons 2006). In some countries, such as Austria and Switzerland, adult teachers have the opportunity to have their informally acquired competencies assessed (against a standard) and certified by a competent authority. A step in that direction was taken by the European project VINEPAC (Evaluation of Informal and non-formal psychopedagogical competencies of adult teachers), implemented from 2006 to 2008 with the support of the Leonardo da Vinci program. VINEPAC was coordinated by the Romanian Institute of Education with partners from Germany, France, Malta and Spain. The project aims to develop a portfolio tool ("VALIDPAC") that should help adult educators become more aware of the competencies they possess and make them more visible to others through documentation and evaluation by an external evaluator. The tool provides evaluation in three steps:

steps:

- 1) self-assessment: thinking about and documenting one's own learning biography and acquired competencies with the help of a mental map and a standardized form for evaluation
- 2) external evaluation, aimed at increasing the objectivity of evaluation results: the external evaluator conducts an interview with the candidate and observes his teaching practice for a total of three hours. The results are documented at standardized assessment form and through holistic assessment in narrative form
- 3) consolidation: The results of self-assessment and external assessment are also compared about they are discussed by an adult teacher and an evaluator.

If there is a disagreement regarding the assessment of individual competencies, it should be clarified and an agreement reached. The results of this consolidation process are finally documented a standardized evaluation form signed by the candidate and evaluator.

Similar to the AGADE project, the VINEPAC project focuses specifically on competencies related to the teaching role in adult education. For evaluation purposes, relevant competencies are grouped into the following categories:

- 1) Knowledge
 - initial knowledge of the psychosocial profile of an adult
 - knowledge of group characteristics
 - knowledge base in the field of own content
- 2) Training / management
 - needs analysis
 - training preparation
 - implementation of training programs
 - use of technology and resources (time, materials, space, people)
- 3) Learning assessment and evaluation
 - developing work with students to identify their needs, strengths and goals, and giving advice or referrals to appropriate programs and levels of instruction
 - Regular use of assessment results to plan lessons, develop curricula, monitor progress towards goals and objectives and check learning
 - monitoring learning that does not come down to mere recollection of information, with using a range of assessment strategies
 - structuring and enabling the way students and classmates can assess and give feedback on your learning and success, through consideration and self-assessment
 - guiding students in the development and ongoing revision of their educational plans of the use of qualitative methods for evaluating student progress
- 4) Motivation and counseling
 - sharing information with students and colleagues about additional learning resources,
 - educational opportunities and options for accessing support services
 - Refer to appropriate resources when leadership and advice needs are exceeded
 - own expertise of guiding students in the development and ongoing revision of their educational plans
- 5) Personal and professional development
 - analysis of needs and opportunities for professional development
 - showing interest in self-development
- 6) Open category (any additional competencies that trainer / evaluator considers relevant) (IREA 2008)

The final transnational catalog of core competencies of ACE learning facilitators (adult education) is the result of a study conducted by the Delphi method, within Qualified to Teach project (QF2TEACH) (Bernhardsson, Lattke, www.qf2teach.eu) according to which the following key competencies has been defined:

- Key Competence 1: Group Management and Communication
 - Clear communication
 - Group dynamics management
 - Conflict resolution
- Key Competence 2: Competence with regard to the subject
 - Specialist knowledge within one's own field of study

- Application of specialist didactics within one's own area of teaching
- Key Competence 3: Learning Support
 - Support for non-formal learning
 - Stimulating the active role of students (DM)
 - Wide repertoire of methods available
 - Using the life experience of the participants in teaching activities
- Key Competence 4: Effective teaching
 - Adapting the teaching offer to the needs of individual target groups
 - Planning the offer of tuition according to the available
- resources (time, space, equipment, etc.)
- Key Competence 5: Personal Professional Development
 - Orientation to the needs of the participants
 - Using one's own life experience within the teaching environment
 - Recognizing one's own learning needs
 - Maintaining the own professional role of mentor
 - Setting your own learning goals
 - Curiosity
 - Creativity
 - Flexibility
- Key Competence 6: Stimulating learning
 - Motivation
 - Inspire
- Key Competence 7: Analysis of the learning process
 - Monitoring the learning process
 - Assessment of learning outcomes
 - Conducting regular formative assessment and dialogues between students and teachers
 - Assessment of student entry level
- Key Competence 8: Self-Competence
 - Emotional stability
 - Resistance to stress
 - Analysis of barriers to learning in students
 - Authenticity
 - Structured action
 - Open mind
- Key Competence 9: Helping students
 - Creating a safe learning atmosphere (without fear)
 - Enabling students to apply what they have learned
 - Careful
 - Encouraging students to take responsibility for their future learning processes
 - Empathy
 - Encouraging collaborative learning among students
 - Providing support to each individual student
 - Active listening
 - Availability / accessibility to students

The classification of QF2TEACH competences has been used in the primary research and for the purpose of this paper.

3. THE RESULTS OF THE PRIMARY RESEARCH

3.1. The methodology

For the purpose of the paper the primary, Online research (sending a personalized link) to telephone recruitment has been used. The research has been carried out including the sample of 50 hotels and restaurants managers (N = 34 hotels and 16 restaurants), so 68% of interviewees have been hotels' managers and 32% of them have been restaurants' managers. The interviewees have been Food and beverage managers and persons responsible for employment in the area of Dubrovnik-Neretva County. The research has been carried during November and December 2021. For analysing the data the descriptive statistics has been used based on the arithmetic average value, Mean score (M) as visible in the next part of the paper. The share of 6% of managers have had less than 1 year of working experience, 26% of them have had between 1 and 5 years of working experience, 34% between 6 and 10 years, 22% from 11 to 15 years, 10% of them from 16 to 25 years and 2% of them have had more than 25 years of working experience. According to the results of the research it is visible that they could be considered as well-experienced managers.

3.2. The results of the primary research and discussion

All three skills within group management and communication skills, on average, were assessed as very important although they have found out that the clear communication is more important than resolving conflicts and managing group dynamics.

Key competences 1	Hotel (N=34) M	Restaurant (N=16) M	Total (N=50) M
Clear communication	4,97	4,81	4,92
Group dynamics management	4,56	4,56	4,56
Conflict resolution	4,71	4,63	4,68

*Table 2: Key Competence 1- Group Management and Communication
(Source: own research)*

Key competences 2	Hotel (N=34) M	Restaurant (N=16) M	Total (N=50) M
Specialist knowledge within one's own field of study	4,59	4,50	4,56
Application of specialist didactics within one's own area of teaching	4,06	4,13	4,08

*Table 3: Key Competence 2- Competence with regard to the subject
(Source: own research)*

According to the results of the research it is visible that specialist knowledge within one's own field of study is equally important for the hotel managers as it is for the managers in the restaurants and is more important than application of specialist didactics within one's own area of teaching, although application of specialist didactics is also considered as important.

Table following on the next page

Key competences 3	Hotel (N=34)	Restaurant (N=16)	Total (N=50) M
Support to non-formal learning	3,97	3,81	3,92
Stimulating the active role of students (DM)	4,18	4,25	4,20
Wide repertoire of methods available	3,88	4,00	3,92
Using the life experience of the participants in teaching activities	4,12	4,13	4,12

*Table 4: Key competence 3-Learning Support
 (Source: own research)*

In the area of key competence 3 „ Learning support“ the hotel and restaurant managers have found out that support to non-formal learning and wide repertoire of methods available, have the lower level of importance than using the life experience of the participants in teaching activities and stimulating the active role of students (DM). Stimulating the active role of students (DM) they have found out as the most important in the area of learning support. The Key Competence 4 has been effective teaching. In the area of effective teaching the adapting the teaching offer to the needs of individual target groups has been stated as more important than planning the offer of tuition according to the available resources (time, space, equipment, etc).

Key competences 4	Hotel (N=34) M	Restaurant (N=16) M	Total (N=50) M
Adapting the teaching offer to the needs of individual target groups	4,18	4,13	4,16
Planning the offer of tuition according to the available resources (time, space, equipment, etc.)	4,12	3,94	4,06

*Table 5: Key Competence 4:-Effective teaching
 (Source: own research)*

Table following on the next page

Key competences 5	Hotel (N=34) M	Restaurant (N=16) M	Total (N=50) M
Orientation to the needs of the participants	4,26	4,19	4,24
Maintaing the own professional role of mentor	4,16	4,13	4,16
Using one's own life experience within the teaching environment	4,03	4,19	4,08
Recognizing one's own learning needs	4,12	4,25	4,16
Setting own learning goals	4,15	4,13	4,14
Curiosity	3,85	3,81	3,84
Creativity	4,21	4,25	4,22
Flexibility	4,32	4,31	4,32

*Table 6: Key Competence 5-Personal Professional Development
 (Source: own research)*

The area of key competence 5 has involved 8 different competences. Orientation to the needs of the participants and creativity have been considered as important and both have very similar level of importance. The flexibility has the highest level of importance. Maintaing mentors own professional role, recognizing one's own learning needs and setting own learning goals have aslo very similar level of importance, but they are not so important as it is flexibility , creativity and orientation to the needs of the participants (but they are more important than curiosity and using one's own life experience within the teaching environment) The curiosity has the lower level of importance.

Key competences 6	Hotel (N=34) M	Restaurant (N=16) M	Total (N=50) M
Motivation	4,62	4,62	4,62
To inspire	4,29	4,50	4,36

*Table 7: Key Competence 6-Stimulating learning
 (Source: own research)*

Motivation is significantly more important than inspiration within the skills of stimulation learning and the hotel and restaurant managers have found it extremely necessary.

Table following on the next page

Key competences 7	Hotel (N=34) M	Restaurant (N=16) M	Total (N=50) M
Monitoring the learning process	4,15	4,25	4,18
Assessment of learning outcomes	4,06	3,81	3,98
Conducting regular formative assessment and dialogues between students and teachers	4,09	4,00	4,06
Assessment of student entry level	3,74	3,50	3,66

*Table 8: Key Competence 7- Analysis of the learning process
 (Source: own research)*

The monitoring the learning process is the most important of the competences in the group of analysis of the learning process, and the hotel and restaurant managers considered it as important. The assessment of learning outcomes has lower level of importance than monitoring the learning process and conducting regular formative assessment and dialogues between students and teachers. The same situation is in the area of assessment student entry level what has been considered as the area with the lowest level of importance. From the group of Key Competence 8: Self-Competence (QF2TEACH) for the purpose of this paper the following competences have been chosen: emotional stability, resistance to stress, analysis of barriers to learning.

Key competences 8	Hotel (N=34) M	Restaurant (N=16) M	Total (N=50) M
Emotional stability	4,47	4,50	4,48
Resistance to stress	4,32	4,75	4,46
Analysis of barriers to learning	4,06	4,25	4,12

*Table 9: Key Competence 8-Self-Competence
 (Source: own research)*

According to the results of the research it is visible that the hotel and restaurant managers have found out that the emotional stability is the most important and they have graded as very important, following the resistance to stress as also very important and on the third place they have put the analysis of barriers to learning in students which they consider as important. In the last group Key Competence 9: Helping students 8 different competences have been involved (QF2TEACH) , but for the purpose of this paper the next competences have been chosen: creating a safe learning atmosphere (without fear), enabling students to apply what they have learned, carefulness, encouraging students to take responsibility for their future learning processes, empathy.

According to the results of the research the possibility to apply the knowledge has been stated as the most important and has high level of importance. Carefulness has the lowest level of importance in this group but the managers consider carefulness important, too. Very similar level of importance the managers have given to creating a safe learning atmosphere (without fear) and encouraging students to take responsibility for their future learning processes, and they considered both as very important.

Key competences 9	Hotel (N=34) M	Restaurant (N=16) M	Total (N=50) M
Creating a safe learning atmosphere (without fear)	4,32	4,32	4,32
Enabling students to apply what they have learned	4,48	4,50	4,48
Carefulness	4,06	4,31	4,14
Encouraging students to take responsibility for their future learning processes	4,29	4,50	4,36
Empathy	4,09	4,00	4,06

*Table 10: Key Competence 9-Helping students
 (Source: own research)*

Most of the respondents (88%) was willing to accept students and to adapt their practice according to the specific features of the programs. The most of the respondents (88%) were also willing to reward mentors (with financial reward). The managers in hotels and restaurants were willing to reward the students, too. The share of 67% of managers considered it should be financial reward and 19% of them considered it should be non-financial reward.

4. CONCLUSION

Bejaković emphasizes that the EC imperative is that EU member states and future members should develop a flexible and clear way of achieving lifelong learning and adult education in order to improve employability and ensure easier entry of young people into the labor market" (Bejaković, 2007, 33). The Food and beverage managers and persons responsible for employment in the area of Dubrovnik-Neretva County have showed the high level of interest to take part in the primary research which has been carried during November and December 2021. Especially important is the fact that they were mostly well-experienced managers. The highest level of importance had clear communication. Very high level of importance have had competences such as : resolving conflicts, managing group dynamics, specialist knowledge within one's own field of study, motivation, self-confidence, possibility to involve different perspectives, criticism, emotional stability, resistance to stress, enabling students to apply what they have learned. The competences such as application of specialist didactics within one's own area of teaching, using the life experience of the participants in teaching activities, planning the offer of tuition according to the available resources (time, space, equipment, etc.), orientation to the needs of the participants, creativity, flexibility, maintaining mentors own professional role, recognizing one's own learning needs, setting own learning goals, using one's own life experience within the teaching environment, the monitoring the learning process, conducting regular formative assessment and dialogues between students and teachers, analysis of barriers to learning, creating a safe learning atmosphere (without fear) and encouraging students to take responsibility for their future learning processes, empathy and carefulness are found out as

important. The less important competences are: support to non formal learning, wide repertoire of methods available, curiosity, assessment of learning outcomes, assessment of student entry level. Most of the respondents was willing to accept students and to adapt their practice according to the specific features of the programs. The most of the respondents were also willing to reward mentors (with financial reward). The managers in hotels and restaurants were willing to reward the students, too, and although they mostly considered it should be financial reward, some of them considered that it should be non-financial reward.

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DIVERSIFICATION OF SUPPLIERS AND BUYERS AND ITS IMPACT ON MUTUAL RELATIONSHIP BETWEEN ENTERPRISE AND GIVEN STAKEHOLDERS

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ABSTRACT

The relationships between the enterprise and its stakeholders, such as suppliers or buyers, become critical. The reason is that these mutual sustainable, long-lasting relationships lead to the growth of both sides (enterprise and its supplier or buyer). They secure the enterprise's competitiveness and achieve the loyalty and trust of its suppliers and buyers. The paper aims to define the diversification process of suppliers and buyers as one of the steps in managing the enterprise's relationships with given stakeholders. As part of diversification, the enterprise must first establish a criterion based on which the stakeholders (suppliers and buyers) will be divided. It was possible to identify the criteria based on which enterprises segment their buyers and suppliers through research. The paper focuses on the impact of diversification on the enterprise's relationship with its suppliers and buyers. We assume that if the enterprise uses the diversification of buyers and suppliers, the relationships between the enterprise and selected suppliers and buyers will improve. The paper describes the segmentation of buyers and suppliers in the case of 385 enterprises from Slovakia. The enterprises explained whether they use the segmentation process to manage their relationships with suppliers and buyers, defined the segmentation criteria, and their relationships with suppliers and buyers. Statistical method used to analyse the data and evaluate the results is Pearson's chi-square test.

Keywords: *Buyers, Diversification, Enterprise, Relationship, Stakeholders, Suppliers*

1. INTRODUCTION

Currently, enterprises are looking for ways to gain a competitive advantage and acquire and retain business partners. One of these ways is to create value for selected stakeholders. Through this process, enterprises know how to ensure the loyalty of business partners, their trust, effective communication with each other, long-term and sustainable cooperation, as well as their competitiveness. One of the steps in creating value for suppliers and buyers is the diversification of the given stakeholder groups. Each enterprise can set a criterion for the division of buyers and suppliers. Based on this diversification, they can choose those business partners with whom it wants to cooperate long-term and with whom it wants to build good business relationships.

2. LITERATURE REVIEW

According to Kelly, Male and Graham (2015), value management is a philosophy, direction, and particular management style. The main goal is improving stakeholder decision-making. These decisions are made through studies throughout the project life cycle. Kelly and others (2015) also point out that value management can reduce differences of opinion between key stakeholders, support early discussion in selecting and providing the best solution, and is useful, especially in solving long and demanding projects.

Male et al. (2007) speak of value management as a process-based team methodology that uses functional analysis to deliver a product, service, or project in the best possible way. This method combines cost and performance so that quality is not reduced. International Standard EN 12973: 2020 - Value Management states that value management is about organizational improvement, setting clear goals, improving productivity and return on investment. Value management is applied in existing management systems and approaches based on value and function-oriented thinking, behaviours and methods, focused mainly on motivating people, developing skills, promoting synergies and innovation to maximize the enterprise's overall performance. International Standard EN 1325: 2014 - Value management - Glossary - Terms and definitions divides value management at the top and operational levels. At the top level, it relies on the organization's value culture and considers the value for stakeholders and customers. At the operational level, appropriate methods and tools are added to this. The use of value management is an essential factor in managing the enterprise's relationship with its customers and suppliers. The value creation process is becoming crucial, where one of the steps in the process is the diversification of the given business partners. Even in general stakeholder analysis, the first step is identifying key stakeholders (Schmeer K., 1999). The basis for identifying key suppliers and buyers is to set a goal and, based on it, relevant indicators. It is impossible to make any analysis without setting a goal (Amount, 2010). Various indicators are used in practice to identify stakeholders. That is why it is essential for the enterprise first to set a goal and then indicators. The importance of the buyer or supplier can be defined by the size of deliveries in the case of suppliers or orders in the case of customers. Other factors indicating the importance of stakeholder groups may be the size of buyers and suppliers, their reputation and market position, or the length of cooperation, whether they are one-off or long-term customers and suppliers. However, enterprises must change their approach to evaluating the achieved results, focusing on modern evaluation methods, and demonstrating their application in enterprises (Malichova, Tokarcikova and Durisova 2017). It is logical to emphasize the importance of the relationship between the enterprise and its buyers and suppliers, as both stakeholders significantly contribute to its competitiveness (Glavee-Geo, 2019). To ensure the competitiveness of an enterprise in the domestic and global market is necessary to be aware of the value and importance of people in the process (Kucharcikova and Miciak 2017)

3. METHODOLOGY

The paper aims to define the diversification process of suppliers and buyers as one of the steps in managing the enterprise's relationships with given stakeholders. The paper focuses on evaluating the effect of value management, its knowledge and use of the diversification of stakeholders (buyers and suppliers) with the subsequent expression of the impact of the segmentation on the enterprise's relationship with these business partners. The research within the paper was conducted through structured questionnaires and online interviews. The methods used in the article are logical methods such as induction, deduction, analysis and synthesis. Pearson's chi-square test was used to evaluate the data. As part of the questionnaire survey, enterprises expressed whether they knew and used value management in the first step. Subsequently, they commented on the topic of diversification of their business partners and at the same time expressed the level of their relationship with buyers and suppliers, i.e. whether they are satisfied or dissatisfied with their relationship. The main research problem is focused on the influence of value management on the diversification of customers and suppliers and, subsequently, the impact of the diversification of business partners on the mutual relationship of the enterprise with its customers and suppliers. Research questions and defined hypotheses are set within the research.

Main research questions:

- 1) Does the enterprise know value management and use it to manage relationships with suppliers and buyers?
- 2) Does the knowledge and use of value management affect whether enterprises diversify their business partners?
- 3) Based on which criteria do enterprises diversify their suppliers and buyers?

The formulation of the hypothesis is as follows:

- H: The diversification of stakeholders according to importance will improve the enterprise's behaviour towards selected buyers and suppliers.

The research was carried out through questionnaires sent to the owners and managers of manufacturing enterprises in Slovakia. The research managed to collect answers from 385 respondents. The research questions within the questionnaire focused on the knowledge and use of value management, the level of the enterprise's relationship with suppliers and buyers, the diversification of the business partners, and the main subjects of diversification. The interviews were conducted online with the owners and managers of 10 production enterprises, who commented on the diversification of business partners and their behaviour toward selected suppliers and buyers.

4. RESULTS

The results of the questionnaire survey and interviews are presented within the given part. It is subsequently possible to conclude, answer research questions, and accept or reject the established hypothesis.

4.1. Knowledge and use of value management in the process of managing relationships with suppliers and customers

Enterprises answered questions about value management, especially whether they know value management and whether they use it to manage relationships with their customers and suppliers. Based on the answers, the enterprises were divided into three groups: enterprises that do not know value management, enterprises that know value management but do not use it, and enterprises that know and use value management in managing relationships with customers and suppliers.

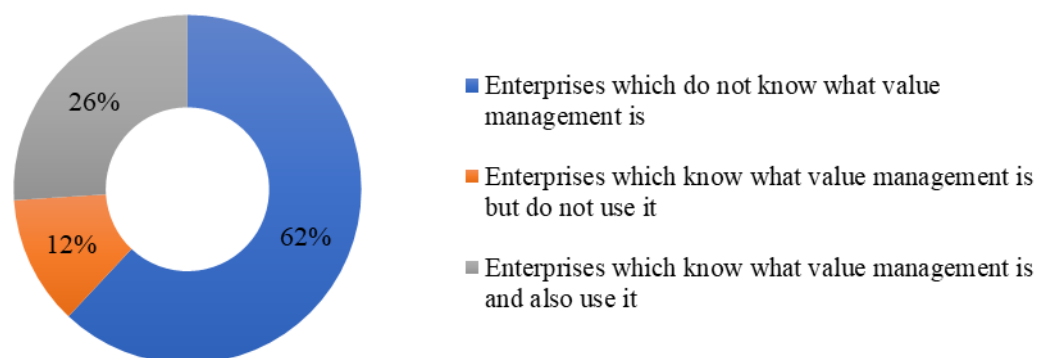


Figure 1: Acquaintance and use of value management in enterprises

Figure 1 shows that up to 62% of enterprises do not know what value management is, 12% of enterprises can define value management but do not use it, and 26% of respondents know value management and use it in managing relationships with buyers and suppliers.

4.2. The impact of the use of value management on the diversification of stakeholders

It is assumed that if enterprises use value management to manage relationships with suppliers and buyers, they also use the diversification of the given stakeholders, which is one of the first steps in the value creation process in managing relationships with them. The enterprise can determine which business partners are essential to it based on diversification. The enterprise determines the criteria according to which it will select buyers and suppliers to whom it will create value to ensure long-term cooperation, loyalty, and trust.

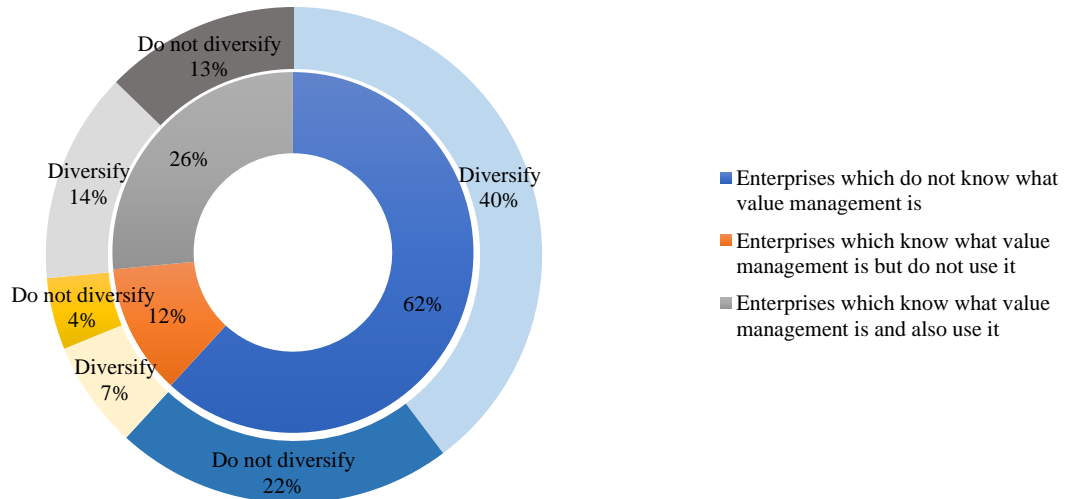


Figure 2: Diversification of buyers and suppliers

Picture no. 2 shows that 61% of respondents diversify their business partners (233). 40% belong to a group of enterprises that could not define value management. However, this does not mean that they do not divide their business partners according to importance or no longer pay attention to one group of suppliers or buyers as another. Whether or not enterprises use value management in the relationship management process with their business partners, they know which business partners are important to them, whether in terms of order size, market position, etc. 7% of enterprises which diversify their suppliers and buyers know what value management is but do not use it in the process of managing relationships with their business partners. The last 14% belong to enterprises that know value management and use it to manage relationships with their buyers and suppliers. This group includes about 50% of enterprises that diversify their business partners and 50% that do not diversify their business partners. The size of the enterprises and the number of buyers and suppliers can be important indicators in a given situation. If it is a small enterprise with a small number of buyers and suppliers, the enterprise tries to keep each of them and in that small number of business partners may not see a reason or room for their diversification.

4.3. Primary criteria for diversification of business partners

An important piece of information in the diversification of business partners is the criterion based on which the enterprise chooses which suppliers and buyers are important to it. The most common criteria set by enterprises that diversify their buyers and suppliers include:

- Size (volume) of orders / deliveries (73.82%)
- Market position (7.73%)
- Communication strength (8.58%)
- Length of cooperation (5.15%)
- Other (size of enterprise, affiliation to the region in the case of suppliers, comprehensive local classification according to several criteria, quality of work) (4.72%)

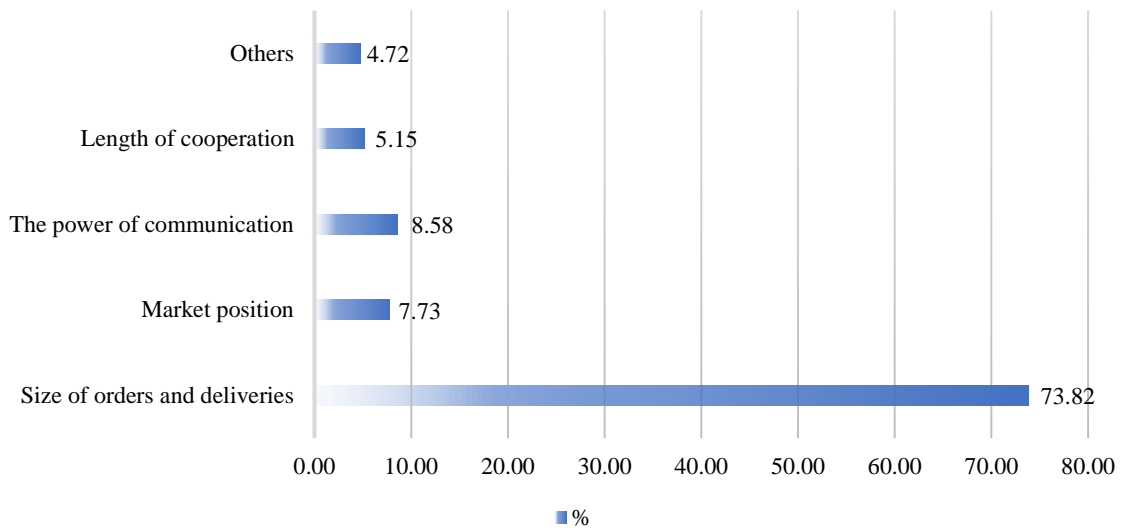


Figure 3: Diversification criteria of buyers and suppliers

Figure 3 shows the criteria according to which enterprises divide their business partners depending on their size. Most enterprises have stated that they diversify their buyers and suppliers according to the size of orders and deliveries, which is the most critical criterion for diversification. The State of Flux research (2021), which involved enterprises from all over the world (mainly America, Europe, Australia and Asia), found that the main criteria for segmentation in the case of suppliers are:

- Criticality of suppliers (how quickly and if the enterprise can replace the supplier).
- Potential for growth and value creation (whether the enterprise can grow with the supplier and whether the given suppliers can create value).
- The importance of the enterprise as a buyer in the relationship.
- Taste and ability of the supplier to cooperate.

H: The diversification of stakeholders according to importance will improve the enterprise's behaviour towards selected buyers and suppliers.

This hypothesis tested whether enterprises that diversify the stakeholders (buyers and suppliers) also have different approaches to the given business partners. In the questionnaire survey, enterprises had to state whether they diversify suppliers and buyers based on the criterion of importance. The given criterion of importance is determined by each enterprise individually. The diversification criterion can be, for example, the size of the enterprise, the market position, the size of the orders/deliveries, the strength of the communication. Subsequently, enterprises expressed whether their approach to selected buyers and suppliers changed.

H₀: The diversification of stakeholders according to importance does not change the enterprise's approach to selected buyers and suppliers.

H₁: The diversification of stakeholders according to importance change the enterprise's approach to selected buyers and suppliers.

Pearson's Chi-square test was used to test the hypothesis, which will show us whether there is a relationship between the diversification of stakeholders and the enterprise's approach to suppliers and buyers.

Table no. 1 below shows the results of the test. Since the value of p is less than 0.05, we can state that the diversification of suppliers and buyers impacts the enterprise's approach to the relevant groups. At the same time, we can state that we reject H0 and accept H1.

Ukazovateľ	X ²	
	Value	p
Diversification of suppliers and buyers – a change in the approach to suppliers and buyers	154,575	<.001

Table 1: Impact of stakeholder diversification on the enterprise's approach to suppliers and buyers

(Source: Calculation through the statistical program JASP)

Personal interviews show that even though enterprises diversify their business partners based on different criteria, their approach to their buyers and suppliers is different, precisely based on diversification. For example, suppose enterprises diversify their business partners based on the length of their business relationship. In that case, they have different approaches to buyers and suppliers with whom they have cooperated for more than five years and business partners with whom they cooperated for a month. Based on the above, enterprises are trying to pay more attention and provide value to selected business partners, and therefore have a better relationship with them. The main criteria for diversification are for the given enterprises: length of cooperation, size of orders/deliveries and communication (cooperation). Based on the results of the statistical methods used and the linking of the collected arguments from personal interviews and the questionnaire survey, the validity of hypothesis H1 was confirmed in combination with the arguments from the secondary research analysis.

5. CONCLUSION

The paper aimed to define the diversification process of suppliers and buyers as one of the steps in managing the enterprise's relationships with given stakeholders. The paper focused on evaluating the effect of value management, its knowledge and use of the segmentation of stakeholders (buyers and suppliers) with the subsequent expression of the impact of the diversification on the enterprise's relationship with these business partners. A research problem was identified within the given goal, and research questions were determined. The goal was fulfilled by implementing the research and its interpretation. Three hundred eighty-five respondents from Slovakia participated in this research through questionnaires and ten through interviews. Based on the reactions of the respondents, it was possible to test the hypotheses and answer the given research questions, which were as follows:

- *Does the enterprise know value management and use it to manage relationships with suppliers and buyers?*

Of the total number of respondents (385), only 102 (26%) are enterprises that know what value management is and use it, and 45 (12%) know how to define value management but do not use it to manage the relationship with stakeholders. As value management is a relatively new topic in practice in Slovakia, especially in the case of small and medium enterprises, the results are not negative. On the contrary, the data show that value management is becoming more known in small and medium-sized enterprises, where enterprises must learn more about value management and its use in individual processes. Subsequently, when enterprises know about the possibilities of value management, they will more likely implement value management in practice.

- *Does the knowledge and use of value management affect whether enterprises diversify their business partners?*

Enterprises that know value management diversify their business partners in a targeted manner. Their goal is to diversify and select those business partners who are critical to the enterprise and who need to devote as much time, and resources as possible so that the enterprise can build a relationship with them and ensure their loyalty, trust and long-term cooperation. Enterprises that do not know what value management is diversifying their business partners according to importance, i.e. they also know how to choose important partners, but they no longer have thought through the next steps in managing relationships with the given buyers and suppliers. Instead, it is a short-term solution and diversification is carried out based on a specific criterion at a given moment.

- *Based on which criteria do enterprises diversify their suppliers and buyers?*

Enterprises diversify their buyers and suppliers mainly based on orders and deliveries' size (volume). Other criteria are the strength of the communication, the market position, the length of the cooperation, the size of the stakeholders, belonging to the region in the case of suppliers. According to international research conducted by State of Flux (2021), other segmentation criteria are the criticality of suppliers, the potential for growth and value creation, the importance of the enterprise, the desire and the ability to cooperate.

The paper points out the importance of suppliers and buyers diversification as one of the steps of the value creation process. Diversification of business partners influences the enterprise's approach to the chosen business partners and their mutual relationships. At the same time, the paper highlights the importance of value management and its use in managing relationships with suppliers and buyers. This paper is a preparation for further research, which should focus on the rest of the steps in the value creation process for suppliers and buyers.

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ANALYSIS OF COMPANY DEVELOPMENT STRATEGIES WITHIN THE COFFEE INDUSTRY IN CROATIA

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ABSTRACT

In its business, every company must choose a development strategy focused on the goals and capabilities of the company, which further determines how to adapt to changing conditions, how to allocate resources, how to position the company on the market and how to determine the actions of the operational parts of the company. Research conducted for the purposes of this paper encompassed the analysis and comparison of different development strategies and their implementation on the example of the main leaders in the coffee industry in the Republic of Croatia. Primary and secondary sources were used for research purposes. We used an in-depth interview method with a number of managers involved in the design and implementation of the strategy. Conversations made using the in-depth interview method were free and unstructured, and thus a deeper insight was gained into our field of interest. Our research established that the main leader in the business uses a horizontal direction of development with two directions of concentration or market penetration and expansion. Second leader has applied the Takeover and Merger development strategy to achieve a competitive advantage in the coffee industry and the third one uses product development, diversification and market penetration. In today's demanding, competitive, dynamic and complex market, the analyzed companies in the coffee industry in Croatia maintain their leading positions by investing daily into production excellence, product quality, technological solutions, innovative concepts and products, as well as the human factor.

Keywords: *competitive advantage, concentration, coffee industry, development strategies, expansion*

1. INTRODUCTION

When trying to gain competitive advantage every company will choose its own strategy that corresponds to the goals and capabilities of the company. This research provides the analysis and comparison of different forms of development strategies of organizations and their implementation on the example of the main leaders in the coffee industry in the Republic of Croatia, three leading Croatian companies in the production of coffee: (1) Franck d.d.; (2) Atlantic Grupa; (3) Anamarija Company d.o.o. The research focuses on the identification and analysis of one of the main development strategies within the three companies, their comparison, and the analysis and comparison of market positioning models in the coffee industry in Croatia. The choice of the research topic is based on the fact that in today's business conditions, with economic and technological changes in the wider and more immediate environment of the company, competitive advantage should be sought in strong growth and new markets. At the heart of each business is the search for competitive advantage. Nowadays, due to strong market competition, and due to slower growth of the companies, finding a source of competitive advantage is a challenge for every company. Competitive advantage is the basis of strategic action of the company and achieving competitive advantage distinguishes successful from unsuccessful companies. Companies operating in the same industry and offering similar products and/or services are defined as competitors. Competitive advantage concerns not only the success of the company, it is also a matter of long-term survival of the company, and it means finding ways to be ahead of others in the global market. It refers to the rival, and achieving competitive advantage is the basis for distinguishing successful from unsuccessful companies.

Thus, a company is considered to have competitive advantage if it creates value for its customers in way better from that of its rivals (Daraboš, 2015). Building and maintaining a competitive advantage is the foundation of any company strategy (Porter, 1996). According to Porter, the main issue of competitiveness is the relative position of the company within the industry in which it operates, and the essence of the company's success is sustainable competitive advantage in the industry. Gaining competitive advantage is manifested through a more favorable position compared to industry rivals and other market participants. Favorable position within the industry is gained by competitive positioning by which the company makes above-average profits in the long run. Competitive response is defined as a clear, conspicuous countermove that a company takes in order to maintain or improve its position with respect to one or more actions initiated by its competitors (Porter, 1980). A company gains a competitive advantage when it is able to create more economic value than its rivals (Peteraf, Barney, 2003). Some authors define competitive advantage as the ability of a company to produce new value that exceeds production costs (Porter, 1985) or the ability to create greater value for customers than the competition (Tipurić, 1999). The size of a firm defines its strength in the market compared to the strength of a competitor. The strategic choice of the company represents growth. Companies survive only if they grow and develop, permanently maintain their competitive position, but the importance of the strategic reality of today's business world in which long-term comparative advantages do not exist should also be stressed. In the current business world, finding potential sources of competitive advantage for companies is a challenge, in an industry where there is uncertainty and constant fight for survival in the market. Sustainable competitive advantage is of temporary nature and its duration is decreasing more and more. In today's environment of intense competition, it is almost impossible to build a sustainable advantage, which leads to irrational use of scarce resources (D'Aveni, 2010). Each company chooses its own strategy that will suit the goals, but also the capabilities of the company. Since no research on this topic has been conducted yet, the main goal of this paper is to conduct research and compare the importance of development strategies in gaining competitive advantage of leaders in the coffee industry in Croatia in today's increasingly demanding, competitive, dynamic and complex market.

1.1. Roles and forms of development strategy

The role of the companies' development strategies is an extremely important category of strategic management, primarily because they contribute to the process of making strategic decisions about the direction in which the organization wants to go, which is of great strategic importance for every company. The process of choosing an adequate development strategy begins with the desire for growth, i.e., the moment when the company estimates that it has reached the stage of market maturity when a natural impulse occurs for company's growth aimed at achieving long-term goals and gaining competitive advantage. According to the authors Mital A., Robinson R. B., Pierce J. A., development strategies are the basis for coordinated and systematic efforts aimed at achieving long-term goals of the company (Mital, Robinson, Pierce, 2008). The very need for the survival of the company in today's dynamic competitive environment as well as in turbulent market conditions indicates the need for permanent daily development and maintaining a competitive position in the market. Throughout the entire life cycle of the company, there is a process of continuous development, which seeks to take advantage of business opportunities that are present in the market to maximize the value of the company on a daily basis. The need for an in-depth analysis of the company's situation, as well as the choice of its development strategy stems from the wishes and goals of the company that wants to raise the level of its goals higher, as well as the desire to increase its market share and sales. The growth and development of a company necessarily implies an increase in the number of daily activities.

Development strategies contribute to redefining business by adding new products and services to new markets. There are various reasons why development strategies need to be implemented. Some of the most common are: company survival, increasing market share, synergistic effects of competition, profit, risk diversification, new business opportunities, motivation, etc. According to Buble M., development strategies can be classified in line with three dimensions: concentration, expansion and diversification (Buble, 2005). The dimension of development identifies vertical integration, i.e., development according to the activities of customers or suppliers.

2. RESEARCH METHODOLOGY

In order to show the importance and impact of the development strategy in the coffee industry in the Republic of Croatia, a study was conducted comparing the development strategies of companies from the Croatian coffee industry. The purpose of the research was to gain insight into the process, application and implementation of development strategies of the leading players in the coffee industry in Croatia: Franck d.d. the main leader in coffee production in Croatia, Atlantic Grupa and Anamarija Company. Furthermore, the business models of selected companies were analyzed with a detailed presentation of all phases and processes. For the purposes of the research, the method of in-depth interviews with a number of general managers of selected companies involved in the design and implementation of business strategy was used, along with internal and external reports of the company and relevant business literature. This type of survey gave us a deeper insight into our field of interest, as well as part of the answers to the questions asked. The data obtained through interviews and the method of secondary research are summarized and presented in the research results.

3. RESEARCH RESULTS

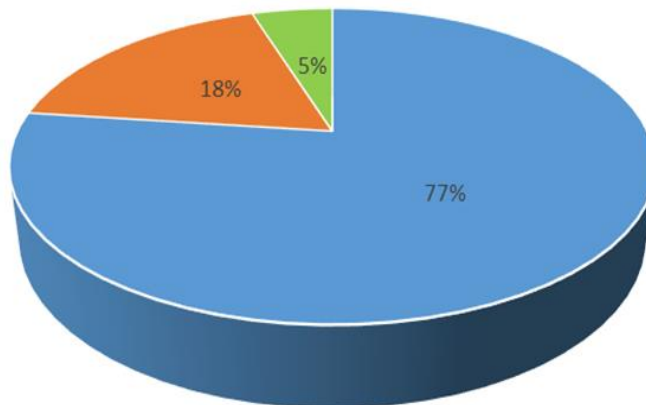
The importance of the coffee industry in the Republic of Croatia is reflected in the size, growth and performance it achieves in relation to other sectors within the Croatian economy. The coffee production sector stands out as a significant component of the processing industry. Viewed from the aspect of total revenues, the dominant role in the coffee industry belongs to large companies. Although large companies have the smallest share in the total number, they still generate most total revenues on an annual basis. Based on the above, it can be concluded that large companies dominate in all segments of business in the coffee industry in the Republic of Croatia (Božac, Gonan, Tipurić, 2014).

3.1. Analysis of the business model of Franck d.d.

As we mentioned earlier, from the very beginning until today, the foundation of Franck's successful business is its quality product. In our research, analyzing Franck's development strategy, using in-depth interview method, as well as secondary sources, we have arrived at the realization that the success of Franck's business is determined by the horizontal direction - the same phase of the value chain. The business is based on development activities at the level of the existing business and range, where concentration and expansion come as a logical choice for the success of the company. Concentration is a strategy of developing existing products in existing markets. With the strategy of concentration, Franck strives to increase its market share on a daily basis and thus achieve a better competitive position. Through the concentration strategy, the company achieves competitive advantages in the market by directing all its resources (capital, information, human, physical) towards successful business. Franck d.d. maintains its long-standing leading position on the Croatian market with quality products, as a result of continuous investment in technological advancements, the human factor, the origin of raw materials, and product distribution through distribution channels, primarily the HoReCa channel.

The HoReCa channel is designed to partner with hotels, restaurants and cafes where Franck's products are represented. Along with products that are not available in retail, the HoReCa channel also offers Superiore, Stretto and Superior espresso coffee and Espresso Classic and Bonus espresso coffee products (<https://franck.eu/en/>). To maintain its leading position Franck also uses an expansion strategy. Expansion is a form of development strategy, by which the company further strengthens its position in the existing business. The expansion aims to increase sales, profits and market share, by creating new approaches to production technology, new ways of meeting consumer needs, product innovation and reaching inaccessible markets, all of which are reflected in Franck's business. Through its development strategy of expansion, Franck achieves higher productivity of its production lines, which determines the further course of its presence on the markets. With the already mentioned HoReCa channels, Franck partners with hotels, restaurants and cafes where his products are represented. HoReCa sector is one of the fastest growing sectors in Europe. As the market leader in the HoReCa hot beverage segment, Franck offers solutions for all needs, with a large selection of top products for hotels, restaurants and bars, as well as reliable support and logistics. It provides partners with quality equipment and regular maintenance, as well as free employee training. With Franck's market expansion, the production of the entire range is based on the same technological methods, as well as the same knowledge for placement in other markets. The company can direct its own development towards geographical expansion by expanding its activities from one area to another, from one country to another. In this way, Franck's distribution expansion provides excellent prospects for long-term survival (Figure 13.14).

Figure 13: Overview of the structure of key sources of company revenue



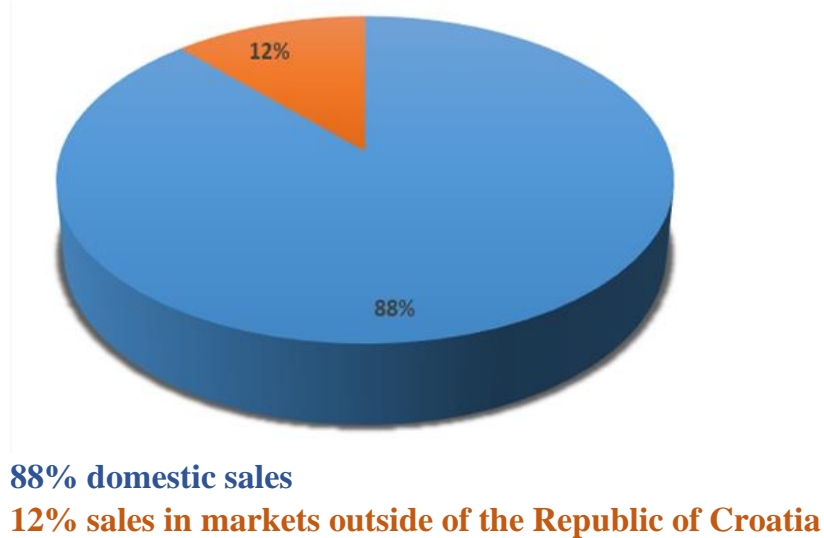
77% product sales revenue

18% revenue from the sales of merchandise

5% revenues from sales of materials, spare parts and small inventory

Figure following on the next page

Figure 14: Overview of the company's sales share by markets



In addition to market expansion, Franck also applies production expansion in its business, which is reflected in the development of the product range; by filling existing production lines, expanding the production line – developing new products, as well as new generation products. Franck's imperatives are quality and long-term business sustainability. Unlike its direct competitors, Franck has strong market shares and a wide range of products. In the Republic of Croatia, Franck is an undisputed leader in coffee products in the HoReCa channel with 38 percent of the market. The business sales model for HoReCa is a representative example of excellence and productive teamwork in terms of responding quickly to partner needs, offering not only a product but a complete service, making Franck a reliable and long-term partner. Franck does not apply the approach of solely conquering as much of the market as possible, as this is not in line with the strategy of long-term sustainable business development.

3.2. Analysis of the business model of Atlantic Grupa

Atlantic Grupa is organized as a vertically integrated multinational company whose business operations include research and development, as well as production and distribution of consumer goods throughout the region. Atlantic Grupa divides its activities into Business operations and corporate support functions. Analyzing the business model of Atlantic Grupa, it is evident that the company bases its business on distribution, where it operates within the national company in cooperation with international brands. Given that the strategic coffee business unit is the largest product category in the Atlantic Grupa, predominantly responsible for more than 20 percent of the company's total revenue, which largely ranks Atlantic Grupa as a regional leader with more than 23 thousand tons of annual production and makes it a growing number two in Croatia (www.atlantic.hr). The strategic goals of Atlantic Grupa's management are certainly the implementation of fast and efficient integration. In our research, studying Atlantic Grupa's development strategies through the method of in-depth interviews with the company's management involved in the takeover process, we found that Atlantic Grupa opted for the strategy of merger and acquisition of Droga Kolinska as an extremely strong manufacturing company with strong brands in all regional markets. Strategic decisions of Atlantic Grupa's management highlighted the realization of sales synergy potential with emphasis on: use of distribution experience and Know-How of Atlantic Grupa in retail and HoReCa channel in general, and especially in the Croatian market, use of Droga Kolinska's strong presence in Croatia.

Expanding the merged sales range, the ability to reap the benefits of economies of scale, stronger bargaining power with customers and suppliers resulting in better sales conditions, and a focus on coffee categories with higher growth potential are some of the reasons for the acquisition. In the coffee category, the synergistic potential is manifested through the use of Atlantic Grupa's distribution know-how. In the Croatian market, there is an increase in low-weight distribution in the coffee category through all sales channels. The intensity of synergy potential according to production categories shows that the coffee category has a level of high synergy potential on the Croatian market. Through interviews with the company's management involved in the takeover process, it can be concluded that Atlantic Grupa's management members pointed out and were aware that certain parts of Droga Kolinska's portfolio were of great importance and very lucrative, mainly the coffee division with its strong Barcaffè brand. The company's leading position in the coffee category is prominent. The previous analysis gives the impression that the post-acquisition phase has been identified as the most important determinant of Atlantic Grupa's future business as a leading regional coffee producer, and in the freshly roasted ground coffee segment one of the largest producers in Europe. Strategic business unit (SBA) becomes Atlantic Grupa's largest single business area and accounts for 22 percent of the company's total revenue. After the successful integration of Droga Kolinska, Atlantic Grupa processes as much as 28,000 tons of raw coffee, which is slightly more than 23,000 tons of the final product. Atlantic Grupa with the Barcaffè brand ranks second in the Croatian coffee market with a market share of 12 percent. The management of Atlantic Grupa points out that post-acquisition of Droga Kolinska in Croatia it began a serious increase in coffee sales, from 400 tons in 2013, the group reached 1700 tons in 2018, which in financial terms represents a growth of more than 400 percent, which is a trend that continues both in quantities and in value. Since coffee is a very local category, the market of the region is based primarily on the consumption of freshly roasted ground coffee, so it occupies more than 80 percent of Atlantic Grupa's production and sales portfolio. Today, the "Barcaffè & Go" concept is present in more than 1,000 outlets, and more than 12.3 million beverages are sold annually in the region through this channel. It is from this channel that the greatest growth is expected in the coming period. It is obvious that the main goal of the company was to integrate and more efficiently and effectively arrange the elements of both organizations to engage synergies together, which was certainly one of the main motives for the strategy of takeover and merger, in the fight to gain competitive advantage in the coffee industry in Croatia. The analysis shows that Atlantic Grupa's management decided on a development strategy to take over and merge Droga Kolinska for a number of reasons, but the most important is to acquire the ownership of the Barcaffè and Grand Kafa brands, along with future production and distribution activities, which were a huge challenge for the company's management. The development strategy of diversification is also evident, namely concentrated diversification, because Atlantic Grupa decided to diversify its business by expanding into new markets. The advantage of concentrated diversification for Atlantic Grupa is certainly reflected in the realization of the synergy potential that arises from complementary products and markets. Also, the company's management was guided by the idea of expanding into those business segments that do not react negatively to current market opportunities, of using technology, increasing capacity efficiency, and developing the brand's goodwill. From the above it can be concluded that Atlantic Grupa successfully integrated Droga Kolinska using specific knowledge and skills derived from the historical development of Atlantic Grupa, emphasizing the role of takeovers in company development, where the most important case is made by brands and products and their market performance. According to Berić, T., the success of the post-acquisition phase, but also the entire takeover is reflected in achieving synergies in different areas, because the main goals of takeover are knowledge transfer, cost optimization and establishing efficient distribution (Berić, 2014).

It follows that Atlantic Grupa has successfully integrated Droga Kolinska and achieved synergy effects greater than initially planned in all major business segments, and achieved far better final results than planned. In relation to regional markets, it is evident that the greatest synergy effect was achieved in the Croatian market, in gaining a competitive advantage in the coffee industry. Also, significant business integration and harmonization on the operational level was achieved, with the aim of attaining even greater synergy effects which has evidently been achieved through the strategy of acquisition and mergers. From all of the above, the significance of the Merger and Acquisition development strategy is evident in the example of Atlantic Grupa's takeover of Droga Kolinska, and the acquisition and realization of competitive advantage over major rivals in the coffee industry in Croatia, which was certainly a huge motive and strategic interest for Atlantic management Groups.

3.3. Business model analysis Anamarija Company d.o.o.

So far, the success of the management of Anamarija Company d.o.o. has been focused on high product quality, continuous market research, monitoring trends, introduction of new technologies and continuous education and motivation of the employees. Due to these strategies the Anamarija brand is recognized by the customers and records a steady increase in demand. Continuous efforts and investments in development have resulted in top-quality products, which has been confirmed by numerous recognitions from the judging panels of domestic and foreign institutions. Despite the long-term presence of other respectable brands, both domestic and foreign, with centuries of experience and tradition, over the years Anamarija has itself grown into a recognizable brand among Croatian consumers. When deciding on which kind of development strategy to use, the management of Anamarija d.o.o. employs the Ansoff matrix when applying and implementing its assortment expansion strategy, which takes into account two elements: product and market. In this way, opportunities are created for management to better understand future growth and development through existing products and markets or the development of new products and markets, and to devise the best strategy to achieve planned growth. The focus is on four segments: existing products, new products, existing markets and new markets, and in each combination, it proposes the use of one of the following: market penetration, market development, product development and diversification. Ansoff's matrix of product expansion grid is applied by the management of Anamarija through:

- Market penetration strategy: higher share of existing products;
- Market development strategy: new markets for existing products;
- Product development strategies: new products for the current market;
- Diversification strategy: new products for a new market.

All the above are features of the business model of the company Anamarija, which defines its development strategy through theoretical but also practical facets. For companies that have the potential to enter international markets, the choice of business strategy is crucial, so the management of Anamarija opts for the stance that the company has much potential in terms of expanding to international markets, product development strategy, diversification, market penetration, and that nowadays economic progress is not possible if the producer is oriented exclusively to the domestic market. This is a huge motive and strategic interest for the management of a small family business in gaining a competitive advantage in the coffee industry. Given that the food industry generates the highest income and employs the largest number of people, coffee production is one of its most profitable activities. Continuous efforts and investments in development have resulted in top quality products which have received numerous recognitions from both domestic and foreign institutions (<https://anamarija.hr/hr/o-nama>).

Anamarija d.o.o. is a solid (average) company if we take into account the number of employees and financial indicators, but it has recorded a stable and constant growth all these years.

3.4. Comparison of analyzed business models

By analyzing and comparing the business models of three companies from the Croatian coffee industry, we conclude that the first and leading position is occupied by Franck d.d., the second place is taken by Anamarija Company d.o.o., and the third place by Atlantic Grupa with its brands Barcaffè and Grand Kafa. Conducting an analysis and comparing the strategic processes of individual companies, we noticed the existence of differences but also similarities in their business models. The basic development strategies of Franck d.d. as one of the leaders in the coffee industry in the Republic of Croatia are expansion and concentration. Analyzing the business of Anamarija Company d.o.o. we recognize that company management uses market and product expansion as its leading strategies. The success of Franck d.d. as an old company with a century-long tradition, but also Anamarija Company as a much younger company in the coffee industry is based solely on consistent product quality, constant market demands, daily monitoring of trends in all business segments, introduction of new technological production systems and continuous employee motivation. Furthermore, given the high representation in this segment and long-standing market position, i.e., the second market position for Anamarija, the business strategy of both companies is focused on expanding HoReCa channels, continuous expansion in the market and achieving the position of leading suppliers of quality coffee in Croatia. On the other hand, the third place in our study is taken by Atlantic Grupa with its brands Barcaffè and Grand Kafa, whose management decided to apply the strategy of takeover and merger (for example, the takeover of Droga Kolinska), which was a logical choice given the fact that Atlantic Grupa is a vertically integrated multinational company whose business operations include research and development, production and distribution of consumer goods. Here we see a clear difference in the choice of strategies in the business model compared to the previously mentioned companies. The development strategy of diversification is also evident, namely concentrated diversification, because Atlantic Grupa decided to diversify its business by expanding into new markets. The same is applied by Anamarija Company in an effort to conquer new foreign markets. By analyzing all of the above and comparing the business models of the three companies from the Croatian coffee industry, we conclude that all three companies with their somewhat different and/or similar business models and development strategies as well as in their daily competition, achieve dominant positions in the coffee market in Croatia.

4. CONCLUSION

Like all other industries, the food industry without a well-chosen development strategy, without a vision, mission and goals has no future in today's competitive, dynamic and demanding market. Carrying out this analysis and comparing the strategic processes of three companies, differences were noticed, but also similarities in their business models. Through these, each analyzed company occupies its own position in the coffee market of the Republic of Croatia.

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RISKS OF IMPLEMENTING GAMIFICATION: A LITERATURE REVIEW

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ABSTRACT

The term "gamification" is most often used in the modern business world as an attempt to improve employee productivity and their motivation, improve the marketing activities of the company, improve the activities in the field of finance and all other activities. Gamification is defined as the use of elements, mechanisms, and ways of thinking from video games in an environment that has nothing to do with video games. Because of its broad nature, gamification has found various benefits in different industries, which is amplified in the work-from-home and study-from-home models which became frequent during the COVID-19 pandemic. The increasing implementation of gamification and its growing popularity is generally based on positive feedback and different benefits outlined, however potential problems and risks can be detrimental to the organization's functioning if implemented improperly. The paper focuses on the available research on the topic, to serve as a basis for future primary research. Data analyzed shows a discrepancy on outlining benefits and drawbacks/risks in published papers. Following an in-depth analysis, it is determined that poor implementation of gamification can lead to significant problems in organization day-to-day functioning, which if not remedied can deteriorate quickly with great adverse effects. Risk management best practices can be followed to minimize potential negative effects of gamification.

Keywords: *Business, education, Gamification, literature review, risks*

1. INTRODUCTION

Gamification has enjoyed wide-spread popularity and use in many different context use-cases, scenarios and industries ever since the modern term has been introduced by Detering in 2011. Most of gamification definitions state that it represents the use of elements, mechanisms, and ways of thinking from video games in an environment that has nothing to do with video games (Detering et al, 2011; Van Der Boer, 2011). Gamification is concerned with positive motivation, focusing on intrinsic elements to generate a response from the individual. In the past decade, research on gamification have increased exponentially, with most of them referring to gamification as a positive influence in different business and educational contexts (Dicheva et al., 2015; Borges et al., 2014; Chans & Castro, 2021; Navarro-Espinosa et al., 2022), which motivated the business community to further experiment with various implementations. Gamification in its nature brings several elements intended for easy access:

- Developed methodologies proven in other scenarios (i.e. video games)
- Easy access to tools, platforms and other content for gamifying processes
- Minimal or non-existent capital investment to get started

These elements create an incentive in organizations, since the stated benefits of gamification can have a large impact on business operations, while the underlying investments and risks are perceived as minimal.

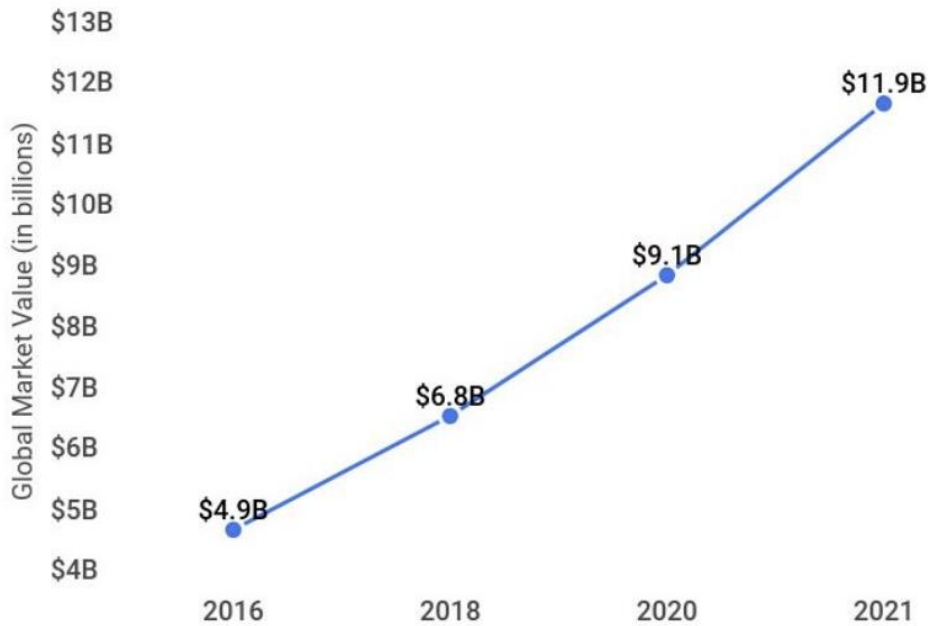


Figure 1: Growth Rates of Game-based Learning Worldwide, 2019 - 2024
 (Source: Statista, 2021)

Figure 1 shows that the growth in the Gamification market has been significant, from \$4.9B in 2016 up to \$11.9B in 2021, with the North American gamification industry leading the charge, valued at \$2.72B. Recent statistics show that 72% of employees state that gamification motivates them to be more productive at work, while 67% of students agree that gamification in education can improve engagement levels and motivation (Georgiou M., 2020).

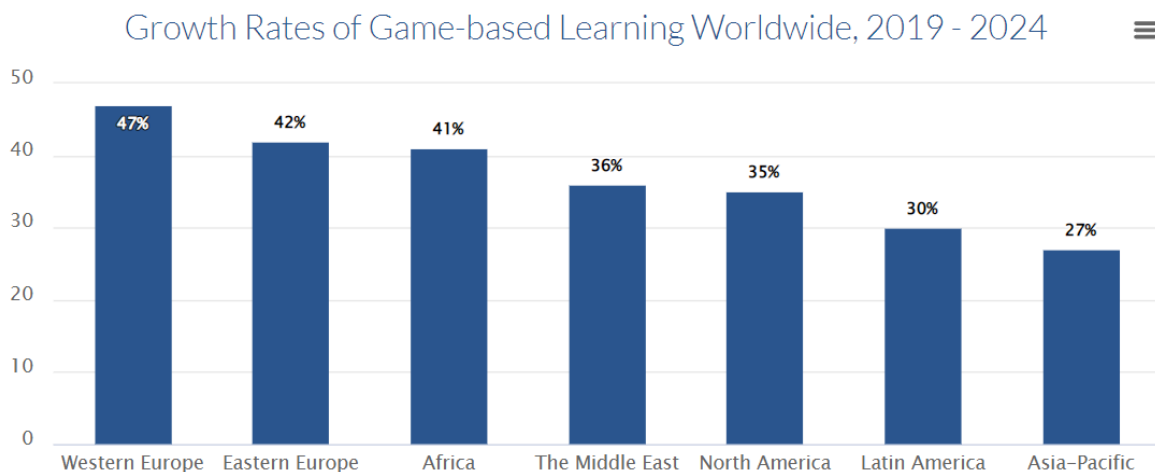


Figure 2: Growth Rates of Game-based Learning Worldwide, 2019 - 2024
 (Source: Adkins S., 2019)

Data shows that there is an increasing acceptance of gamification in learning models, with Western Europe leading with 47% growth rate (actual and projected) in the period of 2019-2024, followed by Eastern Europe with 42% and Africa with 41%. The trends in gamification acceptance continue to rise, with widespread use across different continents and industries. Despite the positive influence it can offer organizations and its processes, there could be underlying potential downsides and risks that can be experienced during and after implementation, making it vital to research this area of gamification.

2. METHODOLOGY OF RESEARCH

One of the basic methodologies used is theoretical research through the analysis of secondary sources of information and data: books, academic journals, scientific publications, empirical studies, publicly available statistics, articles from the Internet and other materials relevant to the subject matter. The method of induction and deduction was used to draw conclusions from existing research on gamification. Finally, the comparative method was used to emphasize similarities and differences between the data gathered from case studies and existing research, as well as to make recommendations for further improvements.

3. RESEARCH AND DISCUSSION

Detering (2011) provided the modern definition of gamification, as the use of game design elements in non-game context. As such, gamification contains four different elements which can be identified, including elements of games (but not games in full); reflection of the way gamers think, environment not related to games (most usually a workplace); and motivation to achieve goals other than the organization/process standard reward systems. The combination of these elements is crucial for successful implementation of gamified initiatives, regardless of the company size, industry or country. Motivation is the key component of gamification, as well as a driving force behind the changes which are implemented and enforced in these types of initiatives. Extrinsic motivation in the workplace is defined as doing something because it leads to a separable outcome, meaning outside encouragement and rewards are earned from performing a task (London, 2009), while intrinsic motivation which is connected directly with gamification is defined as the doing of an activity for the inherent satisfaction it brings (Ryan and Deci, 2000).

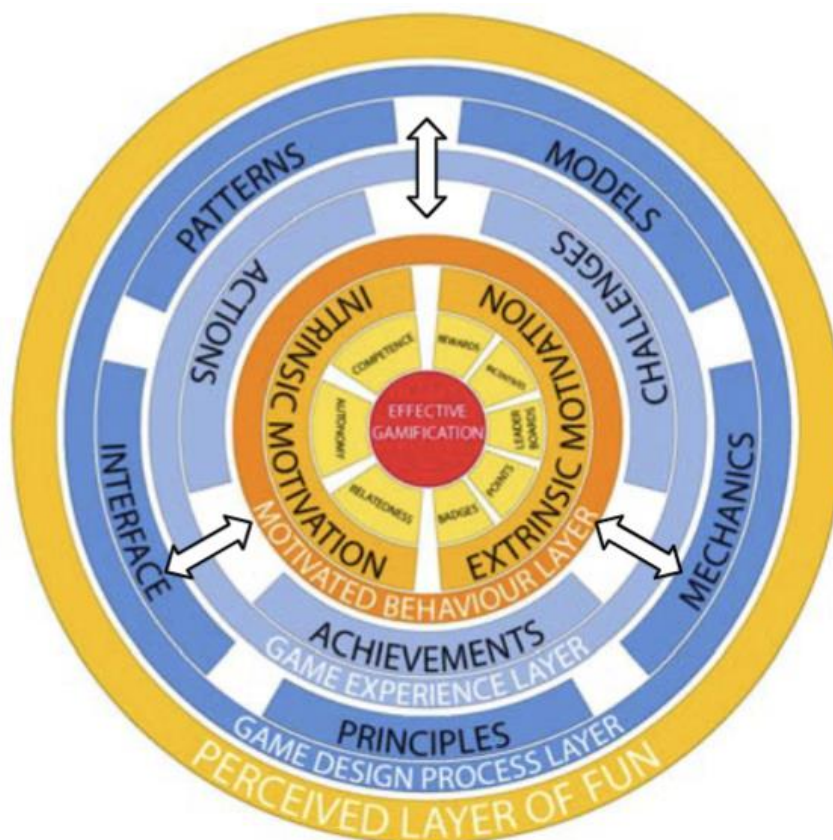


Figure 3: Kaleidoscope of effective gamification
(Source: Kappen and Nacke, 2013)

The kaleidoscope of effective gamification is shown in Figure 1, which outlines the four layers of gamification:

- Gamification core
- Motivated behavior layer
- Game experience layer
- Game design process layer

These four layers include the mechanics, models and actions necessary for a successful gamification implementation.

3.1. Gamification benefits

As discussed in the introductory section, gamification can offer enormous benefits for organizations, including higher engagement rates of employee at performing operational activities, improved KPIs through competitive elements, higher satisfaction levels in employees, replace monetary rewards, reduced financial and budget implications and many others. Previous research has also outlined benefits in implementing gamification in an educational environment, including:

- using games or game elements reduce mistakes from students (Hanus and Fox, 2015)
- provide relevant and real-time feedback (Kapp, 2012)
- encourages healthy competition (Camillieri et al., 2011)
- Improvements when working in groups
- increased satisfaction in repetitive activities
- overall grade improvements (Guillermo and Castro, 2021).

Since gamification focuses on intrinsic motivation, increased motivational level are more sustained than other traditional monetary incentives most commonly utilized by organizations. Another relevant aspect is that gamification may require significantly smaller budget for implementation, since the rewards are embedded in the system and mechanisms themselves, thus making it easy for implementation for companies of any size. However, despite numerous benefits, low entry costs and seemingly easy implementation, research shows that there are significant risks, barriers and drawbacks that can occur for the organization.

3.2. Risks of implementing gamification

Related risks factors to gamification can be grouped in two main categories: design risks and implementation risks. Since gamification systems are complex and rely on motivational elements, the design aspect is crucial to ensure a successful implementation. Risks connected with designing gamification systems may include:

- **R.1 Gamification goals** – as a novel approach, organizations are enticed by the benefits of gamification, but there is no clear strategy and goal for implementation of the mechanisms, as well business process analysis (Algashami et al., 2019). Gamification processes do not represent a one-size-fits-all approach, meaning that each implementation is dependent on several factors which need to be reviewed before starting the design of the system. Personalization of the gamified system, mechanisms, awards and other elements are required, as the human factor that is involved and the main target differs greatly even between organizations of the same scope and industry.
- **R.2 Reward system** – gamification offers the opportunity to exploit non-monetary awards for intrinsic motivation, but the awards should be carefully chosen to be relevant to the participants in the new system. Otherwise, the organization risks implementing a new system for motivating employees with unattractive awards which can hinder its main goal.

Low value rewards might go so far to demotivate employees instead of motivating them more, thus creating a negative effect when implementing gamification.

- **R.3 Established timeframe** – refers to time needed to design the system and the timeframe for implementing gamification strategies. Connecting with R.1, organizations often allocate minimal time and resources in developing a gamification strategy, most likely copying a successful use-case scenario from another organization. Additionally, most gamification implementations begin without a solid deadline for the end of the process, as organizations believe that it will become a permanent process in the structure.
- **R.4 Unfulfilled potential** – it is very easy to miss the potential of the gamification benefits that a certain organization can achieve. By failing to establish measurable KPIs, organizations cannot properly evaluate the success of the gamification implementation. Most comparisons and benchmarks are done with the traditional employee incentive programs, however without proper monitoring on a micro-level, it is very hard to determine the elements which function properly and those that can be improved or changed.
- **R.5 Gamification isn't suitable** – the last design risk is that gamification as a solution might not be the right strategy to motivate employees in certain cases. Even though the term is popular and the implementation can be set up easily, companies feel the need to gamify their systems just for the sake of modernizing, without evaluating the potential positive (or negative) impact it might bring.

Risks connected to the implementation of gamification may include:

- **R.6 Personal conflicts** – gamification initiatives often put competitive elements (such as leaderboards) in the processes, which are intended to create healthy competition between employees during the implementation period. However, this can easily derail the working environment if not implemented properly and communicated with the employees. As these competitive elements make the performance metrics public, conflict happens on three levels: intergroup conflict between groups who are chasing the same gamification goals and rewards, interpersonal conflict between top performing employees who wish to outperform each other and stop collaborating with the team; and intrapersonal conflict in employees who are at the bottom of the leaderboards.
- **R.7 Indifference** – employees can show indifference in participating in gamification systems due to various factors: feeling left behind on leaderboards, unattractive reward system, not understanding the process of gamification and its rules, poor communication and a host of other issues. Depending on specific employee traits and demographic characteristics, enticing certain individuals to participate may show as an impossible task to complete.
- **R.8 Performance degradation** – even a well-designed gamification system can lead to loss of performance in certain employees. Due to the nature of converting activities into a new narrative, not understanding the rules or other factors, work performance in employees might actually decrease after gamification of their working processes (Toda et al., 2018).

3.3. Best practices for minimizing risks in implementation

Organizations can address the perceived risks in implementing gamification with best practices from successful implementations:

Table following on the next page

Best practice	Risks contained
Gamification management	Gamification goals Reward system Established timeframe Performance degradation Gamification isn't suitable
Gamification outsourcing	Reward system Established timeframe
Gamification involvement	Personal conflicts Indifference
Gamification risk mapping	Established timeframe Personal conflicts Performance degradation
Gamification monitoring	Gamification isn't suitable Personal conflicts Indifference Performance degradation

*Figure 4: Gamification risk best practices
 (Source: Own research)*

Through the implementation of outlined best practices, organizations can minimize the occurrence of risks throughout the implementation of gamified systems, as well as minimize their impact (or eliminate them completely) if they arise, as shown in figure 4.

- **Gamification management** – the best practice involves adding a preparatory phase in gamification systems development, with top level management and the people responsible for implementation heavily involved, dedicating time on researching all perceived risks, as well as developing the management and implementation documents. This type of approach will eliminate a host of potential risks, including gamification goals, rewards systems, established timeframe, performance degradation and gamification not being suitable. Although this best practice results in additional time being added before the implementation period, it may bring large potential benefits during and after implementation. The recommendation of the authors is to include this stage as a default in all gamification implementations
- **Gamification outsourcing** – addressing two perceived risks, the reward system and established timeframes. As gamification deals with psychological aspects such as motivation, organizations may benefit in contacting and employing experts in the field in their future implementations. This will minimize the risk of inadequate rewards and intrinsic motivators which may hinder the entire initiative.
- **Gamification involvement** – as the users of the gamified systems, employees at each level (strategic, but as well as tactical and operational) can be given a voice in the preparation and implementation phases of gamification. The feedback from users is critical to design a gamified system, as well as to spot potential involvement issues and/or conflicts.
- **Gamification risk mapping** – the process of risk mapping is a critical stage in gamification implementation. As with other initiatives, risks are unique for each organization and setting, so dedicating time in developing potential risks in implementation can lead to generating risk management strategies and addressing the issues proactively.
- **Gamification monitoring** – concerned with several risks, such as personal conflicts, indifference, performance degradation and gamification not being suitable. Daily and weekly monitoring activities, along with well established and communicated KPIs minimize the potential to have low engagement levels of users.

4. CONCLUSION

Due to the popularity of the term and its widespread use, coupled with low costs for implementation, organizations are keen to give gamification a chance, as it can be seen that there is little to lose. Gamification implementations can vary greatly in their success based on several risk factors. As outlined in the paper, despite the promised benefits, gamification effects can also range to being non-existent to even having adverse effects and actually damage the organizational processes, working structure and employee motivation. The paper identified 8 perceived risk factors that are mostly seen in unsuccessful implementations of gamification. Due to the nature of the risk factors and fragile structure of gamification, it would only take the presence of one risk factor to result in a failed implementation. Organizations can minimize the presence of risk factors by implementing one or several of the presented gamification risk best practices. The paper is based on secondary data and part of the authors deeper research in gamification initiatives, which include various primary research activities. As such, it is limited in reviewing existing secondary data and utilizing different methodologies to develop new interpretations and conclusions in the field. The research can be expanded by utilizing primary data in the form of controlled experiments and questionnaires, which will further test risk management best practices in gamification both within a physical and virtual environment.

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THE INTEREST OF SILVER ECONOMY CONSUMERS IN BIKE-SHARING

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ABSTRACT

Bike-sharing as one of the shared economy services is widely used and popular, especially among young people. However, as Europe's population ages, the silver economy and its consumers increasingly come to the fore. This article aims to identify the interests of consumers over the age of 50 in bike-sharing and identify the factors affecting them. A survey was conducted in the Slovak republic, and 218 responses were used in this article. Results show that 15% of respondents are absolutely determined not to use this service, and 32 % would probably not use it. The most common reason that discourages people from using bike-sharing is weather and, subsequently, the use of own bicycle and responsibility. In addition, an analysis of the factors affecting willingness to use bike-sharing revealed associations between interest in bike-sharing and age, education occupation, access to a bicycle, and travel preferences related to transport mode, physical effort, use of ICT during travel and environment protection.

Keywords: *consumer behaviour, silver economy, bike-sharing, preferences, older people*

1. INTRODUCTION

Innovations in location-based services, internet technologies, and mobile technologies have enabled the development of shared transport. Shared transport is an innovative transport strategy that allows users to gain short-term access to modes of transport such as cars, bicycles or micro-scooters on demand (Cohen and Shaheen, 2016). One of the primary tasks of shared transport is to reduce the number of means of individual passenger transport in the transport infrastructure. However, this goal can only be achieved if people have at their disposal an alternative form of transport that will be more advantageous for them than individual passenger transport in terms of money, time saved but also comfort. One of the shared transport services is bike-sharing. Bike-sharing is a one-way service mostly used for commuting to work, school, or errands in an urban area. It is often used as the last leg of public transport trips (Arias-Molinares, García-Palomares, 2020). Constant development and innovation in the ICT field caused bike-sharing to become an easily accessible mode of transport around the world (Radzimski and Dziecielski, 2021; Böcker and Anderson, 2020). In addition to traditional individual benefits resulting from cycling, such as improving health, reducing costs and travel time, bike-sharing also brings with it the creation of innovative business models (Long and Waes, 2021; Gao and Li, 2020; Durisova and Kucharcikova, 2014), new forms of marketing focused on specific needs and expectations (Morton, 2018) and added value for society as a whole in reducing congestions and transport emissions. It is also considered a sustainable mode of transport that contributes to the development of sustainable cities (Zhang et al., 2021; Radzimski and Dziecielski, 2021). To ensure that these social benefits will increase in the future, it is necessary to secure bike-sharing will be used more often and by more people.

An important aspect affecting the development of shared transport and thus bike-sharing is the changing behaviour of consumers. Consumer behaviour can be defined as all consumer decisions regarding the acquisition, assessment and use of goods or services to meet their needs (Hoyer et al., 2013). In particular, young people change their approach to individual ownership, which in turn leads to the promotion of shared services, in this case, bike-sharing. The use of shared transport by young people is also supported by information and communication technologies in the provision of these services. However, given that the share of the elderly population in the total population is constantly increasing, it is also necessary to focus on identifying attitudes and factors influencing their preferences related to shared transport. The long-term trend in Europe is a change in the population's age structure, and thus it is ageing. It is mainly reflected in the ratio of productive people to the total population, with forecasts suggesting that this share should increase significantly in the coming years (Eurostat, 2019). The silver economy, in which people over the age of 50 generate the highest share of consumption, tries to use at first sight negative phenomenon by using the purchasing power of these people (IZ, 2020). However, it is necessary to realize that people belonging to the silver economy are also changing. Compared to the previous generation, today's consumers are attracted by new technologies and innovations. In addition, they are characterized by high purchasing power, activity, more free time, which they use for hobbies and loyalty to their brands. Although several studies have addressed the impact of socio-demographic characteristics on interest in shared transport services (Lee et al., 2021; Reilly et al., 2020; Böcker and Anderson, 2020; Fisham et al., 2015; Ricci, 2015; Buck et al., 2013), very few have focused specifically on older people and the factors that influence their consumer behaviour in this area (Payyanadan, Lee, 2018; Silvis, Niemeier, 2009). Modern services using ICT such as bike-sharing are expected to be used automatically by young people without any problems. However, given the ageing generation, it is also necessary to know older people's views and preferences regarding transport sharing services and to be able to adapt them so that they are acceptable and used not only by young people but also silver generation.

2. METHODOLOGY

Research in the field of shared transport currently focuses mainly on factors that influence people's attitudes towards shared transport and its acceptance (Jiao et al., 2020; Wang et al., 2019; Amirkiaee, Evangelopoulos, 2018; Prieto et al., 2017) but do not look at the issue from the perspective of specific groups of consumers. The aim of this article is therefore to focus on the interest of consumers of the silver economy in bike-sharing services and to identify the impact of factors such as socio-demographic characteristics (age, gender, income, education level, occupation), access to means of transport, travel preferences and experience with bike-sharing on interest in these services. Understanding consumer attitudes and the factors that influence these attitudes can significantly help in future mobility planning and efforts to influence consumer behaviour in the field of transport. The data used in this paper are obtained from a survey focused on the preferences of older people to shared transport services. In this article, older people are understood as people over the age of 50 who are considered consumers of the silver economy. The survey was conducted from October to December 2021 in Slovakia. The survey was conducted in two forms. The first form was aimed directly at addressing older people. In this form, two types of questionnaires were used, printed out, which the respondents could fill in themselves, and electronic ones, but in this case, the person responsible for addressing them asked them questions and filled out the questionnaire. The second form aimed at young people (university students) who were asked to help with the research and address their parents and grandparents and fill the online questionnaire together with them.

The questionnaire contained questions related to respondents' typical daily travel, transport preferences, interest in using sharing services (bike-sharing and ridesharing), reasons not to use these services and socio-demographic characteristics (Table 1). To find the interest in using bike-sharing, respondents were asked whether they would use bike-sharing if it was available in their town. They could choose the answer from a 5-point scale in which 1 meant "Certainly no" and 5 meant "Certainly yes".

Variable	Question	Types of answers
Car access	<i>Do you have access to a car?</i>	Single choice question Yes/No
Bicycle access	<i>Do you have access to a bicycle?</i>	Single choice question Yes/No
Daily distance traveled	<i>During a typical week, I travel mostly:</i>	Single choice question short distances (up to 10 km)/medium distances (from 10 to 30 km)/ long distances (more than 30 km)
Most used transport mode	<i>During a typical week, I travel mostly :</i>	Single choice question On foot/by car/by public transport/by bicycle/by other mode of transport
Preferred transport mode	<i>What is your favourite transport mode?</i>	Single choice question Walking, car, public transport, bicycle, other
Preference - quick	<i>In my daily travels: I like getting to my destination as quickly as possible</i>	5-point scale: 1 - Strongly disagree, 5 - Strongly agree
Preference - safe	<i>In my daily travels: It is important for me to feel safe while travelling</i>	5-point scale: 1 - Strongly disagree, 5 - Strongly agree
Preference - without physical exertion	<i>In my daily travels: - I prefer the least possible physical load</i>	5-point scale: 1 - Strongly disagree, 5 - Strongly agree
Preference - ICT	<i>In my daily travels: I like to use modern technologies that help me save money when travelling</i>	5-point scale: 1 - Strongly disagree, 5 - Strongly agree
Preference - privacy	<i>Having privacy while travelling is important to me</i>	5-point scale: 1 - Strongly disagree, 5 - Strongly agree
Preference - eco-friendly	<i>When choosing a mode of transport, I try to think about the environment</i>	5-point scale: 1 - Strongly disagree, 5 - Strongly agree
Gender	<i>What is your gender?</i>	Single choice question Male/Female/Prefer not to answer
Age	<i>What is your age?</i>	Single choice question 50-64/65+
Education	<i>What is your highest education?</i>	Single choice question Primary/Secondary/University
Number of people in household	<i>What is the number of people in your household?</i>	Single choice question 1/2/3/4/5+
Income	<i>What is your monthly income?</i>	Single choice question Less than 623 €/from 624 to 1202/more than 1202
Occupation	<i>What is your marital status?</i>	Single choice question Single/Married/Widowed/Divorces
Experience with bike-sharing	<i>What is your experience with bike-sharing?</i>	Single choice question I do not know what it is/I have heard about it/I have already tried it
Interest in bike-sharing	<i>Would you use bike-sharing service if it was available in your city?</i>	5-point scale: 1 - Certainly no, 5 - Certainly yes

Table 1: Questions from the survey

246 respondents participated in the survey, but after cleaning the data, answers from 218 respondents will be used in this article. Structure of the sample is shown in Figure 1. As can be seen, the sample consists of 40.4 % males and 59.6 % females. Most of the respondents are aged from 50 to 64 years (68.8%), have high school education (65.7%) and are married (76.6%). More than 94 % respondents do not live alone, and up to 52.8% of respondents live in a household with 4 or more members. The figure also shows, that 33.3 % of respondents have monthly income lower than minimum wage in Slovakia in 2021 (623 €).

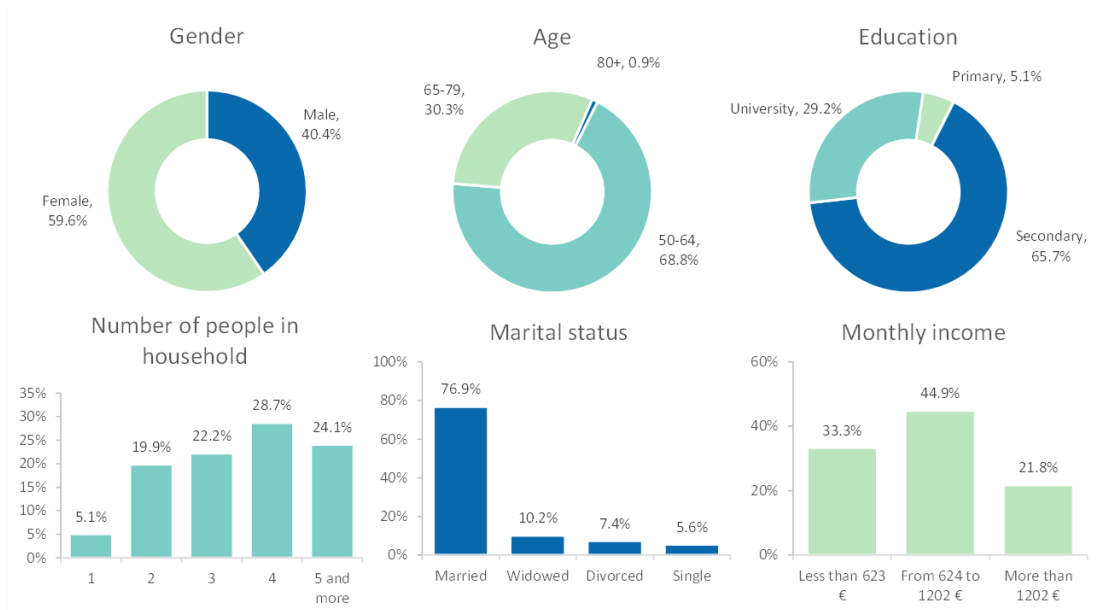


Figure 1: Structure of the sample based on gender and country of residence (N = 218)

Several techniques for statistical description and analysis were used for data processing. To reveal the influence of individual factors on the interest in bikesharing, Chi-square test of independence was used due to the nature of the data.

3. RESULTS

The research focuses on the interest of people over the age of 50 in bike-sharing. As shown in figure 2, 47.7 % is not or would not be interested in using bike-sharing if it was available in their town, and 15.6 % of respondents answered: “certainly no”. Figure 2 also shows the average assessment of the importance of why not using bike-sharing. The most crucial reason discouraging older people from using bike-sharing is the weather. People are not interested in cycling in bad weather (rainy, cold or windy) and during hot days. Another most selected reason is using own bicycle. Based on the low average for a reason “I don’t like cycling” it can be said that respondents prefer to cycle, but rather on their own bicycle. This result is in line with the following important reason which discourages people from using bike-sharing, responsibility. Older people do not want to use bike-sharing because they are afraid that the bicycle will break down or they will do some damage. As expected, the average values for the need to use smartphones and payment cards and lack of information are also relatively high.

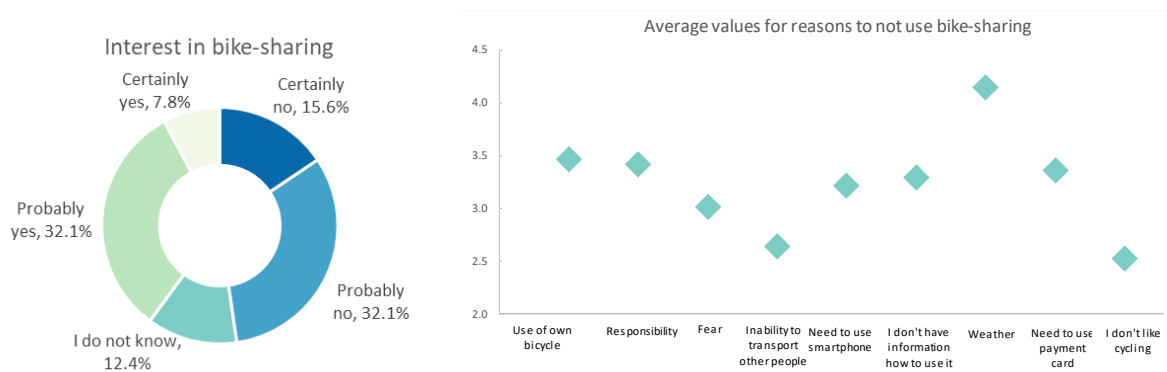


Figure 2: Interest of respondents in bike-sharing and average values of reasons to not use bike-sharing

In addition to the direct reasons why to not use bike-sharing, the impact of other factors such as current travel behaviour, travel preferences and experience with bike-sharing was analysed (Table 2). It can be seen, there is significant associations between interest in bike-sharing and bicycle ownership ($\chi^2(4) = 9.830$, $p = .043$; Cramer's $V = .212$) and preferred transport mode ($\chi^2(12) = 31.093$, $p = .002$; Cramer's $V = .219$). On the contrary associations between car ownership, daily traveled distance, most used transport mode and interest in bike-sharing was not confirmed.

Travel behaviour factors & preferences	Pearson's Chi-square test value	df	p-value	Cramer's V
Car ownership	8.543	4	0.074	0.198
Bicycle ownership	9.830	4	0.043	0.212
Daily distance traveled	9.139	8	0.331	0.145
Most used transport mode	16.533	12	0.168	0.159
Preferred transport mode	31.093	12	0.002	0.219
Preference - quick	17.763	16	0.338	0.143
Preference - safe	20.115	16	0.215	0.152
Preference - without physical exertion	34.482	16	0.005	0.199
Preference - ICT	35.742	16	0.003	0.202
Preference - privacy	12.834	16	0.685	0.121
Preference - environmentally-friendly	52.317	16	0	0.245

Table 2: Results of Pearson's Chi-square test for interest in using bike-sharing travel behaviour factors and preferences

Regarding respondents' travel preferences, it was found that there is a significant association between interest in bike-sharing and preferences related to minimum physical exertion ($\chi^2(4) = 9.830$, $p = .043$), use of ICT ($\chi^2(4) = 9.830$, $p = .043$) and choosing environmentally friendly travel options ($\chi^2(4) = 9.830$, $p = .043$). The influence of experience with bike-sharing on interest in using these services was also analysed. The results show that 34.9% of respondents do not know what bike-sharing is, and although 62.4% know it, they have never tried it. A chi-square test of independence was conducted between these variables and confirmed a statistically significant moderately strong association between experience with bike-sharing and interest in it ($\chi^2(8) = 25.183$, $p = .001$; Cramer's $V = .240$). In addition to the factors related to current travel behaviour and experience with bike-sharing, analysis of influence of socio-demographic characteristics on interest to use bike-sharing was performed. The results of chi-square test for every socio-demographic factor are shown in table 3. As can be seen, statistically significant association was identified for age ($\chi^2(4) = 30.262$, $p < .001$), education ($\chi^2(8) = 21.536$, $p = .006$) and occupation ($\chi^2(8) = 27.634$, $p = .001$). In the case of all factors, the identified association can be considered moderately strong (Cohen, 1988).

Table following on the next page

Socio-demographic characteristic	Pearson's Chi-square test value	df	p-value	Cramer's V
Gender	6.046	4	0.194	0.167
Age	30.262	4	0	0.373
Education	21.536	8	0.006	0.223
Number of people in household	23.143	16	0.11	0.164
Income	9.232	8	0.323	0.146
Occupation	27.634	8	0.001	0.252

Table 3: Results of Pearson's Chi-square test for interest in using bike-sharing and socio-demographic characteristics

The chi-square test results and descriptive statistics (Table 4) show that people aged from 50 to 64 have a higher interest in using bike-sharing than people above 65. This may be due to the poorer physical condition of older people, which prevents or restricts the use of bike-sharing and their lack of knowledge, either about the service itself or about the use of ICT. It is also related to education, where results confirmed that the higher the education people have, the more interested they are in using bike-sharing. It was also found that people who still work would like to use bike-sharing than retired people.

Interest in bike sharing	Interest in bike sharing						Interest in bike sharing	Interest in bike sharing					
	Certainly no	Probably no	I do not know	Probably yes	Certainly yes	Certainly no		Probably no	I do not know	Probably yes	Certainly yes		
Age	50-64	11%	23%	9%	33%	24%	1	0%	0%	0%	0%	100%	
	65 and more	38%	29%	10%	12%	10%	2	17%	28%	6%	28%	21%	
Education	Primary	64%	0%	18%	9%	9%	3	16%	20%	16%	16%	32%	
	Secondary	20%	28%	8%	24%	19%	4	14%	19%	10%	36%	21%	
	University	11%	22%	10%	33%	24%	5	25%	29%	9%	25%	11%	
Occupation	Employed	11%	21%	10%	32%	27%	1	35%	24%	12%	24%	6%	
	Retired	34%	32%	9%	15%	10%	2	23%	38%	6%	23%	10%	
	Other	15%	23%	8%	35%	19%	3	23%	17%	11%	30%	19%	
Bicycle access	Yes	15%	26%	7%	30%	22%	4	13%	33%	10%	23%	23%	
	No	29%	23%	13%	19%	16%	5	7%	13%	9%	31%	40%	
Preferred transport mode	Walking	13%	30%	17%	13%	26%	1	27.6%	20.7%	3.4%	34.5%	10.3%	
	Car	22%	25%	7%	31%	15%	2	22.2%	33.3%	7.4%	29.6%	7.4%	
	Public transport	25%	13%	21%	21%	21%	3	29.2%	26.2%	9.2%	23.1%	12.3%	
	Bicycle	0%	35%	6%	6%	53%	4	2.3%	27.9%	11.6%	30.2%	27.9%	
						5	10.7%	7.1%	14.3%	10.7%	57.1%		

Table 4: Differences in interest in bike-sharing based on factors identified by Pearson's Chi-square test as significant

Regarding bicycle access, it was confirmed that people who have access to the bicycle are more willing to use bike-sharing than people who do not. A significant association was also found for the preferred transport mode.

As expected, people who like cycling and walking are interested in bike-sharing. On the contrary, people who prefer to travel by car are less interested. Considering people's other preferences, those people who do not want to make a physical effort while travelling do not plan to use this kind of service in the future. Similar results were also confirmed for ICT preference. People who like to use ICT during travelling and for travelling purposes are more likely to use bike-sharing. In addition, people who prefer to choose environmentally friendly travel options are more interested in bike-sharing than people who do not think about the environment when selecting transport mode.

4. CONCLUSION

The article focused on the interest of silver economy consumers in bike-sharing. Compared to young people, people over the age of 50 are much less interested in using this service (Malichová, Tokarčíková, 2021). The analysis showed that weather could be a critical factor why older people do not want to use bike-sharing. Understandably, older people are afraid of cycling in bad weather; therefore, when promoting bike-sharing among this generation, it would be necessary to focus on eliminating the negativity of this factor. Analysis of associations between interest in bike-sharing and socio-demographic characteristics confirmed significant dependency in case of age, education and occupation. People over the age of 65 have a lower interest in bike-sharing. It can be assumed that the opinion of these people may be influenced by the fact that they do not have sufficient information about bike-sharing and do not use ICT. However, the health of these people must also be taken into account, as health status can be a significant factor in reducing interest in bike-sharing. As a result of the research results, providers could increase the interest of older people in bike-sharing, especially by appealing to its use for commuting not only to work but, e.g., into business, which could also reach retirees. They should also focus on the benefits of bike-sharing, whether the service's impact on the environment and human health. It is also crucial to help older people try the service and advise them on installing the application on your phone and how to use it.

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MULTINATIONAL COMPANIES FOCUSING ON THE SEGMENT OF HEALTHY FOOD

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ABSTRACT

Multinational companies have greatly contributed and are contributing to the development of people's awareness of a healthy and active lifestyle by operating in the segment of nutrition and developing technological processes thanks to which the market is increasingly abundant with nutritionally richer food solutions. The paper consists of a theoretical and empirical part. The empirical part is based on the survey questionnaire whose aim is to determine the extent to which respondents are familiar with the healthy food trends. The results show that the majority of respondents follow the global trend related to health, convenience and satisfaction. Over 90% of respondents consider healthy food important. This is a big challenge for multinational companies to focus on the segment of healthy food production.

Keywords: *Companies, Food, Healthy, Multinational*

1. INTRODUCTION

Multinational companies are the bearers of globalization and therefore have a major role in the world trade. Because they have great market power, they are able to strongly influence the economic and political issues of society where their influence is particularly evident when it comes to the global trend of healthy food. Multinational companies have greatly contributed and are contributing to the development of people's awareness of a healthy and active lifestyle by operating in the segment of nutrition and developing technological processes thanks to which the market is increasingly abundant with nutritionally richer food solutions. However, there is a problem of dual views on the business of multinational companies. On the one hand, the state and individuals are recognizing in the business of multinational companies the opportunity for growth and development and the advancement of technology, while on the other hand it is considered that multinational companies endanger freedom and bring ecology to undesirable position. There is also the problem of the survival of multinational companies in underdeveloped countries. The analysis of multinational companies will show all positive and negative effects of their business on foreign direct investment, i.e. encourage multinational companies to invest and do business in underdeveloped countries. On the example of a global leader in healthy food, Herbalife Nutrition company, an insight into the business of this company will be gained with regard to the purpose of promoting a healthy and active lifestyle and given the demand for a healthy diet, especially during the COVID-19 pandemic. The paper will conduct empirical research through a survey questionnaire to gain insight into the impact of the global trend of healthy food on people's eating habits, i.e. it will examine and conclude to what extent the growing trend of healthy food, promoted by multinational companies, affects people's awareness in terms of a healthy and active lifestyle.

2. METHODOLOGY

The business effects of multinational companies will be investigated and to what extent multinational companies in the segment of healthy food affect the promotion, growth and the development of a global healthy food trend. The aim of the survey questionnaire is to determine the extent to which respondents are familiar with the healthy food trends, how physically active they are and whether they use dietary supplements, i.e. to what extent the society's lifestyle is aligned with promotion the growing trend of healthy food. Primary and secondary data sources were used in the paper. Secondary data sources refer to the relevant literature while the primary data sources were collected using a survey. The empirical research has been conducted by a quantitative method on a sample of 121 respondent selected by non-probabilistic selection sampling whereby for the purpose of collecting primary data sources, a survey method was used to collect data based on a smaller cross-section of the entire population. The technique of data collection in survey research is online surveying.

3. LITERATURE OVERVIEW

In recent years, 10 major multinational food and beverage companies have worked together within the International Food and Beverage Alliance (IFBA) to increase their commitments to public health. Current IFBA commitments include initiatives to improve the nutrition quality of products and how these products are advertised to children. Alexander, Yach and Mensah (2011) examined packaged food and soft drink company shares provided by Euromonitor, an international independent market analysis company. Worldwide, the top ten packaged food companies account for 15.2% of sales, while the top ten soft drink companies account for 52.3% of sales worldwide. Major multinational companies need to be joined by the myriad of small- and medium-sized enterprises in developing and implementing programs to improve the health of the public, globally. In today's highly competitive environment, technology is seen as a key strategic factor in the development of enterprise capacity and positioning in the global environment. The globalization of business has also led to changes in the relationship between multinational corporations and domestic subsidiaries. Dabić (2007) analysed the factors influencing the transfer and application of technologies between foreign multinational corporations (MNC) and branches in transition countries, from the point of view of dynamic possibilities. Technology transfer is viewed through three elements: MNC's desire and ability to transfer technology; factors that enhance or limit technology transfer to transition countries and the interaction of environmental conditions of the multinational company and the host country; readiness and ability to receive and use technologies in local branches. Gligorijević and Mitić (2012) deal with global trends of healthy food market growth. Using secondary data for identifying characteristics and range of healthy food market on a global level and key segments, the economic importance and export potential of this sector in Serbia is discussed. Food sector accounts for high percentage of total Serbian export. Yet, those products are of low added value, neither branded nor packed. In order to position producers of healthy food on an international market successfully, strength and weaknesses of domestic production and export are identified and measured. Various positioning strategies of healthy food are discussed from the aspect of branding, country of origin image, marketing mix instruments, with special emphasis on promotion and product labelling. Functional products have been recognized as the most potentially growing food market in Europe. These foods are promoted with health-related arguments, which emphasizes the need to understand how consumers perceive the healthiness in food products and what is the overall role of health in food choices. Informing consumers about the health benefits of probiotics is a challenging task, as it requires translating scientific knowledge into consumer language, which has different rules for reasoning. Lähteenmäki (2004) analysed the activities of PROEUHEALTH cluster in informing consumers about the research on probiotics.

It is widely believed that young people are not overly concerned about their health or that they take excessive care of their eating habits. However, marketing experts see them as an extremely important and potentially large market, and consider all socially responsible business initiatives as long-term investments that will increase the value of the company. In the healthy food market, marketing practices are among the most important activities of socially responsible business. Vrzina and Pepur (2021) studied the importance of different socially responsible marketing practices on the healthy food market. The results confirm the importance of understanding the influence of key demographic variables (gender and household income) on customers' perceptions of socially responsible marketing. An important limitation of the research is the number and selection of socially responsible marketing practices. Many other researches have also focused on healthy food production and eating habits (Ciurzynska et al. 2019; Garcia-Oliveira et al., 2020; Samoggia et al., 2014; Lutz, 2021; Boesso, Davcik and Favotto, 2009; Béné et al., 2019).

4. RESEARCH

The results of the survey indicate that the vast majority of people are trying to keep up with the growing trend of healthy food which is evident from their eating habits and healthy and active way of life. Namely, the global trend of healthy food is one of the most influential global trends where the category of healthy nutrition is one of the few categories that recorded global consumption growth during 2020. Since health is a priority for most people and that it is achieved by consuming a healthy diet and active lifestyle, demand for natural, organic food, without artificial colours is increased, also as for lactose-free, gluten-free and sugar-free nutrition with reduced intake of fats and salts. At the same time, vegetarian and vegan diet is becoming more and more popular. Most consumers also expect that the food they consume is produced in an ethical and environmentally sustainable way, i.e. there is a growing demand for food products that have zero environmental impact. Due to the accelerated pace and urban lifestyle, there is a growing demand for dietary supplements that on a simple and practical way support and encourage a healthy and active lifestyle, which are placed on the market by multinational companies like Herbalife Nutrition which is one of the leading multinational companies in the field of healthy and active lifestyle and retail.

The main findings of the survey are the following:

- The majority of respondents, 59.5%, follow the global trend that dominates the market today, and relates to health, convenience and satisfaction.
- For more than the half of the respondents, 54.5% of them, it is very important to eat healthy, while for 40.5% are somewhat important to eat healthy. These results confirm that people generally follow the global trend of healthy food and that it is important to them.
- More than the half of the respondents, 57.9% of them, read the declarations (composition and origin) and information on food cultivation as well as certificates.
- 35.5% of respondents claim that the global trend of healthy food affects their eating habits since most of their daily meals are nutritionally rich.
- The majority of respondents, 43.5%, try to live healthy and active for the sake of general well-being and vitality, 25.8% for better health, 14.5% for better energy, 13.5% for better physical appearance, while only 2.4% do not try to live healthy and active.
- 35.5% of respondents occasionally use food supplements, 22.3% use them on the daily basis.
- 57.9% of respondents believe that dietary supplements today are a necessary ally of a healthy and active lifestyle.

The survey questionnaire as a research method has certain limitations. Namely, the results which it can give depend on the sincerity of the respondents and their ability to understand questions asked. In addition, a survey was conducted on 121 respondents over the age of 18 years and since there are approximately 3,250,000 people over the age of 18 in Croatia, the sample size on the basis of which the results were collected is relatively small that final conclusions could be drawn from it. Despite the limitations, the results obtained are suitable for establishing significant conclusions, while a larger sample would increase credibility results. Also, another limitation is the impact of the social desirability of the answer as well respondents' bias when answering survey questions.

5. MULTINATIONAL COMPANIES AND HEALTHY FOOD

The global trend of healthy food is of great development potential to many countries, as it is a growing global trend and whose significant growth is still expected. It is one of the most influential global trends where the category of healthy food is one of the few categories that recorded global consumption growth during 2020. The increase in demand for a healthy diet is primarily influenced by consumer needs, as well as legislation, innovation and technology development. A healthy diet and health in general are very crucial political and economic issues of developed countries. Considering the growing global trend of developed countries, the importance of multinational companies in the healthy food segment is growing as well as their number as they aim to improve health status of the population. In underdeveloped countries, on the other hand, survival of multinational companies is limited due to food insufficiency but thanks to numerous initiatives of multinational companies related to combating hunger in the underdeveloped countries, favourable conditions and new market opportunities are creating for development and survival of multinational companies in these areas as well. Governments of developing countries through incentives in the form of tax breaks and subsidies attract the capital of multinational companies in their countries. In addition to incentives, globalization, the potential associated with the infrastructure building movement, cheaper labour and lower production costs are factors that encourage the entry of multinational companies in developing countries. Multinational companies are products, but also co-carriers of globalization, which is responsible for market liberalization and the global operation of enterprises. Multinational companies are at the same time fundamental bearers of global trade in products and services and are considered drivers of development and progress. They have a strong development capacity as they invest all their efforts in productivity and development in a way that reduces production costs while increasing efficiency. Development and expansion of the business of multinational companies is based on foreign direct investment in new or already existing capacities, whereby in the business of multinational companies manifests an increase in the share of foreign subsidiaries. The vast majority of countries strive to attract as many direct foreign investments as possible as they are one of the most desirable ways of financing and at the same time movement of capital and because such investments have a positive impact on growth and employment in the country whereby the positive effects are particularly reflected in developing countries.

6. CONCLUSION

Multinational companies are the main carriers of technology, knowledge and capital especially in developing countries that are developing rapidly thanks to them. At the beginning of the business, multinational companies operate exploitatively, while in the long run contribute to development of technology and at the same time they improve working conditions. They have a stronger impact on economic developments than many national companies have and also possess great political influence, especially on governments of smaller and developing countries.

Globalization, in fact, leads to the creation of a unique political and economic system in which national governments have less influential power on economic developments in the world. Although multinational companies have a significant impact on the economy of individual countries, their absence would pose even more challenges for their economy. To determine the extent to which the global trend of healthy food affects healthy and active people's way of life, a survey was conducted through a questionnaire on 121 respondents whose results confirm that the vast majority of respondents tend to keep up with the growing trend of healthy nutrition as evidenced by their eating habits and healthy and active lifestyle. Over 90% of the respondents consider that healthy food is important. Every third respondent is affected by the global trend of healthy food. Every second respondent uses food supplements regularly. These results show the growing importance of healthy food production. Multinational companies are trying to follow this trend and the most successful are those who are specialized just in this segment of production. Healthy food production is one of the most lucrative segments in the food production.

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STREAMING PLAFORMS DETERMINE THE REVENUE OF THE GLOBAL MUSIC INDUSTRY

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ABSTRACT

The aim - of this paper is to determine the fundamental changes in the structure and trends of revenues of the global media industry and to determine the basic directions of development. Methodology / design - Research and analysis of results are based on financial analysis of revenues of the global music industry in the last fifteen years, analysis of changes in revenue structure, and regression analysis of trend testing in the ANOVA model. The research uses reports from agencies specializing in the global music industry, scientific literature related to the music industry, and other relevant sources. The results - research results have proven significant changes in the revenue structure of the global music industry. Due to the change in consumer behaviour, revenue from streaming has become the dominant part of revenue. Conclusion - The music industry has completely changed its revenue generation model. The core revenues of the global music industry follow modern trends. While the old music industry generated revenue from the sale of physical sound carriers, the modern music industry generates most of its revenue from streaming and performance right.

Keywords: *digitalisation, digital transformation, music industry, streaming, performance right*

1. INTRODUCTION

The global music industry, as part of the old media industry, was among the first to face the changes imposed by the digitization and convergence of media content. Most of the revenue the old music industry generated from the sale of physical sound carriers. Postmodern society and changes in consumer habits have completely changed the environment of the music industry. In 1999, the Napster platform enabled users to share music content, which were death bells for the old media industry. Revenue fell sharply after Napster's appearance in 1999, leading record- industry executives to conclude, without careful empirical study, that file sharing was undermining sales. And there is some reason to agree with their conclusion (Waldfoegel 2018). Napster was shut down in early 2000, but consumer habits have changed forever. In addition, digitalization has enabled a huge technological breakthrough and completely new models of consuming music content have emerged. With the advent of streaming platforms, the foundations have been laid for completely new models for generating revenue for the music industry. Digitization directly affected the sharp decline in music industry revenue, while the development of streaming platforms and the growth of streaming revenue and performance right directly affected the decline in music industry distribution costs (Lozić

2019). Music content is distributed on streaming platforms, the service is commodified in the platform economy model (Parker et.al. 2016; Moazed, Johnson 2016), and uses the zero marginal cost model (Rifkin 2015). The paper analyses the structure and changing trends of the music industry revenue as a result of technology development and changing user habits. The research is based on the analysis of financial statements using statistical models of processing and interpretation of results.

2. LITERATURE REVIUW

The digital transformation of the music industry has directly affected the revenue generation model of music corporations. The platforms have made it possible to publish music content without the existence of gatekeepers. At the same time, physical sales fell sharply, and revenue could not be generated from platforms where music content could be published (Lozić 2020a). The global music industry has found new ways to generate revenue. Guichardaz et.al. (2019) highlight how the music industry has raised high barriers to entry into the global market. The global music market is, for the most part, divided between the three largest corporations (Universal, Sony and Warner Music). The rest of the market is divided between independent publishers. Over time, music corporations took over independent publishers. Individual performers sought to use platforms to publish music content, but at the same time became entrepreneurs in part (Albinsson 2018). Klein et. al. (2017) analyse the activities of musicians outside the artistic field in entrepreneurial activities using platforms for publishing music content. The development of streaming platforms has enabled the use of "big-data" data processing and recording various forms of popularity of music content. Hagen (2021) analyses the creation of a new "digital divide" within the music industry as streaming platforms emerge as gatekeepers within the music industry. Collecting and processing large amounts of data can influence the creation of special connections between publishers, audiences and musicians. Gu et.al. (2021) highlight the emergence of vertical integration of Chinese music giants that directly influence the positioning of local indie-rock bands. Companies such as Taihe Music Group and Modernsky have emerged in the last two or three years, beginning to vertically integrate different parts of the music industry, from collecting rights and managing bands to running festivals and franchises on locations. These companies have managed to consolidate their control over the music industry through advanced integration and corporate branding. Muia (2020) analyses the convergence of music corporations in Canada, with the aim of achieving different influences in the national cultural market. In this context, as early as 2014, Hracks and Leslie emphasize the importance of the Internet and music platforms for artists who want to publish independently in the DIY model. Apart from the fact that musicians only publish music content on social networks and platforms, they also deal with the organization of public performances (Evert et.al. 2021). Huges (2016) warns of a change in musical discourse in which individual musicians become "cultural entrepreneurs", that is, it becomes their dominant business model. Guichardaz et.al. (2019) analyse changes in the music industry in the context of managerial activities in which the complexity of tasks has significantly increased. All of this has affected music corporations that have completely changed organizational structures and governance models and become proactive towards musicians. At the same time, they introduced new transactional relationships as well as other forms of corporate legal protection. Kjus (2017) points out that global corporations have changed the way they do business and protect copyright to protect themselves from the emergence and development of streaming platforms. The emergence of streaming platforms and live music was announced by David Bowie in an interview with the New York Times in 2002. His prediction has become a reality: Spotify, YouTube and other streaming services have turned music into running water while at the same time accelerating the growth of the live music industry (Mulder, Hitters 2021). Spotify has become the largest global music platform in terms of subscribers.

Eriksson (2020) analyses various studies that have identified irregularities in compiling lists of the most popular music content on the platform. There are well-founded doubts about the ways in which certain music content comes to the lists of the most popular music content. Often most songs are owned by music corporations. Hagen (2021) also talks about the influence and power of gatekeepers. The music industry has not escaped the affair with the influence of very powerful people in the creative industries, as well as the situation with reports of sexual harassment. Baker et al. (2021) analyse the situation in the Swedish music industry after an open letter from some artists condemning all forms of sexual harassment and sexual discrimination. The situation became so complicated that it was called the "Post-Weinstein effect. Butting and Ruden (2018) emphasize the complexity of relationships in the creative industries, and especially in the music industry. Participation in the music industry is a double-edged sword of feminism, due to "the tension between moral anger over sexual harassment and the ethics of liberated sexuality." In early March 2020, South by Southwest was cancelled. The same situation happened with the Coachella popular music festival which was also cancelled. Soon after, the entire live event ecosystem collapsed (Shapiro 2021). Frenneaux and Bennett (2021) analyse the impact of the Covid-19 pandemic on the global music industry. In this context, they try to give an answer about the future of the music industry and the opportunities that open up for the music industry in the context of virtual space and other forms of entertainment.

3. METHODOLOGY AND RESEARCH QUESTIONS

The research and analysis of the global music industry was made according to the report Global Music Report 2021. In addition to the report Global Music Report 2021, the research uses other scientific papers related to this topic. The research consists of descriptive analysis of the global revenue trend, regression analysis of the revenue trend, and trend testing using the ANOVA method. The research is focused on three basic research questions:

- 1) What are the fundamental revenue trends of the global music industry?
- 2) What is the revenue structure of the global music industry?
- 3) What is the impact of revenues from physical media on the revenues of the global music industry?

Analysis of global music industry trends and answers to research questions are aimed at finding answers about the future of the global music industry.

4. GLOBAL MUSIC INDUSTRY BY TREND AND REVENUE STRUCTURE

Research and analysis of the structure and trends of music industry revenues is divided into three basic units. The research is designed as financial analysis, statistical analysis by regression method and testing of variables in the ANOVA model.

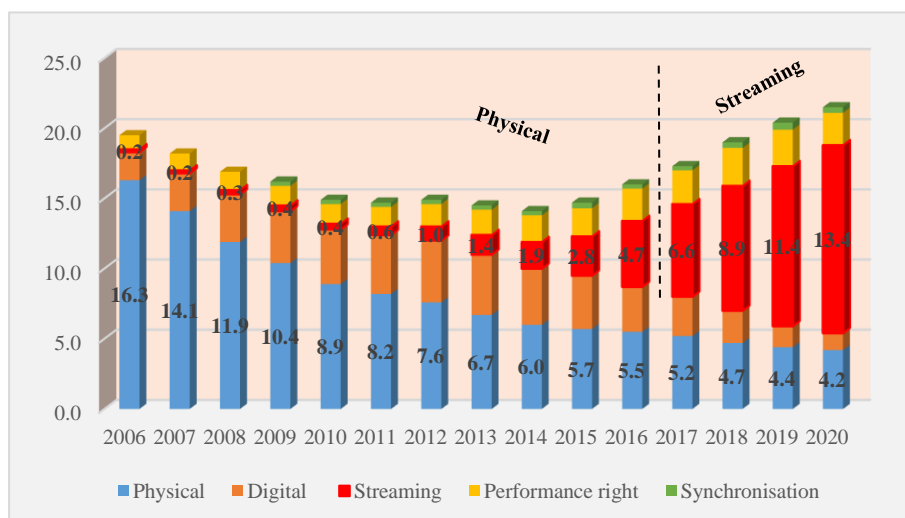
4.1. Global music industry revenue trends

The analysis of the revenue trend covers the period of fifteen years, i.e. from 2006 to 2020. The official Global music report covers the period from 1999, but the period from 2006 was chosen for the purposes of the research because it was then that streaming revenue first appeared. In 2006, there were already revenues from the Digital segment as well as from the Performance right segment. The revenues of these two segments need to be separated from the revenues of Streaming because the revenues from Streaming are part of a completely new consumer paradigm. We associate revenues from Digital with the purchase of music tracks in digital format, and users store them on their own platforms. We associate revenues from streaming with Generation Z and subscriptions to streaming platforms, i.e. revenues are not related to the sale of goods (Seemiler, Grace 2019).

	Physical	Digital	Streaming	Performance right	Synchronisation	Sum
2006	16,3	2,0	0,2	1,0	n/a	19,5
2007	14,1	2,7	0,2	1,2	n/a	18,2
2008	11,9	3,4	0,3	1,3	n/a	16,9
2009	10,4	3,7	0,4	1,4	0,3	16,2
2010	8,9	3,9	0,4	1,4	0,3	14,9
2011	8,2	4,2	0,6	1,4	0,3	14,7
2012	7,6	4,4	1,0	1,6	0,3	14,9
2013	6,7	4,3	1,4	1,8	0,3	14,5
2014	6,0	4,0	1,9	1,9	0,3	14,1
2015	5,7	3,8	2,8	2,0	0,4	14,7
2016	5,5	3,2	4,7	2,3	0,3	16,0
2017	5,2	2,8	6,6	2,4	0,3	17,3
2018	4,7	2,3	8,9	2,7	0,4	19,0
2019	4,4	1,5	11,4	2,6	0,5	20,4
2020	4,2	1,2	13,4	2,3	0,4	21,5

Table 1: Global recorded music industry revenues 2006-2020 (US\$ bill.)
 (Source: Global Music Report; IFPI (own illustration))

In the analysed period, total revenues increased by 10.3%. Total revenues declined until 2014, after which they began to grow continuously. Despite continuous growth, they have not yet returned to the level of 2002. Total revenues fell as Physical revenues, which made up the bulk of revenues, also fell. The total decline in revenue from the Physical segment was 74.2%. Revenues from Physical are steadily declining from year to year. Despite the constant insistence on digitalization, revenues from the Digital segment fell by 40% in the analysed period. Revenues grew until 2013, after which they continued to fall. Revenues from Digital began to fall from year to year, before total revenues began to grow. The revenue trend in the Performance right and Streaming segments shows a change in the generation of total revenue of the global music industry. Revenues in the Performance right segment increased by 130%. In the last two analysed periods, revenue growth has slowed, and revenues in this segment are growing digressively. Revenues in the Streaming segment increased by 6600%, which is best evidenced by the changes that have occurred in the music industry. Streaming revenue grew faster in 2020 than the year before (Ingham 2021). Changes in consumer habits have directly caused tectonic changes in the revenue structure of the music industry. An overview of the research results is shown in Table 1.



Picture 1: Global recorded music industry revenues 2006-2020 (US\$ bill.)
 (Source: Global Music Report; IFPI (own illustration))

In the analysed period of fifteen years, revenues from Physical fell from 83.6% to 19.5% of total revenues. Revenue from Streaming grew from 1% to 62.5% of total revenue. The development of streaming technology and revenues from streaming directly affected the recovery and growth of total revenues of the music industry (Lozić 2020b). In the last analysed period, revenues returned to the level of 2003, but the largest revenue segment, i.e. streaming revenues, is not yet at the level of Physical in 2006. Even if we add the revenues from Streaming and Performance right, they would be less than the share Physical in 2006. Revenues from Physical 2006 accounted for 83.6% of total revenue, and revenue from Streaming and Performance right in 2020 accounted for 74% of total revenue in the global music industry. In 2017, streaming revenue became the largest share of the global music industry's revenue because before that it was Physical revenue. The increase in total revenue in 2015, compared to the previous period, is directly related to the sharp increase in streaming revenue, not the increase in revenue from Digital. The trend and structure of total revenues, as well as the area of definition of dominant revenues, is shown in Figure 2.

4.2. Global music industry regression analysis

The results of the regression analysis determine the directions of development or revenue trends of individual segments of the global music industry. Revenues from Physical are continuously declining, i.e. at an average annual rate of 10.35% with a coefficient of determination $R^2 = 0.8833$. Revenues from the Digital segment grew until 2013, and have been steadily declining since then. The revenue trend is explained by the regression equation $y = -0.0548x^2 + 0.677x + 2.1282$. Regression has a negative direction coefficient ($b < 0$). On the equation of the Physical direction, the last three points of inflection are above the regression direction, which indicates a slowdown in the trend of declining income. It is similar in the Digital segment, i.e. the last point of inflection is above the regression direction. The revenue trend in the Streaming and Performance right segments has the opposite growth direction from the first two explained segments. Revenues in the Streaming segment are growing at an average annual rate of 39.38% with a coefficient of determination of $R^2 = 0.9833$. Revenues in the Performance Right segment grew at an average annual rate of 6.42%. The previous two segments showed the first signs of a slowdown in revenue decline, while the Streaming and Performance Right segments showed a slowdown in growth. The last points of inflection in both segments are below the regression curve.

Table following on thenext page

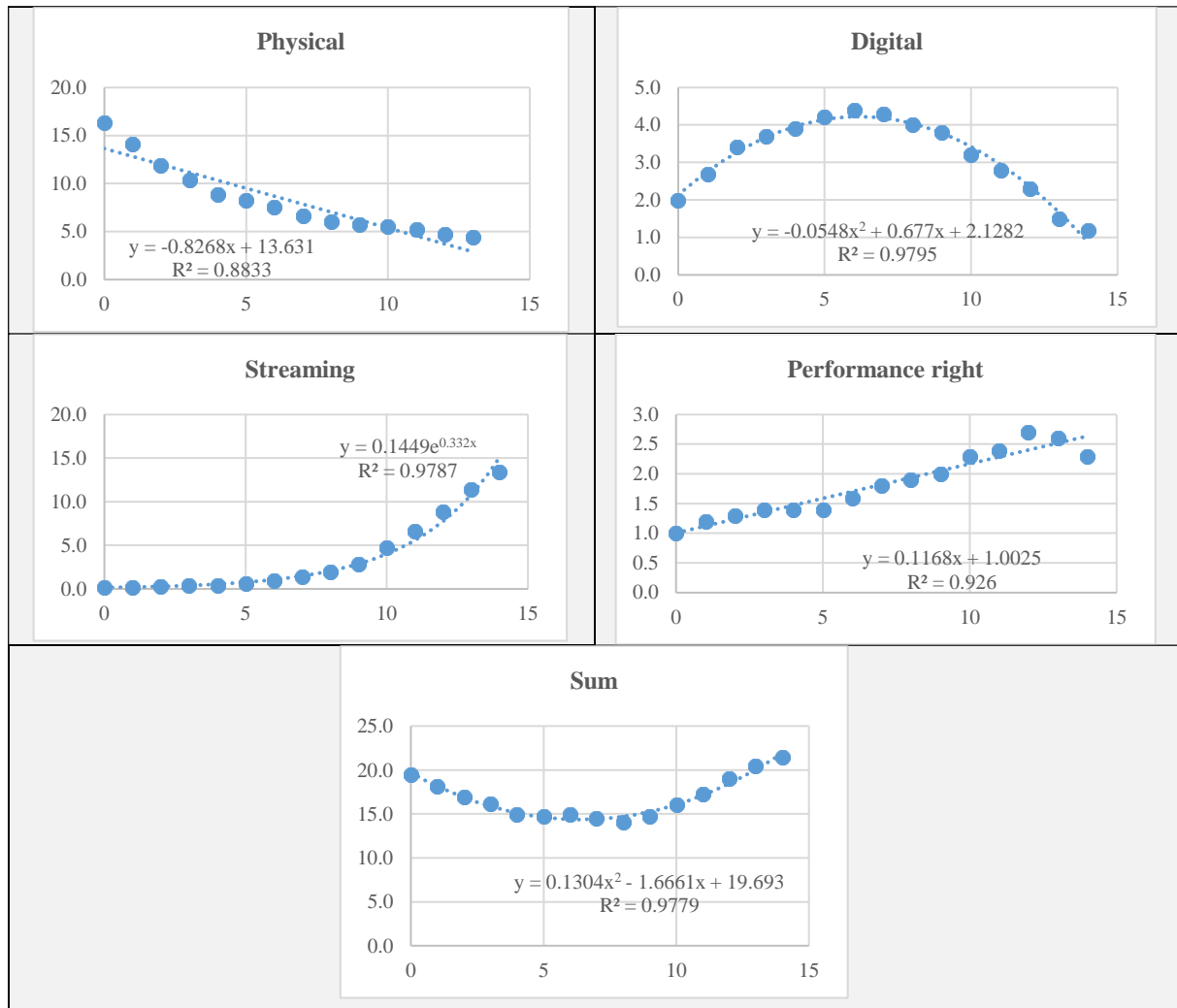


Table 2: Regression analysis recorded music industry revenues 2006-2020 (US\$ bill.)
 (Source: own illustration)

The results of the analysis of total revenues are explained by the curve $y = 0,1304x^2 - 1,6661x + 19,693$, with the coefficient of determination $R^2 = 0,9779$. The curve has a positive coefficient ($b > 0$), and revenues have been growing continuously since 2015. On the regression curve, the last point of inflection is below the regression line, which proves a slowdown in the decline in revenue from Physical and a slowdown in revenue growth from streaming. The results of the research are shown in Table 2.

4.3. Revenue testing of music industry segments using the ANOVA model

The significance of individual segments of the music industry on the total revenues of the music industry were tested using the ANOVA method. The Physical segment still accounts for 19.5% of total revenues and is second only to the Streaming segment in terms of revenue. For the purposes of the analysis, data from 1999 to 2020 were taken. In 1999, Physical’s revenue was 25.2 billion. \$, and there were no other revenue segments. In 2001, Performance Right generated \$ 600 million in revenue.

Table following on thenext page

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0,7505526							
R Square	0,5633293							
Adjusted R Square	0,5414957							
Standard Error	2,3448243							
Observations	22							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	141,8596211	141,8596211	25,8011	5,72693E-05			
Residual	20	109,9640153	5,498200764					
Total	21	251,8236364						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	14,251404	0,996025132	14,30827719	5,73E-12	12,17373166	16,3290757	12,17373166	16,3290757
Physical	0,354191	0,069729804	5,079478201	5,73E-05	0,208737197	0,499644842	0,208737197	0,499644842

Table 3: Model ANOVA – Physical segment
 (Source: own illustration)

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0,998243							
R Square	0,99649							
Adjusted R Square	0,995533							
Standard Error	0,158749							
Observations	15							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	3	78,7001181	26,23337	1040,9497	8,89513E-14			
Residual	11	0,27721521	0,025201					
Total	14	78,9773333						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	6,507145	1,59976097	4,067574	0,0018591	2,986095332	10,0281956	2,98609533	10,02819564
Physical	0,735395	0,06468076	11,36962	2,022E-07	0,593033971	0,87775676	0,59303397	0,877756761
Digital	0,418156	0,2529838	1,652897	0,1265785	-0,138657346	0,97496982	-0,13865735	0,974969821
Streaming	0,872174	0,08150704	10,7006	3,743E-07	0,692778522	1,05157008	0,69277852	1,051570083

Table 4: Model ANOVA – multiple regression
 (Source: own illustration)

The results of the analysis showed that there is a strong correlation between total revenues and revenues from the Physical segment, i.e. Multiple R = 0.7505526. At the same time, the coefficient of determination of 0.5414957 (for sets less than 30 frequencies) is below the acceptable level for accurate interpretation of results ($R^2 < 0.8$). However, Significance analysis (Significance F = 5.72693E-05) shows that the Physical variable significantly affects total revenue. The tested value of the variable Physical or P-value is 5.73E-05, which means that the value of revenue from Physical significantly affects the total revenue at the test level of 0.01. Despite the continuing decline in Physical revenue, the impact of this revenue segment is still significant relative to total revenue. Revenues from this segment account for 19.5% of total revenues. The results of the analysis showed that there is no very strong correlation between total revenue and Physical revenue, but this revenue segment still significantly affects the trend and level of total revenue.

On the one hand, this revenue segment accounts for 19.5% of total revenue and is the second highest revenue within the global music industry. On the other hand, revenues from the Digital, Performance right and Synchronization segments have been declining continuously in the last few analysed periods. The results of the research are shown in Table 3. Three variables, i.e. three segments of the music industry, were taken into the analysis of multiple regression. The analysis covers a period of fifteen years, so that we can analyse the impact of the Streaming segment on the trend of total revenues. The results of the analysis prove a very strong correlation between the selected variables and total revenue, i.e. Multiple R = 0.998243. The coefficient of determination is $R^2 = 0.995533$. The results of the significance analysis prove that there is at least one variable that significantly affects total revenues, i.e. Significance F = 8.89513E-14. The results of the P-value analysis prove that revenues from the Physical and Streaming segments significantly influence the trend of total revenues. The P-value for Physical is 2.022E-07, and for Streaming 3.74E-07, at a significance level of 0.01. The results of the analysis of the Digital segment, i.e. the value of P-value is 0.1266, i.e. the value is higher than 0.01, which proves that revenues from Digital do not significantly affect total revenues. The results of the analysis are shown in Table 4.

5. DISCUSSION AND CONCLUSION

The global music industry has gone through a period of complete transformation of the revenue generation model. The classic model of selling sound carriers, i.e. sales in "brick-and-mortar" stores, has lost its significance in relation to streaming revenues. On the one hand, the paradigm of music consumption has been completely changed, and on the other hand, sales have been replaced by various forms of commodification of services. The most significant research results are defined in the following four points:

- Revenues from Physical are continuously falling, while revenues from Streaming are continuously growing.
- Revenues from the Digital segment have been declining in the last few years, reaching a level lower than in 2006.
- Revenues from Digital did not significantly affect the change in the trend of total revenues, in contrast to revenues from Streaming, which directly affected the growth of total revenues.
- Inflection points in regression analysis indicate the first changes in the revenue trend, i.e. the downward trend in revenue in the Physical segment stops.

Revenues of the Physical segment are continuously declining, while revenues of the Streaming segment are continuously growing. The process of digitalization of the music industry has long been completed and the global music industry has gone through a phase of digital transformation. This is best evidenced by the results of the ANOVA analysis because revenues from the Digital segment are no longer significant for total industry revenues. The digital transformation and the exponential growth of streaming revenue will determine the further direction of the music industry. In the context of the first research question, we can conclude that the underlying revenue trends of the music industry are related to the increase in revenue from Streaming and Performance right, the decline in revenue from Physical and Digital, and the stabilization of revenue from Synchronization. Revenues from Physical are steadily declining, but there are signs of a change in that trend. In the context of the second research question, the revenue structure has changed significantly, and Streaming revenue has become dominant within total revenue. Revenues from Digital are steadily declining due to a change in the consumer paradigm within the music industry. It is similar with Physical revenue, as buyers of goods are replaced by service users. Digital music is consumed as a subscription on digital platforms, which directly affects the revenue growth of the Streaming and Performance right segments, while the revenue of other segments is continuously declining.

In the context of the third research question, revenues from Physical are continuously declining, but still account for almost 20% of total revenues. The results of the analysis with the ANOVA model showed a significant value of P-value, ie a significant impact of Physical revenues on total revenues. The question for future research concentrates on defining the limits to which Physical revenue will fall or to what level Streaming revenue can grow. Revenues from Physical are falling due to changes in the consumer paradigm associated with new user habits, but some users will always strive to build their own collections of physical sound carriers that are available to them at all times.

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NEGATIVE CONSUMER EXPERIENCES IN ONLINE SHOPPING

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ABSTRACT

Online shopping is an increasingly common way of purchase that allows consumers to access the desired products and services through various online channels without additional effort and distraction. It is characterized by simplicity and low cost, and the ability to make purchases 24 hours a day, every day of the week. Online shopping is characterized by the wide availability of different product categories, and the ability to compare prices of products and services among different producers. These benefits have prompted many retailers to move their business to an online environment. Even though retailers are aware of the importance of maintaining an adequate products and services quality, and also good communication with consumers, there are still frequent examples of inappropriate approaches by retailers, including online commerce. Therefore, consumers publish their experiences related to online shopping on social networks, various forums, retailers' websites, and specialized sites, especially negative ones, so that other consumers can adequately respond to the experiences of previous consumers. The purpose of this paper is to present the most common forms of negative consumer experiences in the field of online shopping. Qualitative research was conducted using netnography technique. Social networks and forums with consumer comments were analysed. The most relevant comments were categorized into groups. Majority consumer complaints were related to the: order cancellation under certain conditions unfavourable for the retailer or no reason, no refund, delivery of used products as new, delivery of damaged products or only part of the order, etc.

Keywords: *online shopping, negative consumer experience, social networks*

1. INTRODUCTION

The responsibility of retailers is manifested in generating a supply of new products, where they need to satisfy consumers and protect their long-term well-being. In order to improve their offer and give a new and advanced experience to consumers, numerous companies have created online version of their business to rise their profit (Blazquez, 2014; Martin et al., 2015). Informatization and globalization have led to the development of online commerce. Consequently, online shopping has become a subject of interest for researchers and practitioners as well (Homburg et al., 2015; Lemon and Verhoef, 2016; Verleye, 2015). Online shopping enables customer to get information (Rose et al., 2011), prevail time and place limitations (Beldad et al., 2010), and offer convenience (Childers et al., 2001). Namely, this resulted in the acceleration of retail processes, the creation of new distribution channels and new economic trends, as well as a new way of life and work. Online shopping transformed the mode how companies reach customers and distribute the products and services they offer (Punyatoya &, 2018; Rose et al., 2011).

Considering the online environment, customer experience presents vitally important segment of a company's success (Rose et al., 2012; Trevinal and Stenger, 2014; Varshneya et al., 2017). Therefore, managing the customer experience in an online environment can influence the sustainability of company competitive advantage (Klaus, 2013; Lemon and Verhoef, 2016). The development of the Internet and web 2.0 technologies has provided consumers with different platforms that enable them to share opinions and experiences about individual companies, products, and services. This leads to increased reliance on online reviews from other users to help select and purchase a range of products and industries (Hu et al., 2011). Online user reviews have therefore become a significant source of information for companies and consumers, replacing and supplementing other sources of information on product characteristics (Chevalier, 2004). Some studies suggest that the influence of user reviews is especially important because it helps customers to experience goods before they buy it, since their quality is often unfamiliar before consummation (Klein, 1998). Positive user reviews are an indicator of product quality and reputation, while negative ones signal a lack of trust in the product among existing users (Cui et al., 2012). Whether positive or negative user reviews, theirs is an unquestionable impact on individual reaction in terms of purchasing decision making (Kusumasondjaja et al., 2012). In the online context, failure to provide a high-quality experience for a customer can be particularly damaging for a company (Kawaf and Tagg, 2017) since customers have access to in-depth information which enables them to weigh up their options and evaluate the quality of their experience (Jung and Seock, 2017). A company's non-fulfilment of customer expectations motivates the customer to replace an existing retailer, which is in today's competitive environment very easily realized (Holloway and Beatty, 2003; Singh and Crisafulli, 2016). Therefore, continuous monitoring of consumer reactions and comments is of great importance to the retailer. This paper aims to cover the most common areas of negative consumer reactions in the segment of online commerce. These comments can be helpful to retailers as an indicator of the most common (intentional or unintentional) faults in online commerce. Preventing or eliminating them if they occurred during the business is of utmost importance.

2. ONLINE SHOPPING

Online commerce can be defined as the process of buying, selling, or exchanging products or services over the Internet, significantly reducing transaction costs and time. The characteristics of e-commerce are "global action, universal standards, interactivity, information density, and personalization" (Traver and Laudon, 2001). Thus, online shopping means purchases made by the consumer using the Internet, on a designated website. The European Commission emphasizes that online commerce involves ordering, paying for, and delivering products or services online. Therefore, the development of the Internet and technology has enabled the sale of products and services at a distance, without the physical visit of the customer to a classic store or warehouse. Online commerce can be defined from different perspectives (Babić, Krajinović & Radman Peša, 2017):

- From a communication perspective, online commerce enables the delivery of products or services via the Internet, ie publicly available computer networks.
- From the perspective of business processes, e-commerce represents the use of new technology in business.
- From the perspective of providing services, e-commerce is a means by which the organization seeks to reduce business costs while increasing the level of quality of products they offer and increase the speed of their delivery to customers.
- From a virtual perspective, an online store is a store where you can sell and buy products online.

The concept of electronic business is associated with online commerce. At the same time, e-business is a broader concept than e-commerce, and among other things, includes e-commerce. Electronic business is a modern form of business organization related to the application of information and Internet technologies in business processes and functions (Panian, 2000). Online commerce has its advantages and disadvantages. Some of the shortcomings of e-commerce have been caused by retailers themselves mismanaging, while other shortcomings of e-commerce include legal regulations and non-implementation of modern marketing concepts in business (Babić, Krajnović, & Radman Peša, 2011). Deficiencies include possible payment uncertainty, ie the possibility of misuse of customer data and theft, but also unethical business practices that may result in consumer dissatisfaction (collection of hidden costs, the possibility of cancelling orders, the possibility of non-delivery of all ordered products, etc.). On the other hand, various advantages of e-commerce for consumers and society and retailers are highlighted. Advantages of e-commerce for consumers include simplicity, immediacy, practicality, easier comparison of different offers, easier comparison of different products, a wider choice of products compared to classic stores, the ability to buy at any time (online stores are constantly open), the ability to buy products that are not available in his city or even in his country, shopping space is unlimited, and products can often be bought at lower prices compared to traditional stores (due to lower operating costs - there are no store rental or maintenance costs, and the number of employees is usually is smaller than in classic stores because online stores require minimal merchant service). Also, online shopping allows consumers to share experiences about shopping and the quality of purchased products by leaving reviews or comments about shopping on the store's website (Babić, Krajnović, & Radman Peša, 2011). The advantages of e-commerce for retailers include the ability to connect more strongly with consumers, the ability to expand into international markets with minimal investment, personalize products and services according to consumer preferences and needs, increase speed and efficiency of distribution and logistics, reduce business costs, easier control and reduce costs storage, cheaper communication, flexibility, gaining a competitive advantage for smaller companies that would not otherwise be able to compete with larger companies, etc. (Adelaar, Bouwman & Steinfield (2004); Terzi (2016); Colla & Lapoule (2012)). Online commerce has evolved especially after the World Health Organization declared a global pandemic of the new coronavirus SARS-CoV-2 in March 2020, which causes a disease known as COVID-19. People were urged to maintain social distance and stay at home, and almost all shops except grocery stores were closed. It is precisely such recommendations and provisions that have led consumers to turn more to e-commerce. The data show that online retail in the world in 2020 increased by 24.1% compared to 2019 and that the number of customers who made online purchases increased by 20.2% compared to 2019. The assumption is that e-commerce will continue to grow and will take an even larger share in retail.¹

3. METHODOLOGY AND RESEARCH RESULTS

Online customer reviews are recognized as an important tool on retailers' and service providers' websites. As an answer to this trend, a growing amount of literature discusses the influence of customer reviews on business and consumers. The role of online reviews have been analysed in different forms, while, according to Kawaf and Istanbuluoglu (2019) majority of research focuses on three key areas): (1) reasons for writing, (2) reasons for reading reviews, and (3) the effectiveness and influence of customer reviews Existing literature is oriented on reviews within certain fields such as the media and entertainment industry (e.g. TV shows and movies), the hospitality industry (e.g. restaurants and hotels), as well as video games, books, bath, fragrance and beauty products (Kawaf and Istanbuluoglu, 2019).

¹ Delloite (2021): Global Powers of Retailing 2021, <https://www2.deloitte.com/content/dam/Deloitte/at/Documents/consumer-business/at-global-powers-retailing-2021.pdf> (pristupljeno 2. prosinaca 2021.)

Pantelidis (2010) emphasizes that companies need to monitor, evaluate, and respond to online customer reviews. In addition to mentioned above, it is considered useful to include the most common consumer critics in online shopping. This work can give useful overview of the most common possible "pain points" in online business so that subjects in online trade can prevent them in time. Data collection was obtained by desk research, ie qualitative secondary research using the netnography method. This research method aims to investigate the consumer behavior of cultures and communities present on the Internet (Kozinets, 1998). "As a method, netnography is faster, simpler, and less expensive than ethnography, and more naturalistic and unobtrusive than focus groups or interviews. It provides information on the symbolism, meanings, and consumption patterns of online consumer groups" (Kozinets, 2002). Various websites, forums, social networks and other Internet sources where consumers share their experiences related to online shopping were analysed. The most common consumers complaints about internet shopping were chosen and grouped into certain categories, with individual examples, ie consumer statements, which most significantly describe the observed category. It has to note that consumer statements are transmitted in direct form. The most common negative user experiences are summarized in a few categories and shown in the table 1.

Category of inappropriate business practices	Consumer experiences
After a "bug" (error on the website) that caused very low prices to be displayed, the retailer does not want to deliver products ordered at a low price.	Fashionaddict7 user on the forum: A friend and I ordered, her order was cancelled, and she chatted on the site, but the person she corresponded with persistently refers to point 4.8 of the terms and conditions. However, this point of the terms and conditions does not apply to wrong prices. A friend sent them an email, so now we are waiting for a response. Prices were incorrect for hours. They say that the website collapsed, and in fact, it was just a problem in the conversion into Croatian kuna, while all other languages (countries) were constantly available... ²
After the purchase, the order is cancelled.	Blu11 user on the Forum: "I order sunglasses at 20% the other day and today I receive an email 'Out-of-stock items in your order'. And the glasses are in-stock but no more discounts." ³ User Džezminka on the Forum: "A friend ordered a dress from them, and she waited for delivery for a couple of weeks, only to be told without any explanation that she could not place an order." ⁴ User Oksana Mytsak on Trustpilot: „The stupidest service ever!!!without any explanation cancelled my orders, and nobody answer on email!!!my order DGLDE0007510982. Can somebody explain to me why and help? Money also has been taken." ⁵
After the purchase, it was reported that some items are unavailable, and the purchase of other products is conditional instead of a refund/cancellation of the order.	The Unforgiven user on the Forum: I ordered products worth about 750 kuna (three items) and paid with a card. However, the next day I received an email that one of the products I ordered was not available and that I could not cancel my order because it was paid for with a card and that I should choose another one of the same values instead of the unavailable product.... ⁶
Ordered products are not delivered at all.	User Schmidt on Trustpilot: „I ordered a product three weeks ago, prepaid with CC but I never received it and got absolutely zero responses from the non-existent customer service. Even a telephone call with a quite unfriendly person did not help. I am afraid that I never will get my money back. Really bad experience!!" ⁷
The product has been used before.	User DENIS on the forum: I ordered shoes and sneakers for the duration of the 50% promotion on all products. Both products have some stains and scratches that indicate that they were worn before. What a scam! ⁸

² Forum.hr, Greška na Furla.com, available at: <http://www.forum.hr/showthread.php?t=1200467> (retrieved 8. 11. 2021.)

³ Forum.hr, Asos6, available at: <https://www.forum.hr/showthread.php?t=990883&page=368> (retrieved 8. 11. 2021.)

⁴ Forum.hr, Shopping online, available at: <http://www.forum.hr/showthread.php?t=339112&page=305> (retrieved 8. 11. 2021.)

⁵ Trustpilot, Parfümerie Douglas GmbH, available at: <https://www.trustpilot.com/review/www.douglas.de?stars=1> (available at 24. 11. 2021.)

⁶ Bug forum, Pravno pitanje oko cijene, dostupno na: <https://forum.bug.hr/forum/topic/ostalo/pravno-pitanje-cijene/252003.aspx> (retrieved 8. 11. 2021.)

⁷ Trustpilot, Parfümerie Douglas GmbH, available at: <https://www.trustpilot.com/review/www.douglas.de?stars=1> (retrieved 24. 11. 2021.)

⁸ Forum.hr, Zalando stiže u Hrvatsku, available at: <http://www.forum.hr/showthread.php?t=1240795&page=14> (retrieved 8. 11. 2021.)

<p>The product did not match the description / came damaged.</p>	<p>SunyMy user on the Forum: A sweater has arrived that, look at the miracles, has a completely different composition than the one listed in the online shop. And the whipped cream at the end, the sweater is streaked with a ballpoint pen on the inside and has no labels “.⁹</p> <p>User Dwarf980 on the Forum: Company “X”¹⁰ sells very bad products. So far, I have ordered 10 to 12 products and only one product was valid. The two hoodies in the photos look decent but live they look like clothes from the market. The tracksuit is actually a children’s model. I bought five to six shirts, and they are the largest sizes, but the models are Chinese, the sizes are like the sizes for children's clothes... “¹¹</p> <p>SiyahKedi user on the Forum: On November 8, I ordered two cell phone masks (they were paid almost 90 kuna with delivery, which is not cheap). It is estimated that delivery will be no later than December 17. The first cell phone mask was delivered on December 11 but in disastrous condition. The fallen parts were messily glued. On the same day, I requested a refund via the application, which has not been made to date, December 22. The second mask for the mobile phone has not arrived yet, although the delivery deadline has passed. It is impossible to get a support agent through the application. Once you request a refund, they put your profile on the blocked list and start ignoring you. This means that I will not be able to request a refund for the second cell phone mask, and the question is whether I will also receive a refund for the first cell phone mask that arrived in parts. “¹²</p> <p>User Maggy1103 on the Forum: I did business with company “X”¹³ once and never again. My cousin wanted to give me “parfume X”¹⁴ for my birthday, which was on sale at the time. When I first got the perfume, it was good, but after a few days of applying the perfume, I only felt alcohol. Horror. I returned the perfume to them, and they returned the money, but I don’t believe I would ever shop at that store again. “¹⁵</p> <p>User Tomi Tukiainen on Trustpilot: „It's a scam! I ordered metallic mudguards for my electric bike and got cheap-looking plastic ones instead. Totally different than what I ordered, and I had to edit both to an image side by side for the service staff to admit that what I ordered was indeed different than what I received “.¹⁶</p> <p>User Angela Matondolo on Trustpilot: „if I could, I would rate 0, The pictures on the website are misleading to make you buy their products. You always get a surprise when the item arrives, it's always way smaller than expected. “¹⁷</p>
<p>The delivered order was missing products.</p>	<p>User Violeta11 in the forum: I have never received five products bought on “X”¹⁸ store. I complained, so they promised delivery soon, but my right to a refund and nothing to anyone would expire. “¹⁹</p> <p>Victoria Prescott on Trustpilot: „Absolute shambles. Ordered a haul on the 29th of Oct for it to go missing with hermes, finally turns up (thanks to a local rep of hermes tracking it down) half my products aren't in the box and half the goodie bag items are missing. Weight is 0.52kg, well under what it should have been for what I'd ordered so it physically left their warehouse without the items in. “²⁰</p>
<p>The wrong product was delivered to me, and the dealer does not want to return the money.</p>	<p>User Jette on Trustpilot: „I ordered a jumpsuit. After two weeks they sent me the wrong item. I never saw my money again after returning it. I love brand “X”²¹, but goodbye brand “X”²² Europe “.²³</p>
<p>After the refund is made, the merchant does not return the money.</p>	<p>User Julie Bergdorf on the Forum: The package was received on October 30, 2020. The return was created on November 9, and the package was delivered to the post office on November 17, and I received a confirmation e-mail. I am surprised that I have not yet been refunded, although I received</p>

⁹ Forum.hr, Asos6, available at: <https://www.forum.hr/showthread.php?t=990883&page=370> (retrieved 8. 11. 2021.)

¹⁰ Because of GDPR restrictions, the name of the subject has not been specified

¹¹ Forum.hr, Shopping online, available at: <http://www.forum.hr/showthread.php?t=339112&page=354> (retrieved 24. 11. 2021.)

¹² Forum.hr, Wish, available at: <https://www.forum.hr/showthread.php?t=1041639&page=2> (retrieved 8. 11. 2021.)

¹³ Because of GDPR restrictions, the name of the subject has not been specified

¹⁴ Because of GDPR restrictions, the name of the subject has not been specified

¹⁵ Forum.hr, Internet kupovina parfema, available at: <https://www.forum.hr/showthread.php?t=292222&page=156> (retrieved 24. 11. 2021.)

¹⁶ Trustpilot, Geek Buying, dostupno na: <https://www.trustpilot.com/review/geek-buying.com> (retrieved 24. 11. 2021.)

¹⁷ Trustpilot, Wish, dostupno na: <https://www.trustpilot.com/review/www.wish.com?stars=1> (retrieved 24. 11. 2021.)

¹⁸ Because of GDPR restrictions, the name of the subject has not been specified

¹⁹ Forum.hr, Wish, available at: <https://www.forum.hr/showthread.php?t=1041639&page=2> (retrieved 8. 11. 2021.)

²⁰ Trustpilot, Cult Beauty, available at: <https://uk.trustpilot.com/review/www.cultbeauty.co.uk?stars=1&aspects=product> (retrieved 8. 11. 2021.)

²¹ Because of GDPR restrictions, the name of the subject has not been specified

²² Because of GDPR restrictions, the name of the subject has not been specified

²³ Trustpilot, Gap.eu, available at: <https://uk.trustpilot.com/review/www.gap.eu?stars=1> (retrieved 8. 11. 2021.)

	<p>an email on December 18 that the package had been received and that a refund will be made soon. Now I look again and see that they sent me a voucher for the amount they were supposed to return to me. Why did I make all the refunds within 28 days? I would accept the voucher, but it is a larger amount, and I was expecting a refund. Has anything similar happened to anyone else? ²⁴</p> <p>User Jolly on the Forum: I ordered two perfumes on May 2, 2019. One arrived, the other was not in stock, and I was offered a refund or ordered perfume to be delivered to me when it is in stock again. I chose a refund. However, nothing since then. I've sent them emails multiple times, but they ignore them. I have been ordering cosmetics and perfumes from Croatian websites and abroad for 15 years, but I have not had such a bad experience so far. ²⁵</p> <p>User Alice Venessa Bever: „I have been trying to get a refund from company “X”²⁶ for over four months. Emails, photos, etc yet am still waiting for even a response from customer service. I realize they are going through a transition right now, but this is really a terrible way of doing business. ²⁷</p> <p>User Luise Callaghan: „I sent back a large number of items which they say they have not received; however they have received them as the tracking clearly states they have been received by warehouse. I have contacted them daily and they have said unless I get a notification, they were received by the warehouse I will not be getting a refund. I am beside myself with worry. ²⁸</p>
<p>The merchant does not acknowledge the complaint.</p>	<p>User Marti Ve on Trustpilot: „Ordered brand “X”²⁹ shoes and wore them a few times before the sole started to peel off. I contacted customer service, sent them the required pictures, and haven't heard from them since. It's been almost a month! I even sent follow-up emails but nothing. Very disappointed. ³⁰</p> <p>User Orla on Trustpilot: „Extremely poor customer service. Bought a pair of shoes and wore them twice when the material cracked. Having reviewed the photographs, they admitted there was a defect. Company “X”³¹ offered me a credit note. On asking for a refund this was refused - using the fact they are a French company to avoid issuing a refund. Would not recommend their products and their customer service is to be desired. ³²</p> <p>User Chris McGrath on Trustpilot: „The website says returns within 14 days and items sent from Germany. I tried to return an item but could find an address to send an item, so I contacted their live chat time who gave me an unmanned email. I contacted them again and they said they could not give any information on refunds. I followed the customer support email, and the address exists. I suspect this is all no accident ³³</p> <p>User Carl on Trustpilot: „Brought a hoverboard which arrived after a few WEEKS which was FAULTY. After MORE weeks of trying to get an exchange/refund they offered me £30 to 'get it repaired locally'. It went on to the point I had to get PayPal involved ³⁴</p>

*Table 1: Consumer remarks related to unethical business in online shopping
 (Source: author's processing)*

Most common consumer complaints refer to different situations. In some cases, the retailer does not want to deliver the products to the consumer because of the error on his website and after the consumer purchase the product at a very low price (caused by an error on that page), although he has the right to do so. Furthermore, there are cases of order cancellation after the purchase, sometimes without giving a reason and after a long time or due to the unavailability of certain items. In addition, the problems experienced by consumers are related to non-delivery of products, delivery of products that were previously used, purchase of products that do not match the description or that arrived damaged, and delivery of the order without all items.

²⁴ Forum.hr, Asos6: <https://www.forum.hr/showthread.php?t=990883&page=346> (retrieved 8. 11. 2021.)

²⁵ Forum.hr, Internet kupovina parfema, available at: <https://www.forum.hr/showthread.php?t=292222&page=156> (retrieved 24. 11. 2021.)

²⁶ Because of GDPR restrictions, the name of the subject has not been specified

²⁷ Trustpilot, Gap.eu, dostupno na: <https://uk.trustpilot.com/review/www.gap.eu?stars=1> (retrieved 8. 11. 2021.)

²⁸ Trustpilot, Zalando.at, dostupno na: <https://www.trustpilot.com/review/www.zalando.at?stars=1> (retrieved 24. 11. 2021.)

²⁹ Because of GDPR restrictions, the name of the subject has not been specified

³⁰ Trustpilot, Veja store, available at: <https://uk.trustpilot.com/review/www.veja-store.com> (retrieved 8. 11. 2021.)

³¹ Because of GDPR restrictions, the name of the subject has not been specified

³² Ibid.

³³ Trustpilot, Geek Buying, available at: <https://www.trustpilot.com/review/geek-buying.com> (retrieved 24. 11. 2021.)

³⁴ Ibid.

Furthermore, consumers complain about the delivery of the wrong product, due to which the retailer does not want to return the money. Similar this, in some cases, after the customer returns the product, the retailer does not return the money for those products and cases where the retailer does not recognize product complaint. In most cases, consumers are powerless and fail to achieve their consumer rights, ie retailers are not responsible for inappropriate business practices. However, there are cases where consumers manage to achieve their rights if different consumer protection centres are involved, such as the European Consumer Center³⁵, which is responsible for disputes in cross-border online shopping. Unfortunately, due to growing problems with online shopping (which is not necessarily caused by the frequent unethical business of retailers, but by the increase in online shopping, especially after the outbreak of the global COVID 19 pandemic), consumers are increasingly aware of their rights and protection opportunities. In addition, consumers have higher expectations from products and manufacturers, ie retailers, they know what they are looking for and what they need to get for their money. As the competition intensifies, in case a retailer operates unfairly, he will easily lose consumers. Today, consumers are growingly talking about their good and bad experiences in online shopping on social networks, various forums, and on retailers' websites, but also other specialized sites such as Trustpilot to share their online shopping experience with other consumers. In this way, potential consumers can be protected from retailers who do not operate by the principles of business ethics if they are informed about a particular retailer and his business practice before a possible purchase.

4. CONCLUSION

Given that online shopping is now an increasingly common way to buy a variety of products and services (especially since the World Health Organization declared a global pandemic of the new coronavirus that causes COVID-19 in March 2020), many stores in different countries have been temporarily closed, and that consumers often find such a purchase unsafe because they pay for a product they haven't seen and don't know what they'll get, they can't just rely on the retailer's confidence to deliver what they paid for. Therefore, consumers on social networks, various forums, retailers' websites, and specialized sites publish their experiences related to online shopping, especially negative ones and associated to unethical behaviour of retailers so that other consumers can adequately respond to the experiences of previous consumers. For the purposes of this paper, qualitative desk research was conducted in which the most common consumer complaints related to unethical behaviour in online shopping were highlighted. The results of the research showed that the most common consumer complaints relate to the following situations: the retailer does not want to deliver products to the consumer who bought them at a low price, the retailer cancels the order after the purchase without giving a reason, the retailer conditions the purchase of new products in case of unavailability of certain products instead of refunding part of the money or cancellation of the entire order, the retailer does not deliver ordered and paid products, the retailer delivers previously used products as new, the retailer delivers products that do not match the description or damaged products, does not accept complaints, does not refund after the return of the item, etc. Although omissions are possible, each retailer should adequately respond to their mistakes, ie admit them and try to correct them as much as possible and as soon as possible when they occur. Namely, unethical behaviour can cause harm not only to consumers, but also to retailers who implement it because they will lose the reputation they have carefully built and because such practices will result in loss of profits, loss of business partners, investors, and shareholders, falling stock prices, etc. refer to the coverage of only certain pages for the exchange of experiences and forums. Future research could cover a wider range of sites, and it would be particularly interesting to see if there are differences in dissatisfaction between local/international websites,

³⁵ Valid only for EU members, Norway and Iceland

developed/underdeveloped countries, between different product categories (clothing, technical products, food products, etc.). It is certainly useful to do quantitative research in terms of quantifying the level of dissatisfaction associated with certain negative experiences in Internet commerce.

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MARKETING 4.0 - CRITICAL ANALYSIS OF EVOLVING MARKETING PARADIGMS

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ABSTRACT

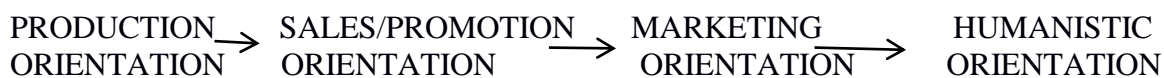
Development of marketing theory as it is a case with other fields of science, is reflected in new paradigms appearing from time to time. Part of paradigms of marketing theory is concerned with identification of the process of evolution of marketing. At the beginning of XXI century, in the mainstream of marketing they kept stressing as fundamental change of paradigms -passage from transaction to relational marketing. More recently what is proposed is change of paradigms from: marketing 1.0, 2.0, 3.0 as old concepts, to Marketing 4.0. The purpose of an article is to analyse the value of an idea of marketing 4.0 and to answer the question- to what extent new digital opportunities really require modification of marketing thinking expressed in newly proposed paradigms. The thesis by author is that what is proposed under the label of marketing 4.0 is not real substitute for classical marketing. Marketing 4.0 is not enough consistent to serve managerial purposes. It represents rather some mix of different proposals than harmonized managerial concept. An article is theoretical but partly based on data concerned with observation of global trends in marketing especially marketing communication.
Keywords: digital communication, digital marketing, marketing 4.0, marketing mix

1. CONCEPTS OF THE PROCESS OF EVOLUTION OF MARKETING

Periodization of marketing is a matter of convention. However, from managerial view point, good concept of periodization of marketing theory should match some conditions:

- it should help to identify really different philosophies to be implemented with specific tools,
- it should relate particular philosophies to specific managerial concepts

It is remarkable that the above conditions have been matched by an old idea of periodization of marketing based, originally on an experience of Pillsbury Co. and popularized by many authors including Keith¹ and Stanton². It contained some sequence of managerial orientations or philosophies (see ill.1).



*Figure 1: Evolution of marketing management
(Source: Keith R.J. (1960), Stanton W. (1978))*

The above evolution contains different philosophies of an organization. The term philosophy is considered here as specific ideas of what is regarded by organization as necessary precondition for its growth. At the first stage it is solving some internal production related problems as the condition for the growth of an organization. As for the next stage, the solution is better selling or promoting. Third philosophy envisages the growth on better satisfaction of consumers needs. Organization passes from stage to stage because of the pressure from environmental forces, mainly competition.

1 Keith, R.J. (1960): The marketing revolution, In Journal of Marketing, January 1960

2 Stanton, W., (1978): Fundamentals of Marketing. New York: McGraw Hill.

Marketing orientation seemed to be the best orientation for years. Even today some marketing experts accept it as a final orientation. However, beginning with early sixties of last century, some important trends started to challenge the marketing philosophy:

- growing criticism of marketing, which evolved mainly within consumerism. This criticism resulted in growing flow of consumer protection regulations.
- growing societal concern about protection of environment,
- growing societal concern about business ethics.

All these trends have led to proposals to modify marketing and to enter an stage of humanistic and societal philosophy as fourth orientation. Its core is that an organization to grow, has to not only satisfy actual needs of people but provide them with long run welfare. So even if this philosophy was declared in seventies of the last century, some marketing experts waited for years to acknowledge this orientation. For instance famous marketing expert Kotler waited till 1972 with indicating as the stage of the evolution of marketing -societal marketing³. Later on, the same Kotler et all. included this philosophy, as a part of Marketing 3.0 concept. As fundamentals for this concept they included:

- as a main objective, making the world the better place,
- as enabling forces, new wave technology ,
- as a market, whole human with mind, heart and spirit,
- as key marketing concept values, as company guidelines vision and values,
- as value proposition functional, emotional and spiritual, and
- as a nature of interaction with consumers: many-to-many cooperation.

So this idea has repeated an essence of humanistic philosophy, although it also covered new elements concerned with new opportunities and necessities resulting from advances in information technology. Kotler et.all proposed also next stage of marketing-Marketing4.0. Its foundations are:

- as enabling forces cybernetic revolution and and web4.0,
- as the market collective of fully conscious buyers,who co-create products,
- as key marketing concept mass customization and JiT,
- as company guidelines: value, vision ans anticipation,
- as value proposition: functional,emotional, spiritual and self creative,
- interaction with customers: many-to-many co-creation and cooperation.

Criterion	Marketing 2.0	Marketing 3.0	Marketing 4.0
Goal	Match consumers' expectations and retain them	Make the world better	Today create tomorrow
Favorable trends	Information technology	New wave technology	Cybernetic revolution
Perception of a market	Conscious customers lead by intellect and heart	Man in full meaning (intellect, heart i spirit)	Community of fully conscious buyers,co-creation of products
Key concept	To distinguish itself	Values	Mass customization
Marketing recommendation	Product (company) position)	Mission and vision	Mission, vision and anticipation
Values offered	Functional and emotional	Functional, emotional and spiritual	Functional, emotional, spiritual,self realization
Interaction with customer	One-to-one	Many-to-many	Many-to-many,cooperation and co-creation

Table 1: Comparison between Marketing 2.0 ,Marketing 3.0 and Marketing 4.0 (Source:Based on Kotler,Ph.,Kartajaya ,H. Setiavan,I. (2017): Marketing 4.0,Warszawa: MT Business,p.64)

³ Kotler,Ph. (1972): What Consumerism Means for Marketers, Harvard Business Review, Vol 50, p.48-57

In general no doubt that an idea of marketing 4.0 is based on some objective premises. However, there could be some doubts if the idea of periodization is enough consistent. Here we deal rather with mixture of orientation's attributes, parts of them being convincing, part being not convincing. As for mission and vision proposed as a components of Marketing 4.0, these are old concepts developed in both strategic planning and marketing and they need not to be tied specifically to marketing. Anticipation is traditional attribute of marketing management, so it does not need to be reserved specifically for Marketing 4.0. The category of value should not be tied specifically to Marketing 3.0 because it was product positioning -still within the framework of Marketing 2.0- that was, to high extent, based mainly on different values to be offered. Also no specific reason to substitute values by mass customization as key concept in Marketing 4.0. The very term- key concept is unclear- is it main category in current marketing language, is it fundamental managerial problem in practice or is it just fashionable expression? Mass customization should lead to offering optimal value for consumers. Mass customization at best could be, at best confronted with mass production, however mass production has never been proposed as recommended idea in the context of marketing. Looking at mass customization as one of components of Marketing 4.0 it may be proposed that co-creation combined with new computer technologies allows for proposing individualization of an offer as right concept, one more advanced than mass customization. Marketing 4.0. in very positive way interprets the nature today's buyers. They are described as fully conscious people. Growing flows of information should be helpful in evolving a kind of objective consciousness of people. It is however just wishful thinking. Good case to check this, would be today's big reluctance of people to be vaccinated against covid 19, despite big stream of medical information. In general, what can be acceptable in an idea of Marketing 4.0, is that digital revolution creates real challenge for traditional management. Co-creation and cooperation become today easier in the market. Also information technology can make consumers more conscious and the whole society should be more responsible. Opportunity of using new instruments is not enough to proclaim any new marketing philosophy. However managerial or strategic side of the idea of Marketing 4.0 rather weak and what is covered by Marketing 4.0 is in part repetition of old proposals on the one side and wishful thinking on the other.

2. MARKETING AND FUNDAMENTALS OF CLASSICAL MARKETING

Marketing 4.0 is to be an alternative for crucial strategic fundamentals of marketing. So it seems to be essential to check to what extent fundamentals of marketing may lose their value in the light of Marketing 4.0. Basic element is market segmentation and targeting. As Kotler traditionally declared, marketing always starts from segmentation⁴. This was not precise view since for many marketing experts starting point used to be market analysis and broadly taking environmental analysis. What is criticized in traditional segmentation is the use of some general criteria as geographic, demographic psychographics and behavioral attributes and to link them to potential needs of consumers, in indirect ways. Nowadays, it is more possible to establish the needs of consumers more directly. What is considered as a weakness of traditional segmentation is specific vertical relation between a firm and consumers. Segmented consumers were to be regarded as animals targeted by hunters. In fact, final sense of segmentation was and is describing consumers, and explaining who are clients, what are their situations, needs and wants - to serve them in a best way. In this sense it is hardly possible to avoid at least some kind of segmentation. For instance, it is impossible on today's markets to miss Millennials, digital natives etc. as segments requiring specific approach. The very Kotler says that societies create new segments. Rationale of segmentation- heterogeneity of consumers and the need of describing with whom a company wants to deal- remains important.

⁴ Ibidem p.57

Even in the light of growing role of digital technologies in marketing and resulting growing role of direct ties between consumers and organizations, one needs still to use segmentation. One of reasons can be enabling an active and anticipatory role of an organization and anticipation is proposed by authors of Marketing 4.0 as one of basic recommendation. No doubt that segmentation process is today more demanding. Research by Econsultancy and Adobe shows that marketers worldwide see leveraging data for more effective segmentation as first of top priorities for campaigns in 2019 (Benes,2019)⁵. Also in January 2019 pool by Interactive Advertising Bureau (AIB and Winterberry Group shows that 43,9% predictive modeling and segmentation is among data-driven marketing tasks that will occupy most of their time in 2019 (Benes,2019)⁶ So finally we can say that what can be dismissed is very primitive interpretation of a role of marketing segmentation. The second fundamental element of marketing is brand positioning. The new proposal is broadening the scope of the brand to include not only product with its name, logo etc., but also an experience to be delivered to consumers. Also new positioning is expected to be related not only to individual perception but also to “community driven consensus”. It is assumed that today’s social media create objective body judging verity of brands premises. In fact, it is hardly possible to consider variety of opinions provided within community as clear point of reference for consumers. Other proposal concerned with positioning is elastic approach to the brand. It is to be a response to new environmental realities (shorter life cycles, fashions changing fast). It should be however noted that the so called dynamic approach to the brand has been offered in the past apart from Marketing 4.0 (Prymon 2010). Third element of marketing, after segmentation and positioning is marketing-mix. Instead of 4 P’ they propose 4 C’s: co-creation, currency, communal activation and conversation. Product as an element is to be substituted not only by the value for consumers but also customer participation in new product development, beginning from new product idea sourcing. It is right idea but one should remember that it was a canon for marketing cycle to start from market research. Furthermore, it was a standard in the new product development process to include consumers as sources alongside with the staff of R&D, production staff ,middlemen etc. Also what was a standard to include customers during next stages of the process. Those who consider preparing Lego toys with participation of young users as a new case, should remember that such participation took place many years ago, for instance in production of TV sequels or in writing novels by some authors. Bagozzi et.al. cited research results provided by Hippel according to which as much as 75% of ideas of new technological products used to come from customers⁷. Widely cited observation by Booz ,Allen and Hamilton, concerned with broad group of products showed that 10,6 % of idea in the USA came from customers⁸. So by no means, idea of co-creation is not new. No doubt however, that today digital technology allows for more intense use customer as source of new ideas. It should be added that if clients are adequate source of ideas, they should not be considered as the only inspiring source. Other sources are: departments of marketing, departments of R&D, top management ,department of new products, departments of production. So instead of relying on one source company can exploit more differentiated sources. The price element, under the Marketing 4.0, is substituted by currency and it is to be dependent upon fluctuating demand. Nevertheless, the very elasticity is not new factor proposed for pricing policies. Also one should appreciate whole range of other factors than demand (strategy goals, competition, costs etc). The place or distribution is to be replaced by communal activation. What really creates a challenge here is the so called shared economy. What should be noted that an idea is a little bit old. To help people to have an access to some products they invented some consumers cooperatives.

⁵ Benes,R.: Awash in Data, Marketers Still Find Ad Targeting Capabilities Lacking, E-Marketer Apr 11, 2019. Retrieved 12.07.2020 from: <https://www.emarketer.com/content/better-ad-targeting>

⁶ .Ibidem

⁷ Bagozzi, R.P. et.al: *Marketing Management*, New York: Prentice Hall 1998, p. 278

⁸ New Products Management, (1982), New York: Booz Allen and Hamilton

What is new now is new motive for sharing-to provide for better use of products or some ecological effects. The last element is conversation which replaces promotion. To consider this change as real one would have to confront very old fashioned promotion (especially advertising) with new realities. The stress on dialogue instead of one sided communication is an old proposal, the same concerns appreciation of active role of consumers. No doubt that what is really new is growing possibility for consumers to be heard and growing role of communication between consumers. What is in a way specific new challenge, as a goal for communication, is gaining advocacy from the side of consumers. So the classical models of communication can be supplemented by a stage of "patronage". The whole idea of new marketing mix is weak. It deprives marketing mix of its strategic role. It is openly expressed by Kotler and others, that in the context of traditional approach segmentation, targeting and positioning play strategic role, while marketing mix is tactical⁹. It should be however noticed that in important tradition of marketing ,an essence of marketing mix was to serve as strategic tool¹⁰. To be precise ,elements of marketing mix may play tactical and even operational role too. It is remarkable that Kotler unlike founder of the concept, McCarthy, considered marketing mix as a set of instruments used to gain attempted reaction on the target market. For McCarthy marketing mix contained variable to serve the market in the best way¹¹. What is important weakness of the idea of Marketing 4.0 is that relations with consumers and communications with consumers are considered as enough rich inspiration for company's strategy. What is ignored here is the whole range of factors included in environmental monitoring- social and demographic trends, behavior of competitors. Potential concerned with technology,culture, politics or law. The whole marketing strategy in Marketing 4.0 loses its anticipatory nature. Its impossible to ignore the role of new information flows and especially possibility to substitute part of market research with digital observation designed to correlate some traits in consumer behavior. Nonetheless, strategic options for organization should evolve from broader sources. New proposal in the context of Marketing 4.0 is what they call -customer community confirmation.The idea is that today's customers are more socially connected and they create horizontal webs of communities. Organization is expected to act as friends and fit naturally to customers needs and wants. No doubt that direct touch between consumers and an organization is more possible using new digital tools.

3. COMMUNICATION AND DIGITAL TOOLS

No doubt that what gives the power to proposals like Marketing.4.0. is digital technology employed predominantly in advertising and distribution .The question is to what extent, digital tools-in the context of Marketing 4 can modify of marketing communication? Those who believe that future belongs only to digital communication should be have in mind the famous McLuhan's mistake. It was at the beginning of 60's of the last century that famous media expert predicted the end of radio as a medium. It seemed at that time that new at the time tool- TV represented really new potential and obvious advantages over radio. The source of a mistake was that he had been focused on the only one value offered by media- information. What occurred was that radio offered much more than information- for instance music, music for free ,dialogue with listeners. To see right place for digital media one should analyse whole range of variety of tools and values to be offered by communication, as a part of marketing. Important aspect of new media are rich visual forms including "extended reality". In the case of social social media it is also specific reliability of the message. At least digital community makes impression of dealing with frank friends.

⁹ Kotler,Ph.,Kartajaya ,H. Setiawan ,I.: *Marketing 4.0.*,Warszawa: MT Business,p.64

¹⁰ Rewoldt, S., Scott, J., Warshaw M. (1969): *Introduction to Marketing Management.* Homewood: Irwin,1969

¹¹ McCarthy, E.J.,Perreault, W.D.(1990): *Basic Marketing.* Homewood: Irwin.

Important value of these media is that they are always at hand. In addition to information related values what is functional value - relation with other people. To be precise, the above advantages are not necessarily present only in digital tools. For example, as for verity, it used to be advantage of PR to offer truthful message. Unlike traditional PR however, social media offer more intense stream of information. These obvious advantages are accompanied by some problems. First of all it is much difficult to harmonize multichannel streams of information. If social media contain positive information on a brand, one should expect a lot of negative information including fake news. What can be observed is not only growing competition between brands of the same type, but also competition between products within whole sectors and between Sectors. People are not exposed to an influence by one brand only. Reliability of social media should not be taken for granted. Opinion provided to other people are highly manipulated by many players: influencers, micro-influencers, paid celebrity influencers, gatekeepers etc. Recent research by Blake Drosch shows that in the USA as much as 31% retailers uses brand advocates to become influencers, 30% uses micro-influencers and 21% use paid celebrity influencers. It is especially Instagram that is believed to be the most important channel for the so called influencer marketing¹². If social media offer touch with other people more important for people may be direct life touch. Finally, digital media offer limited range of values as compared with other tools of communication. Sales promotion covers tools which, in part, can be developed using digital media. For instance - price promotion, contests or games. But other tools of sales promotion like degustation of product, visits to trade fairs offer also important values. It can be trial of a new taste, unique atmosphere, direct touch with other people. Public relations also can be enriched by digital media or support them. Public relations also can be enriched by digital media and support them. However, even some of traditional PR instruments offer important values. For instance, events may provide entertainment, unique visual effect, deep feeling of unity with other people. Investing in local infrastructure may be convince locals to a company etc. Personal selling. Tools based on human factor mean not only direct touch with live people, but and life presentation of products. No doubt that what helps to improve use of digital tools is supplementing non-personal communication with personalized phone calls or meetings. It can be accepted that special influence of digital tools may be concerned with the very advertising. If a weak side of advertising used to be the lack of flexibility, digital advertising may be personalized. From the side of a firm, perhaps the most convincing advantage of digital advertising is possibility of quick and automatic measurement of effects. It should be noted that classical advertising media TV or radio offer specific context: entertainment, music (for drivers), sometimes official nature, cinema offering specific unique atmosphere, magazines offering pleasure of dealing with. Some of traditional tools offer technical values (size, location, capability of attracting people's eyes). Growing availability of digital tools makes the whole system of communication stronger. Brand focused marketing is based to a high extent on communication. The role of communication within marketing mixes becomes stronger than before. Digital communication improves decisions concerning remaining parts of marketing mix. Nonetheless, what is important is that the general nature of marketing mix remains unchanged. Marketing 4.0 proposes no alternative to integral marketing mix. If social media have to play decisive role in brand building and consumers influence others, so a question arises: what motivate opinion leaders to express positive opinion on a brand? So far, no better answer than quality of a product. If a value is being arranged for in communication with customers, fundamental categories operated in conversation, like product function, features, packaging, guaranty, prestige are really important.

¹² Drosch, B (2019): What retailers need to know about influencer marketing? *E-Marketer*. 22 March 2019

4. CONCLUSION

An idea of Marketing 4.0 reflects an attempt to respond to real changes in firms' environment. However, the very fact of evolving new challenges are not enough ground for proclaiming new philosophies. Marketing 4.0 as many other new paradigms gets power from discrediting former paradigms. New realities force some modification of the content of the marketing theory in terms of new stresses: more participation, more communication, more direct relations, more complex approach and more responsibility. More appropriate would be to implement new opportunities into objective marketing theory then proclaiming revolution. Systemic approach to marketing would require subordination of digital tools to the whole structure of marketing and its major subsystems.

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RESPONSES FOR FUTURE SUPPLY CHAIN DISRUPTIONS

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ABSTRACT

The crisis caused by COVID-19 pandemic lead to shocks in the global supply chains in 2020 and 2021. During the past two years - the trade wars, the effects on supply and demand and the ensuing logistical chaos that result from the rapid return to trade - have exposed vulnerabilities in firms' production strategies and supply chains. The paper is based on data from empirical research, expanding on the vulnerabilities of supply chain operations during global disruptions, focusing on both internal and external aspects of the companies. The research led to the discovery of future challenges which modern supply chains have to adapt to, through the possible digitalization of the supply chains with its analyzed benefits and drawbacks. Digitalization can synchronize various elements by eliminating manual processes and spreadsheets and replacing them with digital systems in companies that unite stakeholders around the world, improving communication, collaboration and ensuring the free flow of information in real time and by including each member in the supply chains. Based on data from the research, the paper presents detailed responses on various disruptions in supply chains. Organizations that are advanced in supply chain planning show key behaviors that drive their superior performance, enabling them to position themselves successfully and to adapt to most kinds of disruptions and momentary uncertainty.

Keywords: *COVID-19, digitalization, supply chain, supply chain disruptions*

1. INTRODUCTION

The concept of supply chain refers to the alignment of firms which bring products and services to the market (Lambert et al., 1998). The definition is expanded by Chen and Paulraj (2004), stating that a typical supply chain includes a network of materials, information and services processing links with the characteristics of supply, transformation and demand. Felea and Albastroiu (2013) identify four elements in supply chain, which include management activities; logistics activities; objects and components. The crisis caused by COVID-19 led to shocks in the global supply chains in 2020 and 2021. The past year - the trade wars, the effects on supply and demand and the ensuing logistical chaos that result from the rapid return to trade - have exposed vulnerabilities in firms' production strategies and supply chains. The challenge companies now face is to make their global supply chains more resilient, without weakening their competitiveness. Leading firms use these crises to provide greater flexibility by embracing process innovations and new technologies, such as robotics and automation. In the early stages of the pandemic, China was severely affected and had to reduce its economic and industrial

activities, along with lockdowns of various cities. The global state of emergency was declared on March 11, 2020. The dependence of the world supply chain on world factories was at great risk, and business activities were significantly reduced. After a short time, cases were reported worldwide and COVID-19 became a global pandemic (WHO, 2020). In recent years, the frequency and severity of these disasters have been deteriorating due to a number of factors. According to the World Health Organization, categorization of various types of disasters is established, according to their importance.

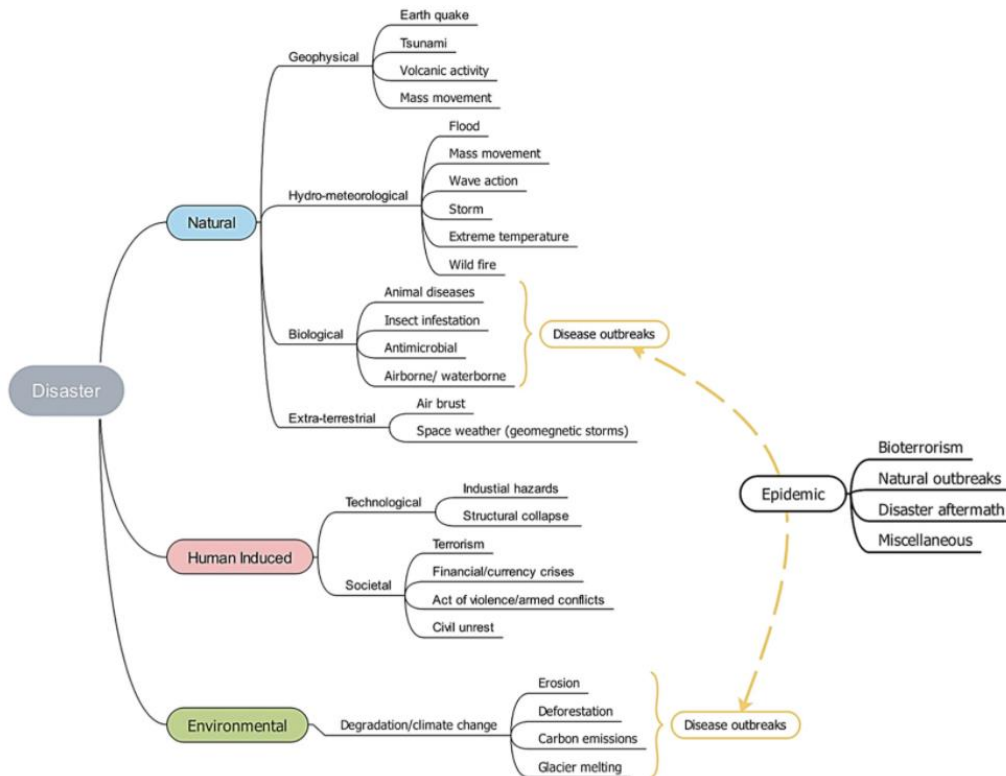


Figure 1: Classification of disasters which pose a serious threat to supply chains
 (Source: Farooq, M. U., Amjad, H., Tariq, M. & Muhammad, S. H. (2021). Supply Chain Operations Management in Pandemics: A State-of-the-Art Review Inspired by COVID-19. Sustainability, 13(5), 2504)

The recent outbreak has disrupted the business of many companies on a large scale, which may be related to differences in the management of processes in marketing, production, services, distribution, as well as in the past when there were various disruptions in the operation of companies (Srivastava et al., 1999). Therefore, early detection of disturbances and rapid remedial action may enable industries to reduce the impact of current and future shocks (Queiroz et al., 2020). For example, it is advisable to build transparent systems to strengthen logistics capacity, optimize operations, and improve access to the right customer to reduce the bullwhip effect (Cuturi, 2015).

2. METHODOLOGY OF RESEARCH

In order to accomplish the goal of the paper, as well as the full scope of the research subject, a combination of several quantitative and qualitative methods for data collection and processing was utilized. Secondary data was gathered from various relevant publications, research papers, statistics and other sources of information. Primary data was collected through the use of a questionnaire, which was conducted on the territory of the Republic of North Macedonia, in the

period of January through April, 2021 with 148 respondents, managers or other employees related to managing supply chains. The data obtained from literature, as well as from the primary research, was collected, processed, systematized and analyzed. Furthermore, basic analytical methods were used, such as the method of analysis, the method of specialization, the method of deduction and the synthesis method.

3. RESEARCH AND DISCUSSION

The onset of the pandemic, as well as the economic downturn, have caused organizations to rethink their ideas of ways in which supply chains can be optimized. Instead of focusing solely on cost and market share, organizations now need to think about how to deal with risk and how to meet strategic goals. This responsibility was given, above all, to supply chain planners, who must take into account the need for flexible maintenance of logistics regimes, rapid response to unforeseen events and addressing changes in demand with great care. The ability to balance these needs is essential to building a resilient supply chain in the future. Organizations that are advanced in supply chain planning show key behaviors that drive their superior performance, enabling them to position themselves successfully and to adapt to any kind of influence and momentary uncertainty. These organizations are flexible enough to respond quickly to unforeseen outages, but they also plan for the future by providing support for existing and future business models. They also increase their analytical maturity to be able to use data. In addition, they follow trends in development technology to continue and improve their business strategies and goals (Lopes de Sousa Jabbour et al., 2020). Figure 2 on the next page shows the changes which are needed to strengthen the supply chain, according to respondents. The main challenges faced by Macedonian companies due to crises are storage and distribution (47 Macedonian companies or 31.8%) and stock management and data review (43 companies or about 29%). Relatively large number of companies make efforts in supplier risk management (25.7%) and preparedness and continuity planning (22.3%). The necessary changes in the following links of the supply chain are also important for each owner, because the percentage value shows the challenges of Macedonian companies: international logistics (12.8%), network redesign (20.3%) and demand forecasting. (12.8%), which in turn indicates that owners and managers believe that they need to make changes in domestic logistics, as well as in production (8.1%).

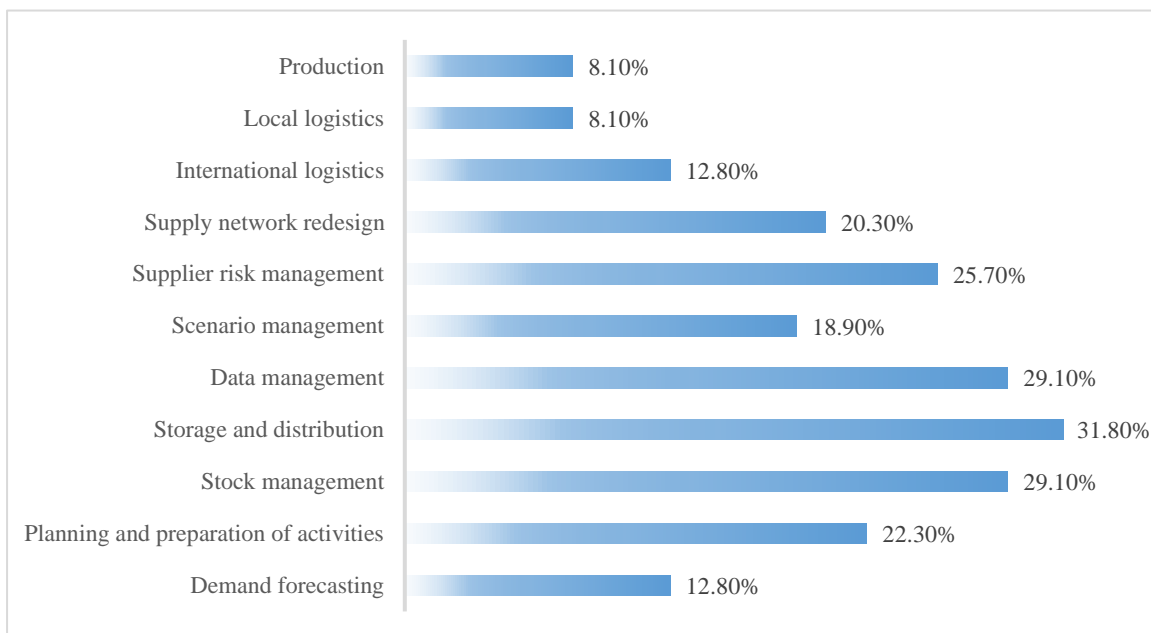


Figure 2: Changes needed to strengthen the supply chain
 (Source: own research)

From these results it can be concluded that with the timely perception of the problems and the taking of appropriate measures and actions, the current processes in the work organization will not be stopped and the negative external influences will not be felt, but the functioning of the processes will continue to run smoothly.

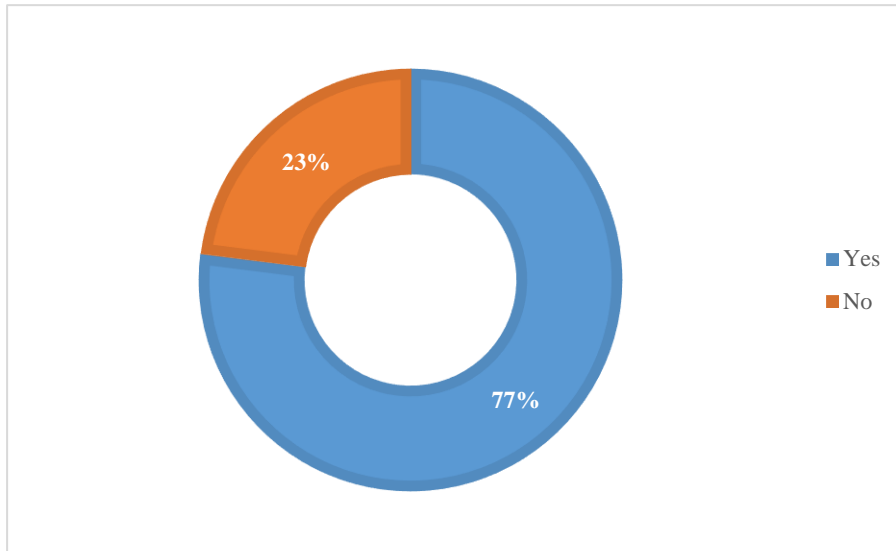


Figure 3: Innovations in the supply chain as a response to the pandemic
(Source: own research)

According to the data in Figure 3, most of the respondents (77%) answered in the affirmative way, i.e. that they are introducing an innovative solution for encouraging and advancing the business in times of crisis, and 23% of them answered that they are not introducing any innovative solution. Most supply chain managers with a clearly defined plan and analysis for functioning in times of crisis, take the initiative to find an innovative solution to facilitate and improve the way the business operates. In addition, some small and medium-sized businesses are applying to the public call for co-financed technological development grants for accelerated economic growth. In times of global pandemic, many companies are ready to invest, create trusting partnerships and realize those innovative solutions and opportunities to meet the challenges they face.

3.1. Supply chain shocks

As the pandemic spread, companies were being forced to adjust their distribution and logistics operations accordingly. The rapid changes in society caused by the pandemic, significantly show the weaknesses of supply chains. As the world struggles with the human and economic crisis, supply chains face challenges that need to be addressed, which directly affect the process of their functioning.

3.1.1. Supply shocks

During the beginning phases of the pandemic, experts were focusing on material supply shocks. These are disturbances in the availability of raw materials coming from China, finished products for sale, as well as products used in factories in developed markets. Companies encounter disagreement when it comes to production and timely fulfillment of demand. At that point, supply chain resistance is being considered. For a supply chain to be durable, levers of supply chain resilience should be established. Some companies have already integrated these methods, but others, in the interest of cost and sacrificing agility and resilience, relentlessly consolidate production.

3.1.2. Shocks caused by demand

As the pandemic crisis deepened and governments began to impose blockades, supply chains started to experience systematic shocks in demand, in which people are supplied with reserves in order to comply with envisaged government constraints (e.g., limited movement, buying in bulk in one day). People feared that food supply chains will not be able to respond to this unprecedented, massive jump in demand. With a few exceptions, major consumer supply chains responded to the challenge. Recharge models that dictate orders from retail distribution centers to stores were manual and not sophisticated, but they were the best match for continuous and relatively smooth requirements. From the point of view of production, the successful replenishment is a result of maximizing production with the entire reserve capacity. Elasticity problems are less relevant to food supply chains because they tend to be more local than supply chains of other products.

3.1.3. Successive earthquakes

The bullwhip effect describes how demand spikes tend to intensify. A small increase in demand at the consumer level could lead to a large increase in production by food producers or suppliers of its packaging. So the question arises: Will the lash effect reappear? There are countless reasons to suggest that it will not reappear. Among the key drivers of this effect is the lack of visibility in increasing demand. It is thought that all actors in the supply chain are aware of the reasons why demand is increasing and that this is not an organic evolution in product sales.

3.1.4. The new normal

The economic impact is beginning to be felt significantly, and many economists are predicting a deep recession of unpredictable and unknown length. True, some supply chains are incredibly difficult to maintain, but others are forced to shrink. For supply chain planners, one pitfall to avoid in order to move forward is the momentum called backup bounce. When demand reaches a new steady state, there must be a reduction in output to allow the reserve lines to descend to a new level of steady state. At that point, production is actually increasing slightly to meet new demand. In the last major recession, ten years ago, the purchase of reserves tricked some supply chains into thinking that demand was returning to stable levels. The lash effect begins and the bounce intensifies. After the shocks, is there an opportunity for uninterrupted functioning of the management parts of each company? The decline in supply chain dynamics can be accelerated as companies seek different cost/ resilience and demand localization of production and procurement. Also, now is the time for the supply chain to strengthen and make contributions. Many companies reuse their products for other purposes. L'Oreal and Coty, for example, are redesigning their cosmetics product lines to produce hand sanitizers. In addition to providing a valuable resource that can help save lives, the move helps keep workers and facilities afloat despite difficult economic conditions (Harvard Business Review, 2021).

3.2. Digitalizing the supply chain

In order to achieve greater agility, digitalization of supply chains is inevitable. Digitalisation helps eliminate supply chain productivity barriers. Many companies are beginning to define digital transformation as the application of digital capabilities to processes, products, and tools to improve efficiency, enhance customer value, manage risk, and discover new opportunities for monetization (Ivanov et al., 2019). While a number of supply chain initiatives in recent years have focused on these issues, retailers still have a long way to go (Ivanov et al., 2020). Simply put, many companies are successfully establishing a digital supply chain and demonstrating efficient market results. This refers to the clothing retail industry, in which the demands for fast fashion and retail on all channels are exposed to a critical weakness: organizational silos that hinder the ability to collaborate, innovate and improve market speed

and agility. Digitalisation destroys parts by eliminating manual processes and spreadsheets and replacing them with digital systems in companies that unite stakeholders around the world, improving communication, collaboration and ensuring the free flow of information in real time and by including each member in the supply chains. Companies that digitize their supply chain processes with state-of-the-art systems enjoy many benefits. Some of the most common are the following:

- a) Enabling a supply-driven supply chain
Demand-driven supply chain is a chain management process. Without a digital system, this is impossible. Digitalization allows companies to tailor products to supply chain, based on demand for those products, using real-time sales information, enabling them to accelerate production and reduce downtime losses.
- b) Optimizing time management in the supply chains
This includes factors such as raw material duration, reservation of production facilities to ensure real-time availability of the plant, and distribution planning.
- c) Utilizing the "just in time" technique
Timely production means that companies can delay critical decisions about style, product quantities, and so on. to the last minute, allowing them to design styles much closer to the final delivery date and take advantage of the latest trends.
- d) Reduction of reserves
Adopting the "just in time" technique, optimizing time periods, and responding to consumer demand greatly increases the likelihood that companies will have the right mix of products and attract customers, thus minimizing reserves (Leith, 2011).
- e) Improving cash flow and cost management
The faster the supply chain operations take place, the less capital is tied up in the supply chain and this is a key benefit of the digitalization of supply chain management processes.

4. CONCLUSION

At the beginning of the pandemic, many business activities were largely shut down due to extremely low demand. This has led to dismissal of many employees, lower sales and market share, and even bankruptcy. However, some businesses took advantage of the situation and increased their market share and services. To become more successful, supply chains must retain flexibility and adapt to organizational strategy as well as external changes. Supply chain process analysts in each company establish communication channels to convey strategic changes, such as new products, changed business models, new partnerships, and any supply or demand disruptions. It can be concluded that business entities that provide products and services to customers through electronic platforms, are becoming popular and receiving an incredibly good response from the public. However, businesses that are completely dependent on physical resources face challenges. The research can be expanded by analyzing case studies in different countries and industries of companies responding to pandemic disruption, as well as primary and secondary research and comparison between the functioning of supply chains in different economies.

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CAN GREEN TRUST BE STRENGTHENED BY ACHIEVING B CORP CERTIFICATION? AN ANALYSIS OF EUROPEAN B CORPORATIONS

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ABSTRACT

In recent years, the focus on the environment and sustainability aspects has become increasingly recurrent in the globalised world. Consumers increasingly feel the need to buy products and services provided by companies that restructure their production to reduce their negative impact on the environment. Green consumers are identified as continually making purchases from sustainable companies, increasing their trust in them. The meeting point between the green consumer and the company must be defined by green marketing strategies, which take into account the interests of all external stakeholders and at the same time increase the financial needs of the company. One way to increase this relationship of trust is through the B Corp Certification, awarded by B Lab, which aims to ensure that companies and stakeholders respect social issues. The companies are assessed by B Lab through an overall score concerning Governance, Workers, Community, Environment, Customers. This study aims to analyse the impact of B Corp Certification on the ability to attract and retain customers. The research hypothesis is investigated through an empirical analysis of data referring to the period from 2015 to 2020 on 106 B Corps. The findings of the panel data analysis show that B Corp Certification has a positive impact on the sales of European companies. Thus, the results indicate the need for business managers to consider systems to ensure their sustainability performance, as demonstrated through B Corp Certification. This certification is a benchmark for consumers, who expect a higher degree of reliability from a third-party certification.

Keywords: *Green trust, Green Marketing, European B Corps, B Lab, Sustainability*

1. INTRODUCTION

Environment concerns seem to be a major concern throughout the world, with consumer environmentalism increasing in the early 1990s to the point that people are eager to purchase environmentally friendly items (Chen, 2010). All sorts of customers, whether individual or industrial, appear to be getting increasingly interested and conscious of the natural environment (Polonsky, 1994). For the company's legal and technical team, the environment was still a struggle. However, it was of little direct importance to them as long as the company's engineers and lawyers could verify that environmental standards were being followed. This was mainly achieved by making "end-of-pipe" changes to production processes or goods in order to reduce or contain pollution (Peattie, 2001). Many businesses regard shifts in demand as an opportunity to capitalize on (Polonsky, 1994). Along this line, companies have been condemned for neglecting to accept responsibility for concerns such as climate change, environmental degradation, inequality, and human rights violations in the workplace in their frantic pursuit of profits to give to shareholders (Villela et al., 2019). From the fundamental marketing ideas, it emerges over the last few decades the interdependence of other elements as accountability, investment decisions, technological requirements, and operational direction (Kumar, 2015). In this perspective, green marketing is one of the unavoidable developments for businesses because it frequently enables businesses to break into new markets, boost profitability, and gain a competitive advantage (Chen, 2010). For businesses, brand equity may provide a competitive advantage by allowing the brand to grab a bigger market share and sell at higher prices with better profit margins (Jung and Sung, 2008).

Green marketing concepts include the ability to revolutionize the method of corporate branding and the ideal solution in the framework of brand equity (Chen, 2010). Marketing as a discipline is also clearly playing a far more significant role in enterprises (Kumar, 2015). Marketers found a new “green marketing” phenomenon as an opportunity, and several organizations created and implemented long-term, proactive environmental plans (Pujari and Wright, 1995). The approach recognises that organizations can pursue to combine multiple objectives in their core processes and structures, balancing ethical, social, and environmental objectives with economic goals. Therefore, there has been a proliferation in interest in the entrepreneurial elements of social businesses, hybrids, and other forms of prosocial organization in recent years (Haigh et al., 2015; Corbett and Katz, 2017). Precisely these “hybrid organizations” appear to be more frequent, and research on them is expanding as social actors reach the ultimate goal to integrate ethical goals into the structural system of their organization, by combining intent responding to ethical concerns and a business plan providing financial sustainable factors (Battilana and Lee, 2014). The majority of literature on this subject is based on pioneering research on the strategic parallels and contrasts between no-profit and for-profit businesses (Elkington, 1994; Dees, 1998; Emerson, 2006). Research has also examined the expanding effect of social purpose-focused enterprises and how they have caused a change in stakeholder interdependencies, conflicts, and measurement inside established firms and institutions, extending work beyond the entrepreneurial life cycle (Stecker, 2016; Wang et al., 2016; Wickert et al., 2017). In the general framework on the evolution of green marketing and the priorities of companies in terms of co-creation value (Payne et al., 2008), it is decided to look at the elements that lead companies to be greener nowadays. Among these instruments, as suggested by Cronin et al. (2011), it is crucial using certification as a branding or promotional strategy for the broad customer base or prospective supply chain partners in a B2B scenario. Additionally, certification permits to communicate to investors or society as a whole that the business is taking a pro-environmental stance, which might improve the firm's image. According to Diez Busto et al. (2021), it is pivotal to grasp identify and compare the social impact certificates that are available on the market. In the context of various widely accepted certifications, B Corp certification intersected with circular economy concepts and the possibility to show dynamic different stakeholder perspectives (Poponi et al., 2019). In compliance with Moroz et al. (2018), Certified B Corporations are companies that have strived to be non-profit entrepreneurial enterprises, due to B Lab's selection in voluntary third-party social and environmental audits. There are numerous studies on samples of certified B Corp companies in a given territory (Chen and Kelly, 2015; Gehman et al., 2017; Gazzola et al., 2019; Harjoto et al., 2018). Furthermore, this work aims to analyse all companies at European level during the period when there is an increase in B Corp certifications awarded by B Lab. It is decided to examine the importance that consumers pour into the company that has a B Corp certification, and how much they value it through sales revenues. Taking the suggestion of Poponi et al. (2019), this research focuses on the ranking system assigned by the B Corp certification system and the results for firms. To achieve this, the next session examines the key concepts of green marketing and theories in the literature. By investigating regression models, it is developed whether there is a relationship between B Corp certification and sales of certified companies. Regarding the companies that obtain B Corp certification in 2015 and 2016, the results show the competitive advantage that a B Corp company can achieve in terms of sales and the most relevant financial values over six years.

2. LITERATURE REVIEW

In order to comprehend the benefits of being an environmentally, socially and economically aware company, key concepts disseminated in the literature are analysed. The pathway helps to figure out the benefits of evaluating and subsequently obtaining green certifications for

companies. It is proper to grasp what green marketing is, what it means to implement marketing strategies in favour of a company's brand image. Furthermore, by exploring this phenomenon, the study focuses on examining B Corporations, their birth and how certification works.

2.1. Boosting brand awareness by means of green marketing strategies

Considering global warming, the environmental issue is rapidly becoming a mainstream issue for consumers, and many businesses are attempting to capitalize on the opportunity (Chen, 2010). Consumers are more responsive to a company's products or services if it can meet its customers' environmental demands (Padgett & Allen, 1997) with more ecologically and socially responsible products and services (Chen and Chang, 2013). Consequently, businesses must look for ways to improve their goods' environmental performance in order to build their brand equity (Chen, 2010), by incorporating multidisciplinary knowledge (Kumar, 2015). Considering marketing is currently trailing behind other disciplines, marketers must explore how various stakeholder groups might affect a firm's green plans (Cronin et al., 2011). According to van Dam and Apeldoorn (1996), sustainable marketing should help to establish viable trade-offs between commercial and environmental issues. Among business leaders, it emerges that social welfare goals and corporate success depend on plans in line with green marketing strategies (Menon and Menon, 1997). The business-level variables (such as size, industry, profitability, lifecycle stage, and specific resources and capabilities) surely impact a firm's overall strategy, the costs and rewards of each activity, and the degree to which a firm feels external pressures (Szabo and Webster, 2020). Notwithstanding, green supply chain activities that are externally focused, such as green purchasing and reverse logistics, have minimal impact on the firm's internal performance (Eltayeb et al., 2011). In international markets where it is difficult to identify products or services based on tangible qualitative qualities, brand image is vital (Mudambi et al., 1997). In this perspective, Chen (2010) offered a new concept, "green brand image" and characterized it as "a collection of views of a brand in a consumer's mind that is tied to environmental commitments and environmental concerns". Being labelled as a green firm might result in a more favourable public image, which can boost sales and stock prices (Ginsberg and Bloom, 2004). Green brand image is becoming increasingly crucial for businesses, especially as consumer environmental consciousness grows and demanding international environmental standards become more stringent (Chen, 2010). According to Park et al. (1986), brand image encompasses practical advantages, symbolic benefits, and experiential benefits. Many companies choose to be green certified to obtain better consensus from stakeholders (Cronin et al., 2011). Concerning green trust, the first stakeholder the company intends to satisfy is the consumer (Bhattacharya and Korschun, 2008). Covering consumers as the main stakeholder in this overview of literature, they are becoming more trusting of organizations that practice environmentally beneficial behaviour (Krause, 1993). In order to achieve these goals, it is increasingly common for companies to use strategies oriented towards green certifications recognised at European but also global level (Cronin et al., 2011). A set of certifications gives direction on how to include environmentally friendly processes and manufacturing design into a company's production strategies (Szabo and Webster, 2020). Notwithstanding, the most discussing question regards whether a company might convince its customers with a certification. For these reasons, this study aims to focus on the company's strategy to apply as a B Corp. This type of certification allows an adjustment and improvement of internal performance (Honeyman and Jana, 2019), but also excellent consequences on external actors. A significant part of corporate governance is given over to certification (Paelman et al., 2020). In this scenario, B Corp certification provides an essential function in the process of reporting to stakeholders on companies' intentions and their orientation towards sustainable marketing. To get an insight into the management of such a majestic and globally recognised organisation, the next section deals with the description of B Lab's role.

2.2. B Corp Certification

B Certified firms are a type of business that adheres to the highest standards of social and environmental performance, public openness, and corporate responsibility to strike a balance between profit and purpose (Moroz et al., 2018). This era's entrepreneurs must use new organizational vehicles to mobilize opportunities (Hiller, 2013; Rawhouser et al., 2015) and to address society's multiple challenges (Shepherd, 2015). B Corp provides a framework for any firm in any state or country throughout the world to employ in order to establish a better business (Gamble et al., 2019). In this direction, it can still be overstated that the private sector's participation in achieving the Sustainable Development Goals (SDGs) is primarily dependent on its capacity to generate commercial value from investments in sustainable development. Companies will be more likely to align with the SDGs and incorporate them into their business models (Pedersen, 2018). Hence, the entrepreneurship scene is expected to commence believing that the SDGs would help create new revenues, enhance supply chain synergies (Mainali et al. (2018), recruit and retain talent, and attract the attention of investors (García-Sánchez et al., 2020), in line with goals of United Nations Agenda 2030. Ginsberg and Bloom (2004) affirms that consumer concern about the environment and its ties to health and safety rises as awareness of the impact of human activity on the Earth's ecosystems grows. In this perspective, the challenge for businesses consists of developing environmentally responsible business processes and products that still suit the demands of consumers (Ginsberg and Bloom, 2004). In order to reach these aims the role of B Corp is essential. Indeed, this movement describes itself as "a group of leaders leading a worldwide movement of people who use business as a good force" (B Lab, 2019). B Corp configuration emphasizes the require for organizations to change their viewpoint by evaluating how they might be "the best for the world", as remarked in its slogan. Through B Lab partner organizations in the United States, the "B" movement is now present in 60 countries (Honeyman, 2014). This organization was founded in 2007 and it is characterized by collaborative action to address society's most pressing issues (Hiller, 2013). Its belief consists into different form of economy and that business could pave the way for a new stakeholder-driven model, by fulfilling high criteria of social and environmental performance, accountability, and transparency. As specified by B Lab (2019), in order to join among B Corps, companies must satisfy three standards:

- being aligned with performance standards regarding five areas (Governance, Workers, Community, Environment, Customers);
- respecting legal requirements, the consideration of all stakeholders in decision-making must be incorporated into the company's bylaws;
- subscribing the B Lab term sheet and the Declaration of Interdependence, and also paying the yearly certification charge.

Because of these steps, this certification is considered one of the most reliable in the view of the consumer. Third-party certification is preferred in the market's perception because it is assumed that a careful investigation of the organisation's aims has been carried out (Hatanka et al., 2005). Thus, subsequent session wants to underline the motives that are inherent B Corp sorting.

2.3. The reasons behind the choice of B Corp examination

Sustainable revolution has convinced companies worldwide and directed them towards being organizations careful to achieve SDG objectives. According to Cohen (2018), companies should create value by promoting a new mindset and acting with impact. All companies pursue the same tasks, meaning to improve their income, generate value and accelerate their progress. Actually, some businesses have chosen accreditation as a means to demonstrate their good effect on society (Diez-Busto et al., 2021).

In this line, there are various types of certifications worldwide which differ according to the objective that companies want to achieve. Third-party certifications are the most valued by stakeholders (Bamber et al., 2004). In third-party awarded certifications, belonging to the B Lab organization enables financial gain, linked to networking and support between similar and socially responsible companies (Hiller, 2013). Precisely because of stakeholder orientation, B Corp is favoured in this research work. Hence, it is fundamental to distinguish a B Corp from a benefit company, since some studies conflate or even use the terms interchangeably (Diez-Busto et al. 2021). Importantly, the benefits company form is not a certification, and benefit corporations are not obligated to achieve B Lab's requirements. In fact, this community has developed in recent years, but the concept regarding Benefit Corporation is dated. According to Moroz et al. (2018), the prosocial organization is always evolving. Compared to the other legal structures, being a Certified B Corp or Benefit Corporation did not necessarily limit a firm from increased profitability (Cohen, 2018). Consequently, B Lab administers B Corp Certification to companies that meet verified standards of social and environmental impact. Through the B Impact Assessment, B Lab commits to transparency requirements related to their business impact and operations and commit to being legally accountable to all of their stakeholders. Essentially, a business may not choose to be a B Corporation without being certified by B Lab (Hiller, 2013). In this direction, B Corp designation is achieved by firms that establish a balance between social purpose and economic advantages. In light of these considerations, Certified B Corporations and Benefit Corporations are neither for-profit nor philanthropic combinations, but B Lab wants to meet the certification's legal responsibility requirement. On the other hand, a benefit corporation is a legal form that incorporates stakeholder governance into a company's DNA, ensuring that the company evaluates the impact on all of its stakeholders (B Lab, 2019). With regard to the advantages of this certification, the process between the company's application to become a B Corp and acceptance by B Lab avoids "greenwashers" or false certifiers (Moroz et al., 2018). Indeed, various steps are required to ensure that the company achieves the objectives in a way that is suitable for certification (Moroz et al., 2018). Many certified B Corps need to join B Lab's ranks and be aggressively advertised to the public to gain prominence with customers and investors (Stecker, 2016). The accessibility and transparency of green information, as well as the presence of green certification, have the most impact on customers' perceptions of remanufactured items and their proclivity to make a purchase choice (Wang et al., 2018).

2.4. The potential relation of B Corp and customer trust

Since there has been a considerable focus in the literature on other types of certifications and the connection between them and increases in financial performance (Lee et al., 2008; Chatzoglou et al., 2015; Prado and Woodside, 2015), it was decided to explore the topic further, seeking to offer an additional piece to the literature. In line with the relevant literature that has drawn on elements of green performance in the company (Harjoto et al., 2018; Carvalho et al., 2021; Villela et al., 2021) and the ability to attract customers (Honeyman and Jana, 2019), an attempt was made to motivate increased green trust in the customer. In light of B Lab's determination, the purpose of this research study is to examine a sample of certified B Corps to determine whether they are extremely successful according to standard financial measures. With the present work the following research hypothesis is put forward:

- *HY: Overall B Corp has a positive and significant effect on sales of certified companies.*

In the following paragraphs, a model will be implemented to understand the existence of this relationship. In order to achieve this goal, a sample extracted from the population represented by European B Corp firms has been chosen.

3. METHODOLOGY

To understand the level of relationship existing between a B Corp certification and the financial performance of the certified companies, it has been chosen to proceed with regression analyses. The sample analysed concerns European companies that received B Corp certification in the years 2015 and 2016. Sales were identified as a dependent variable (Nagar and Rajan, 2001; Ranganathan and Grandon, 2002). Sales are an important element for all firms in every industry because they are the main business channel through which existing assets and growth opportunities are converted into cash (Hand, 2005). Furthermore, firms have frequently only used the environment as an additional promotional dimension; in this perspective, it has chosen to consider B Corp certification also as a highly sales-based approach (Peattie and Crane, 2005). It was thought appropriate to show it as a phenomenon that fluctuates over the years according to the influence of communication and the score obtained by B Lab. Actually, the overall score assigned by B Lab was chosen as the independent variable to certify a mark on their sustainable outcomes and to compare peers. The other chosen variables are defined as control variables (Gordon, 1968; Frölich, 2008), which serve to reduce error terms and increase statistical power (Schwab, 1999). The need to have control variables must be justified (Becker, 2005) on the basis that, although they are not of direct interest, they represent regressors that take account of factors which, if neglected, could lead to bias from omitted variables in the estimation of the causal effect under consideration (Stock and Watson, 2012). Descriptive analyses were performed to understand the distributions of the variables (Wold, 1954). Descriptive statistics are used to characterize or summarize the features of a sample or data collection, such as the mean, standard deviation, or frequency of a variable. Because of their measurements of variability, it is possible to examine how scattered a collection of data's distribution is. These are two regularly used descriptive statistics. The mean is the average level seen in a piece of data, but the standard deviation indicates the variance, or how scattered the data recorded in that variable is spread about its mean. Through descriptive analysis, it was decided to operate on the values of the variables in order to better focus the sample. The independent variable was lagged to avoid problems of endogeneity and multicollinearity (Grewal et al., 2004). Through the winsorization process, outliers were assigned a lower weight and their values were transformed so that they were closer to the other values in the sample (Ghosh and Vogt, 2012). By transforming the values of the other variables into natural logarithms, it was possible to obtain the value of the elasticity, making it easier to see clearly and interpret the relationship between the dependent and independent variables (Ranganathan and Grandon, 2002). Pooled Model OLS, Fixed Effects Model and the Random Effects Model were compared. Indeed, multivariate ordered least squares (OLS) regression analysis is widely used in marketing and business research (Peel et al., 1998). In order to comprehend the relationship between variables, it has proceeded with the analysis of regression models.

$$\ln Sales_{it} = \alpha + \beta_1 overall\ B\ Corp\ score_{it-1} + \beta_2 \ln Profit\ \&\ Loss_{it} + \beta_3 ROE_{it} + \beta_4 \ln Personnel\ Costs_{it} + \beta_5 Net\ Profit\ Margin_{it} + \beta_6 EBITDA_{it} + \eta_i + \varepsilon_{it}$$

It has been presumed that there can be unobserved variability among individuals captured by α . In this analysis, the least-squares assumptions were respected, the resulting regression coefficient estimates are unbiased and the sampling errors can be precisely defined (Wold, 1954). In any case, the other models were analysed and, using the Hausman test, the model that best summarised the relationship sought was chosen. The fixed-effects models (Nickell, 1981; Bhargava et al., 1987) are conceptually supported by the ability to capture the possible effect of characteristics that remain constant over time, which may influence the independent variables.

The Hausman test confirms the existence of considerable divergence between the coefficient estimates resulting from regressions run on fixed effects and random effects models, and in the case of a positive outcome, fixed-effects models are favoured. Fixed effects models may account for unmeasured factors that are consistent over time and differ between people by employing a unique intercept term for each individual.

3.1. Definition of the Sample

The database containing the list of certified B Corporations was obtained employing an SQL on Dataworld. To narrow down the sample and focus on the years in which a boost in certifications was observed, it was decided to limit the analysis. For this reason, it was decided to examine the companies that obtained B Corp certification in the years 2015-2016. The highest frequencies of certification were recorded in the chosen two-year period (Table 1).

Year datefirst	Number of first certified
2007	187
2008	141
2009	150
2010	259
2011	304
2012	574
2013	694
2014	803
2015	879
2016	1054
2017	793
2018	627
2019	630
2020	650
2021	432

Table 1: Distribution of B Corp certified firms for the first accreditation

By cross-referencing data from Dataworld and Amadeus, panel data was constructed, covering the period from 2015 to 2020. The sample of observed companies was drawn from the entire list of companies with B Corp Certification. The second stage narrowed the focus to all B Corp companies in Europe. All sectors have been affected by the phenomenon and over the years all countries have seen an increase in certifications. In particular, it was opted to restrict the analysed sample to the years 2015 and 2016, as exponential growth is detected, evident from the percentage change available in Table 2.

Table following on the next page

Country	2015	2016	Percentage Variation
Argentina	14	27	193%
Australia	84	116	138%
Austria	1	3	300%
Belgium	4	2	50%
Brazil	27	38	141%
Canada	81	76	94%
Chile	34	36	106%
Colombia	16	23	144%
Costa Rica	2	8	400%
Denmark	1	2	200%
France	34	22	65%
Germany	24	11	46%
Israel	4	3	75%
Italy	6	55	917%
Mexico	7	8	114%
Netherlands	49	25	51%
New Zealand	8	8	100%
Paraguay	3	5	167%
Peru	5	4	80%
Portugal	5	6	120%
Singapore	6	2	33%
South Korea	4	4	100%
Spain	14	23	164%
Switzerland	16	6	38%
Taiwan	5	21	420%
United Kingdom	105	67	64%
United States	309	395	128%
Uruguay	3	8	267%

Table 2: Distribution of B Corp certified firms for the first accreditation based on country of origin

Indeed, the prevalence of certification is evidenced by the increases shown in Table 2, with substantial variations in 2016. The highest frequencies in Table 2 are represented by the United States, the first location of B Lab. It is precisely B Lab the institution that issues the certification, after a meticulous examination of the companies' performance and scores. The final sample included 106 B Corps. Several financial values were observed for each company and the score assigned by B Lab. The study proceeds with the analysis of the variables included in the research work.

3.2. Variables

In order to understand the influence of the score that B Lab assigns to each company, it was decided to evaluate how the most significant financial values vary as the overall score of B Corp certified companies fluctuates. *Sales*. It was chosen as a dependent variable from *Amadeus* to study how sales revenue varies in companies that received B Corp. This value allows us to understand whether consumers have a broader interest and more established trust in B Corp certified companies. In the variable of sales per enterprise, an attempt is made to summarise the existence of green trust in the enterprise (Chen, 2010). *Overall B Corp Score* assigned to each company by B Lab were obtained from the dataset extracted from *Dataworld*. It was handpicked as an independent variable because the scores represent an effective benchmarking tool because they compare companies with high performance on various aspects of economic, social and environmental sustainability (Honeyman & Jana, 2019; Carvalho, 2021). The process of accreditation begins with a period of self-assessment for the firm.

The *B Corp Effect Assessment* questionnaire allows all organizations to benefit from an assessment of their business's sustainability in terms of governance, economic outcomes, environmental performance, and social impact. The questionnaire automatically produces a score ranging from 0 to 200: organizations that achieve a minimum of 80 points have the option to go to the next level (B Lab). The upcoming level is a call conference with a member of the B Lab team aimed at verifying and deepening specific areas of the questionnaire. Before receiving the final green light, it is normally asked to provide any papers that may certify and validate the self-declared assertions in the questionnaire (B Lab, Impact Assessment). Consulting *Amadeus*, control variables were selected in order to justify better the analysis. *Profit and loss* represent the outcome of a particular administrative period (Manzilati, 2015; Elkington, 2018). *ROE (Return on Equity)* is an economic metric of return on equity calculated by dividing net profit by equity (Rajnoha et al., 2017). *Personnel Costs* are attractive to learn how much the company has invested in human resources (Lee & Saen, 2012; Martin, 2020; Paelman et al., 2020). The reason behind the choice of *Net Profit Margin* variable consists in the fact that the higher the net profit margin ratio, the better the profit potential of the company (Heikal et al., 2014; Nariswari & Nugraha, 2020). The increase in net profit margin (NPM) showed that the company achieved a higher ratio of net profit to net sales (Harahap, 2007). In his study, Irawan (2011) showed that net profit margin (NPM) influences profit growth. This is because companies with a high net profit margin (NPM) ratio tend to have faster profit growth and vice versa. *EBITDA* (Earnings Before Interest, Taxes, Depreciation and Amortization) is a widely used measure in the calculation of cash flows for the company. According to researchers' theories, the variables were explained and summarized in Table 3. The next session provides a discussion of the results obtained from the analysis of the above sample.

Table following on the next page

Variables	Description	Literature	Data Source
Sales	Sales are the first expression in the income statement of the value of production	Chen, 2010	Amadeus
Profit & Loss	Profit and loss represent the outcome of a particular administrative period: the profit is the excess of accrued revenues over accrued costs; the loss is the shortfall of accumulated revenues over accrued expenses.	Manzilati, 2015; Elkington, 2018.	Amadeus
ROE	ROE (Return on Equity) is an economic metric of return on equity calculated by dividing net profit by equity. The indicator is used to assess the rate of return on risk capital. The indicator may be viewed as a summary of total profitability, examining how well management has managed equity to improve business earnings.	Rajnoha et al., 2017	Amadeus
Personnel Costs	All expenses made by the employer for labour are referred to as personnel costs. Personnel expenditures comprise both wage and social security contributions, which must be paid by the employer to the employee as well as to social security and welfare agencies, as well as any other expenses linked to the administration of the employment relationship.	Lee & Saen, 2012; Martin, 2020; Paelman et al., 2020.	Amadeus
Net Profit Margin (NPM)	Net Profit Margin is a percentage of revenue that measures how much net income or profit is earned. For a corporation or business segment, it is the ratio of net profits to revenues.	Harahap, 2007; Irawan, 2011; Heikal et al., 2014; Nariswari & Nugraha, 2020.	Amadeus
EBITDA	EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) is a widely used measure in the calculation of cash flows for the company. It measures the gross operating margin and allows to verify if the company makes positive profits from ordinary operations. Adding the value of Depreciation and Amortization to EBIT results in the EBITDA measure. EBITDA is obtained by reworking the Income Statement items as follows: Turnover - Cost of sales = EBITDA EBITDA is used as a measure of operating profit in the calculation of cash flows from operating activities.	Arzac, 2004; Rozenbaum, 2019.	Amadeus
Overall B Corp score	This score is determined by corporation responses to about 200 questions. A corporation starts with zero points and, consequently, gains points for each favourable outcome and best practice signal.	Honeyman & Jana, 2019; Carvalho, 2021.	Dataworld

Table 3: Variables explanation

4. RESULTS

The analysis was carried out using Stata, enabling the data to be structured and a template to be derived to provide a picture of the existing relationship. With the descriptive analysis, the variability of the analysed sample was understood. In fact, the descriptive analysis allows us to interpret the distribution of the variable's choices. The description of the data and technical details are to be found in Table 4.

Variable	Obs	Mean	Std. Dev.	Min	Max
Sales	636	42632.69	392770.3	0	5637000
Profit & Loss	636	3659.643	28457.88	-28030.7	332504
ROE	636	5.718665	67.85832	-556.718	770.889
Personnel Costs	636	3675.773	14868.13	0	271893
Net Profit Margin	636	2.151388	14.02033	-82.952	100
EBITDA	636	3164.171	26664.47	-27130.13	341498.9
Overall B Corp score	636	97.10597	15.04244	80	146.4

Table 4: Descriptive Statistic

In order to prevent the data from influencing the analysis to be carried out, the first step was *winsorization*. According to Kwak and Kim (2017), this method entails adjusting the outliers' weights or substituting the values tested for the outliers with the anticipated values. This approach modifies the weight without rejecting or changing the outliers' data, hence minimizing the outliers' effect. The value modification method allows outlier values to be replaced by the biggest or second lowest value in the observations that do not include outliers. Winsor takes the non-missing values of a variable x (Cox, 2006) and creates a new variable y that is similar to x with the exception that the h highest and h lowest value is represented again by another value counting upwards from the extremes; value h can be given directly or indirectly by supplying a fraction of the number of observations. This transformation is named after the biostatistician Charles P. Winsor (1895-1951) and it was practised by Tukey (1962) and Barnett and Lewis (1984). *Sales*, *Profit & Loss* and *Personnel Costs* are represented with value in thousand Euro. Due to the wide range of variation *Sales*, *Profit & Loss* and *Personnel Costs*, it is decided to transform these variables into natural logarithms. Instead, the *overall B Corp score* was lagged to avoid endogeneity and multicollinearity problems (Bussoli et al., 2019). Another assumption behind the choice to select a lagged version of the *overall B Corp score* depends on the fact that it is usual to expect benefits in terms of the economic performance of companies one year after obtaining certification (Teng et al., 2014). The linear relationship between the two variables was examined by means of correlation. In fact, the correlation between two variables is the sum of all direct and indirect influences linking the two variables. Table 5 shows the correlation coefficients between variables, which quantify the strength between the variables. Table 5 shows a positive *r-value*, indicating a positive correlation. This can be explained by assuming that the values of the two variables tend to increase in parallel. Where the *r-value* approaches zero, the linear correlation is weak. The preponderance of the variables considered includes a significant level of more than 1% in a positive direction, as shown in Table 5.

Variables	Sales	OverallScore	Profit&Loss	ROE	Personnel Costs	Net Profit Margin	EBITDA
Sales	1.0000						
OverallScore	0.0652	1.0000					
Profit&Loss	0.5119***	0.0976**	1.0000				
ROE	0.0357	0.0075	0.3970***	1.0000			
Personnel Costs	0.1457***	0.1414***	0.2360***	0.2157***	1.0000		
Net Profit Margin	0.0470	0.0231	0.5109***	0.6061***	0.1096***	1.0000	
EBITDA	0.0713*	0.0777*	0.7972***	0.4944***	0.4648***	0.5822***	1.0000
*** corresponds to significance at 1%; ** corresponds to significance at 5%; * corresponds to significance at 10%.							

Table 5: Correlation analysis

The fundamental concern is whether the individual-specific effects are connected to the regressors. If they are correlated, then it chooses the fixed effects model.

If they are not connected, then it chooses the random-effects model. Observing Table 6, by means of Hausman tests the Fixed Effects Model is preferred. Individual-specific effects α can be associated with the regressors x in the FE model. In this model intercepts α can be included, and, consequently, each individual has a unique intercept term and slope parameters. Moreover, R^2 being very close to its maximum, it fits the data rather accurately and explains the response variable properly. Using the different sums of squares, the statistical F can also be calculated, which is used to test the model. It is chosen to understand if the model with only the intercept is acceptable globally, or if at least one of the covariate-related parameters has an effect on the mean value of the response variable when estimated together with the other parameters. In the light of the above explanation on the choice of model, the rho value is also noteworthy. It is the proportion of variation that is explained by individual-specific effects. This value is high in the Random effect model, which would opt to accept the model because it's not just idiosyncratic. the final verdict on the choice of model was, however, given by the Hausman test, which confirms the fixed effects model. Multiple regression enables a conditioned action to be statistically expressed that would otherwise be difficult to express. It is typical practice in experimental scenarios to change the values of one experimental condition while leaving the others unchanged in order to isolate and assess its effects. To this purpose, accepting the Fixed Effects Model for explaining the phenomenon it can be perceived that, as the covariate *Overall Score* increases by one unit, the mean value of *ln Sales* grows by an amount equal to 0.006 since the other variables are held constant. Furthermore, once significance has been established, it becomes apparent how each variable shows 1% levels for almost all variables, as shown in Table 6.

Coefficients	Pooled OLS estimator	FE	RE
α const	+4.655396*** (0.6200561)	+5.662353*** (0.3738277)	+5.196689*** (0.4295672)
Lag overall score	-0.0068717 (0.0056168)	+0.0062789** (0.0030547)	+0.0065615* (0.0034414)
In Profit & Loss	+0.3062876*** (0.0613083)	+0.044812* (0.0243886)	+0.0476076* (0.0277384)
ROE	+0.0050215* (0.0027053)	-0.0040106*** (0.0013851)	-0.0024255 (0.0015147)
In personnel costs	+0.4232317*** (0.0633176)	+0.3377291*** (0.0339574)	+0.383898*** (0.0366406)
Net Profit Margin	-0.0274638*** (0.0076053)	+0.0175206*** (0.0025478)	+0.0149681*** (0.0029079)
EBITDA	+0.0000619*** (0.0000174)	+0.0000143 (0.00000987)	+0.0000265** (0.0000109)
Obs	98	98	98
Adj R-squared	0.8300	0.6637	0.7113
F	79.92	51.41	287.30
p-value f	0.0000	0.0000	0.0000
Standard errors in parentheses. *** corresponds to significance at 1%; ** corresponds to significance at 5%; * corresponds to significance at 10%.			

Table 6: Regression Models

5. IMPLICATIONS AND FUTURE RESEARCH

The study carried out has allowed to understand that the score assigned by B Lab to B Corps reflects in some way the resonance that these B Corps have in the world of consumers. In fact, even if in part it is not significant, it is noted that there is a relationship between the variable Sales and the Overall B Corp Score. This reflects what was anticipated in the literature regarding greater attention of the consumer to the green practices of companies.

For future work, it might be useful to submit a questionnaire to B Corp consumers. In fact, B Lab develops standards, regulations, methods, and programs to alter the behaviour, culture, and structural underpinnings of capitalism (B Lab, 2019). Actually, questionnaires may be instrumental in gaining an insight into the consumer dynamics at the moment they are made aware of B Corp certification. Furthermore, B Lab has a beneficial influence on enterprises all around the world by harnessing the power of business and assisting them in balancing profit and purpose (B Lab, 2019). Consequently, as mentioned by Wray (2015), declaring a social scope is no longer sufficient, and companies devoted to carrying out a social purpose are increasingly being expected to share their accomplishments. In light of this, it is arguable that green marketing, when done correctly, may assist to improve the emotional connection between consumers and companies (Ginsberg and Bloom, 2004). Referring to the variables, the choice of this research work was limited to the data present in the available databases. It is recognized that getting more accurate data from businesses is often difficult. In a future examination, it could be thought of extending the study also to B Corp companies in order to obtain more precise data on Research and development expenses. These values can be compared on the specific areas of the overall score assigned by B Lab to understand the capillarity of success in terms of performance. In this context, one can also emphasize that B Corp attracts sales. This implies that consumers trust the third-party certification, in this case, B Lab. Discussion among observers and industry experts is ongoing to prove other adequate protections deterring corporate greenwashing (Stecker, 2016). Hitherto it can be concluded that obtaining this certification attracts consumers to the company and its products and services.

6. CONCLUSION

The empirical studies on the progress of businesses toward a better balance of social and economic aim suggested by B Corp Certification is still sparse, though it is rising (Conger et al. 2018; Gamble et al. 2020; Gehman and Grimes, 2017; Grimes et al., 2018; Parker et al 2019; Moroz et al. 2018; Sharma et al. 2018). As highlighted earlier in the literature, when a corporation embeds respect for the environment in its marketing plan, it benefits consumers, shareholders and society in its entirety (Ginsberg and Bloom, 2004). While there are apparent benefits to incorporating environmental friendliness into consumer marketing, there are also some significant concerns. In order to encourage adherence to this certification, it is essential to make progress in research in terms of measuring social impact (Diez Busto et al., 2021). There is a lot at stake for businesses that choose to employ green marketing techniques, including the volume and danger of capital investments, the rigours of regulatory compliance, and the possibility of customer reaction (Ginsberg and Bloom, 2004). The stakeholder focus is also driven by the direct benefit of green procurement, which is firstly reflected in suppliers and then in company performance (Carter, 2005). Companies would be very interested to focus on certifications that best correspond with their aims, minimizing overexertion and redundancy. The capacity to anticipate and respond to the next environmental crisis might make the difference between retaining a green reputation and losing status as a green firm, among other things (Ginsberg and Bloom, 2004). Assuming these concepts, this work has laid the foundations to divert the business world towards a certification that can bring together all the important values in view of the SDGs objectives. Moreover, it affirms how essential communication is for a company and how much a certification can influence the customer's choices. It emerges how much the green trust issue can be addressed by companies to gather greater consensus from consumers and, at the same time, to adapt products and processes to the preferences of stakeholders.

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PROGRESSION OF WOMEN'S INTERNATIONAL CAREER: A VOICE PERSPECTIVE ANALYSIS

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ABSTRACT

This research examines the barriers faced by women in their international career progression. The research, of a qualitative nature, uses for the analysis of empirical data, extracted through semi-structured interviews, a model of integrated concepts of voice in the approach of human resources management and organizational behavior, and to understand the dynamics of organizational culture, the dimensions cultures of Hofstede. The interviewees are women of various nationalities who have built their professional careers in different areas, performing different functions. The narratives, with unique trajectories, show that most women attribute the construction of a career based on merit and hard work. Examples of achievements are inferred, namely by the contexts in which the voice of these women reached the organizational environment. On the other hand, the challenging situations considered not exempt from the gender condition throughout their professional career, refer to elements that alert to attention in the organizational environment, especially when globalization and the discourse of diversity, equity, and inclusion make up the agenda of organizations. When they address the barriers encountered in career advancement, the glass ceiling effect, organizational culture, and balance between personal and family life, especially with children appear as the main ones. These factors are most often found in the subtlety of details that are initially unknown to the immigrant and worsened due to gender.

Keywords: *Culture, Gender, Professional Career, Voice*

1. INTRODUCTION

The term "employee's voice" has been highlighted in companies and in academia, which studies the voice in the areas of human resources management (HRM), industrial relations (IR), and organizational behavior (OB). Business leaders realize that by enabling voice mechanisms for employees, combined with their motivation, they provide advantages for companies (Lewin & Mitchell, 1992), resulting in a lower turnover rate. The employee's voice refers to all the ways and means by which they try to express an opinion and influence the practices of the work they develop and the functioning of the organization (Wilkinson et al., 2014; Morrison, 2014). Voice can encompass a variety of different domains such as working conditions, remuneration, and policies, and can occur through different mechanisms: formal and informal, direct and indirect, individual and collective. However, some voices may be missing from companies or are expressed in very different ways (Syed & Wilkinson, 2016). For example, Syed (2014) argues that the prevailing voice arrangements (unions or staff committees) are insufficient to address the needs of many other voices, such as those of women and ethnic minorities. Growing diversity in the workplace has led to an interest in research around managing heterogeneity and inclusion and the need to pay attention to employees' perspectives and perceptions to ensure they are integrated into the workplace (Özbilgin & Syed, 2015). If voice structures exist to bring together what employees want to say, attention to diversity within the workforce becomes necessary (Gunawardana, 2014; Van Dyne et al., 2003). Depending on gender, many barriers have been mentioned by women for career advancement. Recently, with the advent of the pandemic, many issues have reinforced these barriers that are rooted in society, politics, and economic systems. Studies have shown that women face many challenges such as balancing career growth and family responsibilities (Sandberg, 2013).

The absence or reduced possibility of expressing the voice of women reflects on career development, which in an international context could be aggravated. Thus, the question that arises is: what are the barriers faced by women in their international career progression? The literature presents many studies on voice, gender, and organizational culture. However, in the scope proposed in this investigation, no study was found.

2. THEORETICAL BACKGROUND

In a timeline, employee voice research arises when Hirschman (1970) defined voice as an attempt to escape an objectionable state of affairs. In this approach, many terms have been and continue to be used, for example, in a general way, “employee engagement”, or by the OB and HRM approach, which prefer to use terms such as “communication strategy”, “engagement” or “empowerment”, while IR include ideas of “worker participation” or “industrial democracy”. In the OB approach, voice is presented as a choice on the part of employees (it is discretionary behavior) (Van Dyne & LePine, 1998), which occurs as an individual rather than collective action, and which usually takes place through verbal communication by employees. an employee talking to a leader (someone above your level). While Morrison (2011) understands the voice in this perspective as not being a complaint (protest/complaint). At HRM, the voice connotes information and allows employees to participate in work and business decisions, generating more understanding and, therefore, commitment (Boxall & Purcell, 2011). This was associated with efforts by employers to introduce high-performance work practices and HR systems to achieve greater employee commitment (Wilkinson et al., 2013). Since the mid-1990s, High-Performance Work Systems (HPWS) have gained prominence in HRM research and this has given greater recognition to voice in HRM. On the other hand, voice studies in IR have been guided with the understanding that unions presented themselves as the main voice institution. Voice would be more likely to develop in contexts where structures are underwritten by-laws, labor market institutions, and social cultures that give employees formal rights to exercise their voice, or even co-determine work processes (Malos et al., 2003; Barry et al., 2016). The IR view of voice is very different from that found in OB, and similar to what has been defined as the employee-centric strand of HRM (Wilkinson et al., 2014). Many studies analyze employee voice using the HRM/IR and OB perspectives. However, several scholars have begun to recognize the problems with a siled approach to the study of voice, realizing the need for more integration across disciplines (Mowbray et al., 2015). Recognizing the need to integrate voice from systems and behavior perspective, Pohler and Luchak (2014) identified two dimensions by which employee voice can be examined and integrated from the perspective of HRM/IR and OB. The first involves the underlying intention or purpose of the voice and the second deals with the voice form being examined. However, the typology of Pohler and Luchak (2014) does not address all the factors that should be considered for an integrated conceptualization of HRM/IR and OB of the employee's voice. According to the integrative review by Mowbray et al. (2015), other factors need to be considered, including a wider range of motives, types of voice, content, and mechanisms, and a consideration of formal and informal voice, beneficiary, breadth of functions and goals. These authors defend an integration of the concepts and, when considering, for example, the OB literature referring to the voice as an in-role or extra-role behavior, studies (Tangirala et al., 2012) found that the voice can also be considered an in-role behavior (as in HRM/IR studies). Mowbray et al. (2015) provide evidence that it is necessary to consider formal and informal voice channels and behavior when examining employee voice from an HRM/IR or OB perspective. The integration reported by Mombray et al. (2015), which is called “Integrated HRM/IR and OB Conceptual Framework of Employee Voice”, has the following composition: Form: System, Behavior; Motivate: Dissatisfaction, Self-determination, Pro-social, Justice; Role Breadth: In-role, Extra-role; Beneficiary: Employee, Employer; Mechanism and Channel: Formal, Informal; Types: Task-

based participation, Upward problem solving, Grievance, Procedures, Downward communication, Suggestion-focused, Problem-focused, Opinion-focused; Behavior: Supportive, Constructive, Defensive, Destructive, Complaining; Content: Contributions to decision making, Suggestions for change and improvement, Concern about work issues harmful to the organization, Opinions and different points of view, Grievances, Complaints, Employees individual interests such as personal, Development and conditions; Target: Executive & senior managers, middle and frontline managers, Team leader, Peers, Union. Further development of an integrative voice concept developed by Kaufman (2015) is represented by a figure (see Mowbray et al., 2019, p. 25) that addresses a broader conceptualization of voice than that provided by the OB discipline. Kaufman's (2015) model includes consideration of employee and employer decision-making concerning voice. It is noticed that the voice scholars of the OB and HRM/IR study it differently, but these differences should not be related to the concept of voice, only to the way it is studied and interpreted.

3. METHODOLOGY

The research, of a qualitative nature, uses for the analysis of empirical data, extracted through semi-structured interviews. The data were collected between January and February of 2022. Each interview lasted between 40 and 60 minutes on average. The interviews were recorded and transcribed, the interviewees were informed about the main objective of the study, and data anonymity was guaranteed. The sample corresponds to 15 women from different countries. In the present article, we chose to treat the data obtained in the interviews through discourse analysis, since it presents itself as a method that aims not only to perceive how a message is transmitted but also to explore its meaning. We used a model of integrated concepts of voice in the approach of human resources management and organizational behavior, and to understand the dynamics of organizational culture, the dimensions of cultures of Hofstede. In order to analyze the integrated concept of HRM, IR and OB were used, and elements that allowed the grouping were delimited (according to Table 01). From these elements, it was possible to compare and examine the words and phrases used by the participants to describe their views on their experiences, feelings, meanings, and assumptions that link these elements.

Concept	Integrated HRM/IR and OB Factors
Form	System, Behavior
Motive	Dissatisfaction, Self-determination, Pro-social, Justice
Role Breadth	In-role, Extra-role
Beneficiary	Employee, Employer
Mechanism and Channel	Formal, Informal
Types	Task based participation, Upward problem solving, Grievance, Procedures, Downward communication, Suggestion-focused, Problem-focused, Opinion-focused
Behavior	Supportive, Constructive, Defensive, Destructive, Complaining
Content	Contributions to decision making, Suggestions for change and improvement, Concern about work issues harmful to organization, Opinions and different points of view, Grievances, Complaints, Employees individual interests such as personal, Development and conditions
Target	Executive & senior managers, Middle and frontline managers, Team leader, Peers, Union

Table 1: Research elements and structure
 Source: Adapted from Mowbray et al. (2015)

And to analyze the dynamics of the organizational culture, Hofstede's cultural dimensions will be used: distance from power, reduction of uncertainties, individualism, masculinity, time horizon, and indulgence.

4. ANALYSIS AND DISCUSSION OF RESULTS

The starting point of this topic dedicated to the analysis and discussion of the results is the profile of the fifteen women participating in this investigation. Participants have training in the areas of Management, Education, Health, Law, Tourism Management, Pharmacist, Social Worker, Electronic and Computer Engineering, Industrial Design, Industrial Management Engineering, Civil Engineering, Forestry, Organization, and Business Management. Regarding the degree, two women have incomplete superior, five complete superior, three MBA, two master's, and three doctorates. Depending on the occupation, six women hold leadership positions and nine do not. The age group comprises eight women aged between 35 and 44, four aged between 45 and 60, two aged over 60, and one aged between 25 and 34. The marital status of the interviewees represents twelve women married with children, two married without children, and one single with children. The interviewees developed their professional insertion in the following countries: England, German, Angola, Belgium, Italy, Spain, Portugal, China, USA, Switzerland, Holland, Saudi Arabia, Singapore, Japan, Brazil, Sweden.

4.1. Voice

The women shared their life trajectories to portray the construction of their careers in an international context. Stories carry achievements and barriers, at times they were heard, and at other times they were silenced – voice and silence. In the uniqueness of each story, it was also possible to identify some common points, such as expatriation, the search for a better opportunity in another country, such as C7, revealing: *"I wanted to be a scientist, and here in the USA, I succeeded"*. C7's speech is in agreement with Prestes et al., (2016) when they argue that the experience of an international career is considered as a way to develop skills and achieve greater career progression. In addition, C7 also mentioned that she rethought personal projects and chose to prioritize her career and then motherhood. This aspect is highlighted by Nikunen (2014) when he argues that women are often stereotyped as less mobile than men because there are real obstacles to combining work and family that affect women more than men. Furthermore, women are especially mobile during the junior stage of their careers because they have fewer family responsibilities than they do in later stages. Another curious aspect concerns the trajectory of C2, who, even knowing the challenges of practically having a start from zero, considering that she was a university professor in Brazil, with a doctorate, challenged herself to start working at initial levels in the area of education. until he achieved recognition of his degree in Germany. Difficulties, confrontations, and conflicts were often a reality for being a woman and/or being a foreigner, as evidenced in the following excerpts:

- *When I was hired, an initial salary and an increase after three months were agreed upon, which was not fulfilled. Asking why after a tense conversation [...] He says: you can't talk to me like that [...], where I come from, women put themselves in their places. (C1)*
- *Whenever I pointed to an improvement in processes, my considerations were called into question (Angola). While in Belgium I don't see any difficulties, even in the clinic where I am working I have already been invited to join the society (quotas). (C4)*
- *As masculinization is strong in my environment, I've had many situations where, for being a woman and at that time young, my abilities were put in doubt. For example, in Belgium, at an event, I noticed that they had an exaggerated concern before the event, but my speech resulted in an auditorium full of attentive students. (C5)*

- *I am married to a Belgian. And when I got here, I started taking classes to learn the language. Then I went on a professional course. When the time for the internship came, the boss, when he received me, said: "I don't repeat the same thing more than five times". It was very difficult. (C10)*
- *My team members in Brazil more than once questioned my knowledge. On the contrary, in Sweden, this does not happen, where many complex projects are under my responsibility. And I have very competent male colleagues with more time in the company who could be with the projects, however, they are with me. (C14)*

On the competition between men and women and the possibility of ascension, some reflections emerged, namely on the part of women who work in a more masculine environment.

- *In terms of career, equality of competition happens until you have children, then it becomes different. Now in this second experience of mine (pregnant), I'm going to see if being a woman and having children makes a difference. I sincerely hope it doesn't. (C8)*
- *A woman without children has a competitive advantage. [...] Men's ideas are more representative compared to women's ideas. A woman needs to work twice as hard as a man to be valued. And, still, she has a lower salary. In the company, I have higher qualifications than men and the salary is lower. (C12)*

The women's discourse is based on Huang et al (2019), who understand that the organization's culture can also be a barrier for employees to feel that they do not have equal opportunities to advance. Some organizations are biased against appointing women as leaders (Eagly & Karau, 2002), which leads to lower self-confidence in women who rarely see others occupying high positions in organizations. The reflections and reports of women that refer to difficulties, competition, and career advancement are related to the concept of “glass ceiling”, referred to as an invisible barrier or invisible upper limit in organizations (Kurupparachchi & Surangi, 2020). Masculinization arises mainly in areas such as engineering, management, and law. While in areas such as education, dentistry, and pharmacy, this aspect is less evident – most likely because they are already areas with greater involvement of women or a more individualized work, as in the case of dentistry in the office. As a reflection of this masculinization, some confrontations are reported:

- *A pastry chef is seen as a profession for men (Belgium), even in the vocational school, most students on the course were men. And at the internship, I was the only woman. (C10)*
- *I had an affair with a man who came to me and said he had never been led by a woman and he didn't know what it would be like for me. He luckily went well. Also, I've seen a character since I was 21 when I started working, it's a more closed, reserved, and serious character. It shouldn't be like that! (C12)*
- *At the first meeting (England), my boss said that I would have to prove myself. (C15)*

Recognizing the leadership or realizing that the woman can perform activities that were usually under the responsibility of the male gender, causes estrangement. To break this paradigm, some women went through, and perhaps many others will go through, situations like those reported by C10, C12, and C15. What, according to Cotter et al. (2001), explains the barrier and reflects inequality or discrimination in women's work, is difficult to explain – the glass ceiling. Prejudice, discrimination, and harassment make up the trajectory of women, evidenced in the excerpts:

- *The English don't make nasty comments, and when they do, they're very elegant. What I have identified in England concerns lower wages for women. But I can include the British,*

in the sense that operational activities are women's responsibility. On the part of the Greek and Chinese leaders, I noticed a lot of prejudice followed by comments with women. (C1)

- *They often doubt that you as a woman know the matter. In the company where I worked (Angola, but Portuguese leadership) whenever we were introduced to someone else, the men received the title engineer X and I was introduced by my name. Operational work (reprographics, for example), as the responsibility of the woman. (C13)*
- *In Sweden I had two situations of harassment, both times were Indian men. (C14)*

Differential treatment, jokes, moral or sexual harassment are factors that perpetuate inequalities between men and women in society. Hirata and Kergoat (2007) point out two fundamental principles for the analysis of gender relations. The first is the understanding of the hierarchy process in which male work is more valued than female work. The second is related to the separation between activities considered feminine and activities considered masculine: the sexual division of labor is the form of division of social work resulting from social relations between the sexes; more than that, it is a priority factor for the survival of the social relationship between the sexes. This form is historically and socially modulated. Finally, we sought to find out how these women reconcile their personal lives with career development.

- *When we are in other countries (Netherlands, Saudi Arabia, Singapore, Japan), we are usually without support from a family structure like grandparents. It also makes it difficult. (C6)*
- *Managing an autistic child, or rather, even having the diagnosis, also interfered with the development of my career in Belgium. (C10)*
- *We looked for a house close to my work (Angola) and we had two nannies at alternate times. (C13)*
- *For women without children, career-building is easier. And, see that I am privileged, because here in Sweden when a woman has children, she is guaranteed 490 days of maternity leave, in addition to the other facilities that we have. (C14)*
- *When I arrived in London (England), the secretary of the company where I went to work said I was crazy. This is because he had two small children. I tried to see everything as close as possible to my work (home and daycare). (C15)*

Tajlili (2014) pointed out that work-life balance is one of the main problems women face, as work-related demands conflict with their family responsibilities. The option for motherhood also appears, as was the case of C8, who declined her career as a dancer, and expresses: “*I continued with the career of a mother*”. A preference for work-life balance is another factor that sometimes inhibits career growth. Some women give up high positions to devote themselves to family and children (Bertrand et al., 2010). In addition to the original excerpts inserted in the article, Table 02 summarizes the integrated structure of HRM/IR and OB, analyzing how the voice of women has been inserted in the professional trajectory in different countries. Comparatives arise considering that some interviewees were in more than one country and continent, however, it is important to highlight that these are not conclusive questions about the comparisons.

Table following on the next page

Concept	Integrated HRM/IR and OB Factors
Form	Voice has a zigzag path between system and behavior. The inclination is in behavior when the woman (C14) had its insertion in countries like Sweden, more strategic positions or expatriates.
Motive	The justice and pro-social approach is more evident for those who have a leadership role.
Role Breadth	In the role, more concentrated for non-leaders and, outside the role, for leadership positions, a relationship with the hierarchical level.
Beneficiary	Identified the voice for employee and employer.
Mechanism and Channel	Predominantly, the voice between colleagues is informal, but when it is necessary to speak with the superior, it is formal, as in the example of C2, in Germany. But also in the case of multicultural companies (C9).
Types	Attempts to solve problems (upwards), with the case of C3, in the USA – process improvement.
Behavior	Defensive or complaining when the gender feels undervalued or inserted (C1), and supportive and constructive when there is openness, as in the case of C6, in the HR restructuring process.
Content	It presents contributions to decision making and suggestions for change and improvement (C6, C15, for example). Complaints, complaints, opinions and different points of view (C1, C4, C12).
Target	As a target, managers and peers were identified.

*Table 2: Analysis summary of HRM/IR and OB integration
 Source: Own Elaboration*

As for the culture of voice or silence, opinions were divided, most likely due to the experience that each one had during their professional trajectory. And, when they silenced, these were the reasons given:

- *The woman who did not enter the culture of silence was considered crazy. Even English people who are very polite can say: she was very abusive. (C1)*
- *For five years I suffered from my boss because he was the type who wanted subordinates to agree with everything. [...]. It was a long silence. (C12)*

4.2. Organizational culture – Hofstede model

The definition of culture involves the extension, to the members of a shared social system, of particular symbols, meanings, images, rules, habits, and values. In this sense, Hofstede (2001) clarifies that people carry mental programs containing cultural components developed from birth and that have their origins in the various social environments found in the course of human life, such as the family, schools, and companies. Hofstede (2001) formed the cultural dimensions, which encompass power distance, uncertainty reduction, individualism, masculinity, time horizon, and indulgence. The reports of the women interviewed allow us to identify how the dimension “Distance from Power” is present in some situations they experience. Without generalizations, but considering the recurrence of the reports, it was identified that those women working in companies with multicultural professionals do not show strong traces of power distance. While those smaller companies or with more familiar or less professional management, portray the distance of power. C9 works in Portugal for a multinational company and, for her, there is no distance, she says that her leadership of American nationality, promptly responds to her messages by WhatsApp or Teams. Hofstede (2001) defined uncertainty avoidance as the degree of threat perceived by members of a culture in uncertain or unknown situations. Aspects related to this juncture were reported by C3, in the USA. The insertion in a large company, with rules and norms, generated discomfort, so that many internal processes presented inconsistencies and suggestions for improvement were not allowed by the employees. C3 explains: *“I tried several times to make suggestions that could improve the processes, but I was never heard. Perhaps also because I was a woman and a*

foreigner. I do not know!". This feeling of uncertainty and the ways to face it can be part of the cultural heritage of society, being transmitted and reinforced by companies. Every society socially constructs a division of roles between men and women, assigning them different responsibilities in the various social functions. The more strongly distinct these roles are, the more masculine the society. In this line, two women C2 (Germany) and C14 (Sweden) socialized very nice situations, in opposition, other women C1, C5, C7, C12, C13, and C15, expose more complicated situations. The experiences with more masculine cultures were pointed out in situations with Indians, Greeks, and Chinese. The male dimension is more results-oriented and the female dimension is more compassionate. Example of C12... *"I fight for my team, while most of my male colleagues don't. And not even the HR director."*

5. CONCLUSION

The women's narratives allow an answer to the research question that aimed to identify the barriers faced by women in their international career progression. This was possible by knowing the international professional trajectory of women, under what conditions they built their careers, and how they were heard or silenced in the corporate environments where they worked. It is not possible to conclude about the specific culture of a country, but positive aspects are evident in companies with multicultural frameworks with environments considered more inclusive for the female gender. On the other hand, in these multicultural frameworks are men who have their origin in cultures that are still far from having diversity, equity, and inclusion concerning the female gender. The organizational culture is closely linked to the society in which the company is inserted (Hofstede, 2001). The voice of women appears, but it still needs investment on the part of organizations to reach greater coverage. When addressing the barriers encountered in career progression, the glass ceiling effect, organizational culture, and balance between personal and family life, particularly with children, appear as the main ones. These factors are most often found in the subtlety of details that are initially unknown to the immigrant and compounded by gender. The kaleidoscopic career model (Sullivan & Mainiero, 2008) proposes to encompass the complexities inherent in women's careers. Like a kaleidoscope, which produces pattern changes as the tube is rotated and its glass pieces form new arrangements, women change the pattern of their careers by rotating different aspects of their lives, to organize roles and relationships in new ways. In the same way that the kaleidoscope uses three mirrors and forms unlimited patterns of colors, the combination of authenticity, balance and challenge reflect unique patterns of women's careers. The issue of gender equality in the contemporary world and the work context is a challenge since it is a subject much debated in the academic environment (Butler, 2003; Acker, 2004), which made it relevant to carry out this research with women who developed their professional trajectories in different organizational cultures – international contexts.

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STRATEGIC MANAGEMENT IN TIMES OF GLOBAL CRISIS

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ABSTRACT

In this publication we set an objectively complicated task to analyse the opportunities of strategic decision-making during crisis by attempting to make a partial analysis of the ongoing crisis caused by the COVID 19 pandemic and the emerged military conflict between the Russian Federation and Ukraine. Crisis circumstances require societies to quickly rethink and develop adequate strategies and respectively to formulate strategic goals and plan processes. In many cases preliminary analysis and assessment are practically impossible /especially when it comes to natural disasters or crises/ and this requires a different operational order of problem solving, which includes formulating new unconventional goals and then implementing planning not objectified by a particular and accurate analysis. All this puts whole systems and societies to the test, and those who are empowered to manage the process – under high pressure from unforeseen circumstances and not always objective judgments. Which, in turn, creates a number of subsequent critical issues in the management process.

Keywords: *Strategic management, Global crisis, Strategies, Management process*

1. INTRODUCTION

Setting goals and planning process actions in process management, and on a larger scale – strategic management during crisis is even more challenging. In accordance with the definitions of “crisis”, in the broadest sense, crisis management is of strategic importance, as it is always a matter of rescuing and surviving of people, territories, sites, etc. On the one hand, crisis management corresponds to the principles of general management, but on the other hand, it is complex enough, which derives from the fact of rapidly and dynamically changing environment – both national and international. This is most often and clearly observed during crisis circumstances that affect a very large part of the population of a country, region, continent or even the whole world. Crises have a diverse nature, both in scope and in nature, and their management is correlated with this. Different options are considered for the development of strategies in crisis situations, depending on whether they relate to one administrative area, country, group of countries or cover the world.

2. STRATEGIC MANAGEMENT IN TIMES OF GLOBAL CRISIS

Global crises are usually large-scale, both in terms of territory and their nature, and challenge many countries, existing alliances of different nature –political, economic, military or others. In every crisis, people are most affected, i.e. the individual, regardless of which of the above structures they belong to and what their obligations are. Linus Carl Pauling, an American chemist born in German, winner of the Nobel Prize in Chemistry and Nobel Peace Prize winner, said: “Nations keep agreements, keep their treaties so long as they continue to do them good”. Unfortunately, however, when crises emerge, especially global ones, keeping certain contractual relations is not always doing good. Crises are characterized as risks with a high degree of uncertainty, disruption of the interaction between the factors of each system and high dynamics. Violation of the values of all social groups is also an important part of the development of the crisis. The development of any crisis does not begin from the moment of the violation of the respective balances, but from the moment when the society prepares for it in its organizational structure. The principles that are followed in crisis management are related to speed, risk assessment, analysis, planning and impact.

The implementation of all strategies and the achievement of all goals must definitely pursue the preservation of maximum values for the good existence of the people. The assessment of actions and possible perspectives is objectified by certain criteria and indicators. The fairness and accuracy of each assessment may be different, as well as different in accuracy and correctness for different groups of people, even for a particular individual. This questions or at least creates discomfort in the formation and implementation of each step of the strategy, regardless of whether it is implemented on a limited scale without significant fluctuations in the internal or external environment or in a situation of general and active dynamics. In every case or in any specific situation, the use of objective, measurable and realistic goals in the implementation of strategic management is of paramount importance and a task with a high degree of complexity. This directly corresponds to the planning of certain actions and activities in order to be able to meet the strategic goals to the maximum extent. Crisis circumstances require societies to quickly rethink and develop adequate strategies and respectively to formulate strategic goals and plan processes. In many cases preliminary analysis and assessment are practically impossible /especially when it comes to natural disasters or crises/ and this requires a different operational order of problem solving, which includes formulating new unconventional goals and then implementing planning not objectified by a concrete and accurate analysis. All this puts whole systems and societies to the test, and those who are empowered to manage the process – under high pressure from unforeseen circumstances and not always objective judgments. Which, in turn, creates a number of subsequent critical issues in the management process. All this definitely does not define this process as non-strategic, but puts it in a different environment. The strategic nature is determined at least by the fact that it directly or indirectly concerns a very large group of people, and that it determines the actions of one or more systems. In the last few years, such global crisis has become the pandemic caused by COVID-19. It has forced societies to make certain decisions of strategic nature to overcome the situation that threatens the lives and health of people around the world. It is more than obvious that the applied strategic approach includes many factors that change in the different periods of the crisis and seems to decompose the crisis itself into smaller elements in nature and scope. This does not change the strategic goal that is protecting human life and health. Undoubtedly, each country has its own crisis response programmes and plans, but it is important whether those states with power to govern societies are able to quickly and accurately assess the changing environment, to implement these programmes and plans adequately, and last but not least to reformulate their strategic goals and plans and put them at the service of the respective community. The implementation of any crisis management strategy is directly dependent on the capacity of its managers, both administratively and financially. The realities of the last few years have shown that not everyone can cope with this critical governance process in a relatively complex and difficult situation. Everyone determines their actions for the benefit of their community, but not everyone has the financial and material ability, and last but not least, the intellectual scientific capacity to achieve all this. Imbalances, even without using the specific statistics, are present and show significant differences. Even in global crises, some societies cope faster with the specific crisis circumstances, while others more slowly. For some societies the consequences are quite severe, and for others – relatively acceptable. All of them have faced certain consequences, which must be assessed after the crisis situation in order to take appropriate corrective actions. It would be difficult to explain the speed of corrective action in different societies. This, in turn, corresponds to the ability to reformulate certain goals, as well as the ability to achieve them effectively. Linus Carl Pauling said: “If you want to have good ideas you must have many ideas. Most of them will be wrong, and what you have to learn is which ones to throw away”. The world-famous chemist drew his conclusions based on the accumulated knowledge, experience and sufficient information, which helped him define the problem that the lack of a sufficiently large set of ideas from which to select those worth

implementing leads to significant difficulties. The transfer of ideas, algorithms or the copying of entire processes from one society to another has historically shown that it does not always or at least in most cases does not mean good outcome. Scientifically based approbation of something or a process is too complicated when we talk about strategic management of social processes. Social processes practically include all management systems and their management has its high complexity at almost all stages, as well as a very complicated mechanism of influence. The second example of a high scale crisis that is currently taking place is the situation in Ukraine. By its nature, it is political, but accompanied by economic and social issues. It is regional in scope, but with signs of becoming global. The complexity of the political situation because of the military conflict between Russia and Ukraine puts societies in another crisis situation. Again, it cannot be defined as normal, so the existing crisis management plans cannot be implemented or even if it is possible – only partially. This places certain restrictions on societies when reformulating their strategic decisions and implementing effective strategic management. Analyses of this crisis are divergent and at this stage do not allow to develop a unified strategy for resolving it, precisely because political and military crises are among the most complex in the world. In addition, this crisis is multipolar and besides the two countries directly involved, it affects many other countries, alliances, each with its own strategic goals, inconsistent with the others or without any diplomatic rapprochement so far. I would like to draw attention to an analysis of the Bulgarian professor Marusya Lyubcheva dated February 25, 2022, published on the Internet portal Pogled.info, which describes a certain chronology of this conflict and tracks the change of certain relations from strategic partnership to military conflict (2022a). "In the years when Bulgaria joined the European Union, the European Union was developing documents for a strategic partnership with Russia. Until 2009, the Strategic Partnership Report with Russia went through discussions in the European Parliament and was structured on trade, economy, energy, climate change, research, education, culture, security, including the fight against terrorism, non-proliferation of nuclear weapons and conflict resolution in the Middle East. Discussions covered Russia's accession to the World Trade Organization, which took place several years later. Russia was part of the Black Sea Synergy, the comprehensive report that placed not only the six Black Sea countries but also the wider Black Sea region in an important region for the European Union. Until the moment the European Union made a reorientation towards the Eastern Dimension or Partnership. The Black Sea region was forgotten and until 2018 it remained with only one report after the Synergy, delayed in its implementation. Everyone had high hopes for the Eastern Partnership. The signing of declarations of closer co-operation between the European Union and Ukraine, Belarus, the Republic of Moldova, Georgia, Armenia and Azerbaijan organized their relations. It was also part of the neighborhood policy, defined by J.M. Barroso as "forming a circle of friends" and was implemented for the purpose of mutually beneficial economic and political relations between the European Union and the neighboring countries. The discussion also covered the South Caucasus region. The Eastern Partnership together with the Strategic Partnership between the European Union and the Russian Federation, offered a new approach to East-West relations, based on cooperation and mutual support for building a more secure and sustainable world order. Until it became clear that the idea was not purely European. The limit was in 2013 - Ukraine. When the aspirations of the Eastern Partnership countries for NATO membership began to dominate and displace the principles of the original idea. Many of the iconic politicians in the European Union at the time began to talk about modifying the Eastern Partnership. However, the events in Ukraine took place. Today we call them a "revolution", but in 2013 they were not named that. Only a few MEPs waved the Ukrainian flag in plenary and set out on a revolution in that country. There were also different opinions. And no one has the right to forget that. Personal archives also speak. Artificial and one-sided support of these events, without trying to solve the arisen problems through diplomacy.

One conflict always involves at least two sides. And this conflict involved many countries. So, resolutions to impose sanctions were issued, one after the other, negotiations took place, certain pawn candidates were imposed in the elections in Ukraine, the government was financed without proper control as to what for and how the funds are used, funding of foreign NGOs that pursue policies not typical even for Ukrainians. Surely these backstage schemes will come to light one day, because the documents proving it are still there. Tension that has transformed the strategic partnership into a constantly evolving sanctions regime, in which the European Union has participated more and more. Economic crisis, energy security strategies that went wrong, difficult negotiations on climate change, not very successful foreign policy, complicated negotiations on the migrant crisis, etc. Despite attempts to come to an agreement, incl. Minsk agreements (which Ukraine has long refused to fulfill), the European Union has not done everything necessary to save itself. Surely, not all countries are democratic, according to officials in the European Union or the United States, but nowhere can democracy be imposed by force or behind the scenes. If it is necessary to force it, the risk of identity destruction or removal of dissidents is particularly high. Many people today are contemplating and looking for the ones to blame. For years, Europe, including Ukraine, has been guided by various desires, incl. the desire to bring back the attitudes to certain groups of people characteristic for the years of fascism. Who condemned or sanctioned them? Who condemned the so-called Maidan? Did the truth about the so-called Maidan come out? It turns out that we, Europeans, have not only supported the imposition of democracy and freedom. We imposed someone's interests, along with other external forces. The situation required a lot of strategic vision and assessment, which was the possible outcome. It required leadership devoid of the black and white thinking. There are at least two sides in a conflict, but this conflict involved more than two countries. We are all in this conflict. Now no one has the right to just blame". The complexity of this situation is determined by the special dynamics, as well as by the fact that societies and countries have different assessments of what is happening. Making quick decisions in this case is necessary, although there is a high risk that they would be ineffective. The strategic goals for overcoming this crisis are inconsistent due to the fact that the societies determine their strategic policy first of all in terms of national interests and then their belonging to certain political unions. The development of the crisis seems to be on parallel axes, and the complexity of the development of the economic and information component changes the attitudes and interests of the respective societies, as well as the consequences of certain strategic decisions. The restriction of certain freedoms related to access to reliable information is reminiscent of the Cold War. And this is an element of implementing the strategies of all participating countries. This objectively dooms the people from the respective community to the one-sidedness of the received information and the lack of at least partial objectivity for its comparison. Probably such deep military crises create conditions for shifting the democratic conditionality and applying the elements of the tactical military art. Whether they give the appropriate result is difficult to predict when you are part of a crisis situation. All political leaders who are called to govern societies carefully determine or rather justify good or bad decisions and strategies they prepare for crisis management, with the national security of their societies. In any case, this has the greatest weight in determining the relevant strategic decisions, but they are not always adequate to the respective realities inside and outside the respective societies. Last but not least, the preparedness of the various levels of government is a response to the crisis. According to Linus Carl Pauling, "Science is the search for truth, the effort to understand the world: it involves the rejection of bias, of dogma, of revelation, but not the rejection of morality."(2022b). Do scientists play a part in crisis management and what is their role? They definitely do! The role and mission of scientists is not only to support this process, but to be part of the process of developing such strategic decisions in management, which would as much as possible and as quickly as possible meet the expectations of societies.

This raises expectations about whether scientists are able to generate good enough ideas to convince societies about their usefulness and to suggest ways to effectively implement them. Due to the knowledge of the processes, the analytics with which scientists work and the ability to analyze databases, as well as the facts about each crisis, scientists can be at the forefront of the crisis management model. Another question is whether management elites rely on scientists or crisis management is done with other tools that do not involve scientists that much. It is a question of relevance, of conformity assessment, of systematicity, of justification and of the application of two principles which are applied in the technological sciences, namely the “principle of reasonable sufficiency” and the “principle of synergy”. Their implementation can “alleviate” evolving crisis situations, even the one we quoted above (2022b).

3. CONCLUSION

All this is a task of paramount importance and it must be carried out constantly, especially in times of crisis. Today, when societies are divided and set precedents for public judgement of one party or another, give certain qualifications, I believe that international scientific forums are the time and place for such discussion to suggest solutions and proposals. Restricting the participation of both (depending on who organizes the scientific forum) is unacceptable and rather offensive and does not create opportunities for the best prepared and most informed environment to fulfill its mission as an innovator (2022b). And because I am a chemist, I will still use the words of Linus Carl Pauling, who said: “I recognize that many physicists are smarter than I am — most of them theoretical physicists. A lot of smart people have gone into theoretical physics, therefore the field is extremely competitive. I console myself with the thought that although they may be smarter and may be deeper thinkers than I am, I have broader interests than they have”. Objectively good strategic decision-making requires, above all, good preparation of the people whose responsibility is to make them, and especially of the teams that provide essential scientific and intellectual resources for making the same.

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APPLIED TRIPLE HELIX CONCEPT AS INNOVATIVE DEVELOPMENT STRATEGY FOR LOCAL COMMUNITY

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ABSTRACT

In the era of the 4th industrial revolution, the successful technological transition, both at the national and local level, will depend to a significant extent on the effectiveness of cooperation of all stakeholders involved. In particular, such cooperation should be furthermore developed and strengthened between the three fundamental and proactive stakeholders of economic development, namely the private sector, academic institutions, and the public sector. Such cooperation is through scientific research articulated as a triple helix principle, which presupposes a strong interaction of all three stakeholders in strengthening the national and/or local ecosystems based on the principle of innovative actions. This paper presents a case of operationalized cooperation in the local community based - the municipality/city on the triple helix principles. The cooperation of three key stakeholders is performed through development projects which students ideate, conceptualize and thoroughly document the process, ideally for the further operationalization needs. This paper analyses and evaluates the conceptual and process based approach of the implemented model and results achieved so far. Obtained research results are unveiling high levels of involvement, commitment and satisfaction among all key stakeholders, particularly students and the local community, while at the same time generating feasible applicable projects for the benefits of the local community.

Keywords: *strategic development, triple helix, local community, innovation, projects, project management*

1. INTRODUCTION

In their work, Etzkowitz and Zhou (2017) are considering triple helix principle of university–industry–government interactions as 'key to innovation in increasingly knowledge-based societies'. In the sense that creation, dissemination, and utilization of knowledge moves from the periphery to the center of industrial production and governance. This is particularly important in the era of 4th industrial revolutions in which the speed and focus of the actions are fundamental, which not only refers to the competitiveness of the companies but can equally be related to the competitiveness of economies at all levels, starting from national/continental, and scaling down to regional or local (Vlacic, 2021). In such challenging times it is important to have an effective interaction of all local ecosystem stakeholders in the conceptualization, development and realization of innovative and efficient approaches to all kind of projects. However, the question arises how to actually implement the triple helix in real life situations, especially when it comes to the complex interaction of key triple helix components that differ

in their nature, characteristics and missions. Usually, such cooperation in various levels/types of ecosystems is conceived, designed, developed and implemented through various programs that *a priori* include funding under public financial instruments. Nevertheless, there are other practical approaches used, i.e. where the triple helix principle is used by not exploiting specific funding, in *ad hoc* or in continuous mode, the latter being elaborated in this paper. This work evaluates a regionally implemented triple helix principle in three steps: 1) the local government policy determines strategic directions or thematic areas that are important for regional development; 2) the academy conceptualizes and develops strategic projects, and 3) industry/private entities, as an essential triple helix component, implement these strategic projects. Thus, this paper presents a case study of an operationalized, regionally-based triple helix principle in the city of Zaprrešić. Methodologically, it uses case study research approach, whereby the success of the implementation and the results of the implementation are presented through a simplified quantitative analysis. The paper concludes that the practical use of the triple helix principle in public sector innovation creates synergic satisfaction of all key actors involved: 1) the public sector which creates demand, 2) the academia that builds up, conceptualizes appropriate response and provides solutions to such an articulated demand, and 3) ultimately the private sector/industry that is willing and capable to participate in materializing and operationalizing the proposed projects. After this introduction, the second chapter provides a theoretical context of the triple helix principles linked to the various implementation levels, starting from the highest national/transnational up to the local one. The third chapter presents the methodology used, analyzes and evaluates the case study of practical implementation, and presents quantitative results of the implemented triple helix principle. The fourth chapter concludes the paper and offers a set of recommendations for the practical use and further developments and/or improvements.

2. THEORETICAL BACKGROUND AND RESEARCH QUESTION

Various authors such as Etzkowitz and Leydesdorff (2000), Etzkowitz and Zhou (2017) and others emphasized the importance of collaboration between the government, companies and educational system. In addition Foray et. al. (2009) synergized the triple helix principle with the Smart Specialization Strategies – S3. Thus, the triple helix represents one of the best vehicles to create and commercialize innovative products, services and business models within the appropriate ecosystems (Gabrielsson, Politis, Billström, 2019). However, not all ecosystems are equally suitable and favorable for successful implementation of the triple helix principle, and they usually depend on numerous factors (Vlacic, Dabic and Aralica, 2018). Among these factors, the absorptive capacity of the ecosystem players has been identified as one of the most important factors (Dabic et al, 2019, Vlacic et al 2019). Two possible variants of the triple helix model are represented by Leydesdorff and Ivanova (2016) in the figure 1. where the left picture represents typical and the most used concept by using the actors' roles, while the right picture represents interaction of streams and needs. On the left picture, which is relevant for this paper, the interaction intensity is represented by the overlapping and intersecting shaded areas. It varies with different ecosystems and highly depends on the environmental conditions and key component strengths and/or roles.

Figure following on the next page

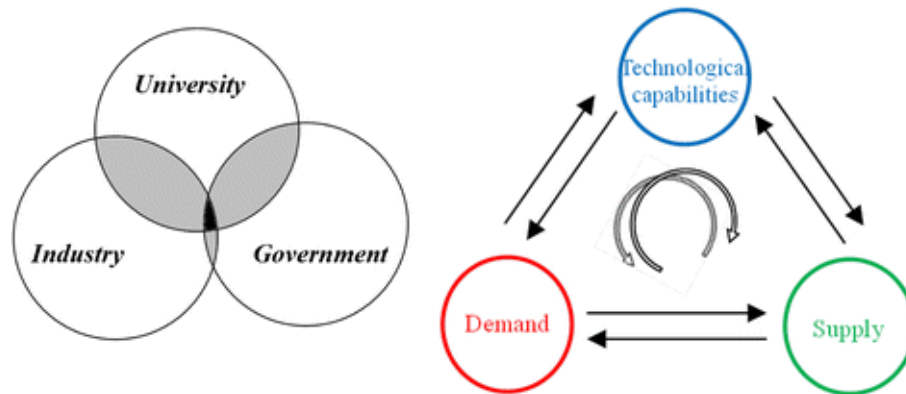


Figure 1: Basic triple helix model on the Venn diagram (left) and modified on the triangle presentation (right) presented in Leydesdorff and Ivanova, 2016

The presented triple helix intersection of relatively independent institutional spheres may generate various types of hybrid organizations such as TTF (technology transfer offices) in universities and innovative firms in private sector. It may also create or strengthen government research labs, develop business and financial support institutions, like angel and venture capital networks for new technology-based firms that increasingly develop worldwide.

2.1. Regional Innovation system (RIS)

Wintjes (2016) states that in smaller countries, politics operates through regulation, infrastructure, strategy and instruments, at the national level, while other (bigger) countries have large differences between regions. For instance, in the case of Estonia and Luxemburg, there is no point in developing RIS, while in the case of Spain, there is such a need. Regional innovation system emerged as the consequence of focus of national innovation systems (NIS) on regional level and are not conceived and imagined as a closed system, but rather as a system that interacts with other regional and national systems. Smart Specialization Strategies - S3 define the capacity of economic system to generate new specialties through discovery of emerging opportunities in quickly growing fields. These specialties have to be ideally locally concentrated and should harvest resources and competencies in these areas. As stated by Etzkowitz and Leydesdorff (2000), in the Regional triple helix implementation 'the region is undergoing a fundamental transformation from a geographical, political, and cultural entity to a triple helix of firms, universities, and government agencies that generate new initiatives for regional innovation'.

2.2. Research question

Based on the conducted theoretical background evaluation, the research question of this paper arises: what may the concept for the practical and successful implementation of the triple helix principle look like within a specific regional innovation system on the example of a local community? For the purpose of this paper, the triple helix principle will be observed as a basic model including the public sector, academia and industry/private sector, with particular emphasis on cooperation of first two components.

3. METHODOLOGY, ANALYSIS AND RESULTS

3.1. Methodology

In order to answer the research question, it was initially necessary to identify the conducted appropriate triple helix program and evaluate it. Thus, for the methodological purposes of this paper, the case in point is given through example of practical cooperation between an academic institution, represented by University of Applied Sciences and a local self-government unit, a smaller size city.

In this first stage the third triple helix component, industry/private sector partners were involved as observers and catalyzers only. Finally, SING program was identified, which was triggered by the City of Zaprešić, Croatia and the University of Applied Sciences Baltazar Zaprešić.

3.2. Analysis

The SING project was launched in 2019. with the signing of the Partnership agreement on cooperation between the City and the University at the initiative of the Tourism and Investment Council of the City. In such partnership the City recognized the potentials of the locally based University, where students among other things acquire knowledge in the field of project management within the specialist professional graduate study programme of Project Management. The practical work evaluates a regionally implemented triple helix principle in three steps: 1) the local government policy determines strategic directions or thematic areas that are important for regional development; 2) the academy conceptualizes and develops strategic projects, and 3) industry/private entities, as an essential triple helix component, implement these strategic projects. In short, by conceptualizing and developing specific projects students of Project Management gain necessary practical knowledge, while at the same time the City receives produced project documentation that may be used in implementation of the proposed projects. Through the SING project, students apply the knowledge, skills and capabilities required from modern project managers nowadays. Among others, they acquire personal and interpersonal competencies and skills that are needed for the successful management of a projects, programs and portfolios. In addition students are developing competencies related to technical aspects, but also those related to contextual competencies. They are also expected to conduct the research work and assess the feasibility of the project and its applicability in the real world conditions. All above mentioned is extremely important in their professional development, specifically in the field of project management. After mastering the basic courses of the study program through the previous three semesters, in the fourth semester students get an opportunity to develop practical skills in project management by working on concrete topics proposed by the City. The SING project has so far been successfully implemented over three academic years, and it includes interlaced work of three academic courses: 1) *ICT in a multi-project environment*, 2) *Practicum of Project Applications* and 3) *Students' specialist practice*. The courses are conducted in parallel and complement each other and, depending on the learning outcomes of each course students develop specific project competencies, which are nowadays essential for the labor market. Within the specified courses supported by continuous teachers' mentoring, students in teams firstly ideate and propose concepts of projects aligned to presented development strategies of the City, which are following the PM² methodology¹ from the very beginning. It includes elements from a wide range of globally accepted project management best practices, as well as the European Commission's operational experience from numerous development projects. PM² represents a practical methodology developed and suitable for most EU-funded projects, but also for any type of project conducted in the private or public sector. At the same time, while developing projects in accordance with PM², students are looking for appropriate domestic and/or international sources of funding suitable to proposed projects. In recent years, due to the COVID-19 pandemic, SING project has contributed to further development of digital on-line competencies of students. Thus, workshops were organized through the MS Teams platform and the Baltazar system (Moodle). using in Project Management specific applications, such as MS Project, Oracle Primavera P6 and Oracle Risk Analysis. In addition to subject teachers (mentors), depending on the thematic unit (area) that each team is working on, students are encouraged for additional consultations with representatives of the City (supervisors).

¹ Standard project management methodology of the European Commission that aims to facilitate effective project lifecycle management and increase the quality of project management processes and project results.

In acting so, they are in unique situation to obtain specific relevant information/documentation with the aim to achieve the highest possible quality of developed project proposals. Additionally, depending on the thematic area, students are stimulated to extract supplemental information from local and regional businesses/industry, thus effecting a full triple helix model of cooperation. Following the production of all necessary documentation required by the mentioned academic courses, all students are required to give presentations of their projects. In accordance to thematic units team presentations are delivered in front of the Committee, which is composed by lecturers and the conductors of Specialist practice. After the presentations, the Committee selects the best project proposal for each thematic unit and qualifies them for the final round. In the final selection round the finalists are additionally evaluated by representatives of the City and other students who failed to qualify for the finals. The winning project is determined by voting, with one vote coming from the representatives of the University of Applied Sciences Baltazar Zaprrešić, the City of Zaprrešić and students of Project Management. In case of an equal number of votes for several teams, the winner becomes the team that has received the vote of the City, as the principal sponsor. Prepared project proposals topics and prepared materials are subsequently serving as a basis for student final thesis writing. However, as already mentioned, in the operationalized concept, the public sector develops and retains documentation of developed projects, *de facto* at the higher level of preparedness for further operationalization. The academy benefits from the students' hands-on-work on real projects and such directly contribute to local community development showing an elevated satisfaction level in their participation. Ultimately, the economy sees its role in participating in project implementation.

3.3. Results

In the previous three academic years of the SING project, a total of 161 students divided in 37 project teams of the Project Management study programme participated in the contest. Thematic units and topics of project proposals that were developed and the number of students per academic years of project implementation is presented in Table 1.

Academic year	Thematic units/project name/topics	Number of project proposals (teams)	Number of students
2018/2019	Large Children's Park	4	18
	Traffic safety management	3	12
	County wine roads	3	17
	Zaprrešić city – „Smart city“	4	17
2019/2020	Cycling trail system in Zaprrešić	3	12
	Sport center „Pojatno“	2	8
	Zaprrešić city – energy self-sustainable city	3	11
	Center Zajarki	3	12
2020/2021	Ecology	3	13
	Sustainable development	3	13
	Small and medium-sized entrepreneurship	3	14
	Tourism	3	14
Total		37	161

Table 1: Thematic units, number of project proposals and number of students who have participated in the SING project

In the first academic year of the project (2018/2019), the team developing the Multigeneration Recreational Park project proposal for the City has won the competition. In the following academic year (2019/2020) the project proposal of Launching the City Incinerator was selected as the best project, while the winner of the last edition of the SING project (2021/2021) was the team that prepared the project proposal on the Green Transformation of educational institutions

in the City by using Geothermal Energy. Finally, upon conducting the stakeholders satisfaction analysis on the completed cooperation, the feedback from all stakeholders participating in the project resulted extremely positive. Thus, with such encouraging outcome the SING project will certainly, as an true example of triple helix cooperation, continue to be implemented within the specialist graduate study of Project Management in the years to come. In addition, SING project helped to create and establish the perception of the City as an entrepreneurship and knowledge-oriented regional hub. The same helped to raise the image of University of Applied Sciences Baltazar Zaprešić (especially the Project Management study) as an highly practice-oriented higher education institution in country and wider.

4. CONCLUSIONS AND RECOMMENDATIONS

This paper deals with the operationalization of cooperation in the local community, based on the regional-based triple helix principle, using the top down approach where the need for innovation is derived from the public sector. As conceived, it represents an operational challenge where all key players need to align themselves with available resources and the infrastructural support in order to successfully perform and conduct the integrated process of regional development. The results of the paper show that triple helix cooperation fairly elevates the satisfaction of stakeholders and proactively engages all three key components. In such a concept, the public sector obtains projects that are almost ready for further implementation; the academy benefits since it provides an opportunity for students and scholars to work on real projects and to contribute to local community development; finally the industry/private sector obtains the possibility to participate in final project implementation. Yet the greatest benefit of all is that this hands-on implementation of triple helix principle allows for building and strengthening the network of cooperation among key components. At the same time it teaches them to rely on each other in responding to real regional development needs, while facilitating their establishment into a self-learning society. Recommendations for further improvement of the process are focused on, but not only limited to, further strengthening of cooperation with industry/private sector in the city of Zaprešić. This may in addition trigger the full realization of potential of the triple helix model, since the development and enhancement of local entrepreneurial ecosystem will be catalyzed by local government proposed innovative development projects. The obtained results of this successfully implemented triple helix-based SING project, which is currently in function in micro-location at the city of Zaprešić, can certainly serve as a solid and concrete example for stimulating local/regional economic growth, and may be transferred to other regions, not only in Croatia but also worldwide. A similar, slightly tailored model, can also be applied to other interested regions. Yet the precondition is that there has to be a willingness to establish co-operative and resource-based partnership that may produce such effective results.

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TOWARDS DIGITAL TRANSFORMATION AND SUSTAINABILITY OF SMES

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ABSTRACT

Digital orientation and sustainable operations of SMEs, along with their abilities to introduce changes are gathering importance, especially in the era of global focus on environmental impact and the Covid-19 pandemics. Although these seem to be the key growth paths for SMEs nowadays, the interdependencies between sustainability and digitalization are neither fully understood nor deeply investigated. To what extent digital transformation and sustainability are the competing priorities for SMEs or can these be seen as complementary long-term goals? This paper aims to characterize the relationship between digital transformation and sustainability and their importance for SMEs. It presents key objectives to digital transformation and sustainability, along with relevant outcomes. The research uses qualitative methods and is based on a case-study analysis. Multiple data collection techniques and sources of evidence, such as in-depth interviews, documents, archival records, reports, and photographs have been used to build a case-study database in accordance with data triangulation principles. The analysis reveals that digital transformation and sustainability handled carefully can be treated by SMEs as complementary goals and can contribute to the improvement of SMEs long-term performance. However, characteristics of this relationship are rather industry specific. Well managed digital transformation ensures cost reductions and increase of sustainability. The success in reaching goals related to sustainability and digital transformation highly depends on leadership mindsets and attitudes of managers at all levels.

Keywords: *Digital transformation, SMEs, Sustainability, ESG*

1. INTRODUCTION

The 21st century has brought new challenges which emerged at a scale not seen before. The global financial crisis, the COVID-19 pandemic, growing socio-economic inequalities and negative consequences of greenhouse gas emissions causing worldwide climate change become issues of growing concern. The businesses responded to these new challenges integrating environmental, social, and governance (ESG) factors into their business strategies. At the same time the COVID-19 pandemic induced rapid digital transformation of enterprises, which coupled with the introduction of sustainability goals motivated enterprises to search for new technologies and implement new business models. Simultaneously going sustainable and digital may be difficult, in particular for small and medium enterprises (SMEs) as their resources need to be carefully allocated to achieve those two goals. The resources are often scarce, and SMEs may be forced to choose the focus or try to combine these two, not necessarily concurrent goals, i.e. sustainability and digitalization. This paper looks at theory and practice of digital and sustainable transformation conducted by SMEs in food industry. The choice of this sector as a focus of the analysis is motivated by its importance in the European Union's economy. The food industry is the EU's biggest manufacturing sector in terms of jobs and value added, important in EU foreign trade (FoodDrinkEU, 2020). The paper proceeds as follows. Section 2 provides an overview of the literature on interrelationship between digital transformation and

sustainability seen from theoretical and empirical perspectives, with the focus on SMEs. Section 3 describes methodology we used in our study. Section 4 presents the results, and Section 5 discusses them and concludes.

2. DIGITAL TRANSFORMATION AND SUSTAINABILITY – A LITERATURE REVIEW

In the literature review we aim to identify common areas of digital transformation (DT) and sustainability, the latter seen through the prism of ESG criteria in order to understand how these two goals correspond with each other, whether they are complementary or competitive. We also look at factors that influence both DT and the implementation of the ESG goals as well as consequences of these two phenomena, in particular for SMEs. Previous literature on the relationship between digital transformation and sustainability understood in terms of its environmental, social and governance dimensions is limited. Much of the literature focuses on the implementation of only one of these two goals. However, the existing papers allow to define digital transformation and sustainability, and in particular, to figure out how they can be understood in SMEs context. Gong and Ribiere (2021) using a systemic literature review looked at existing definitions and identified the core attributes of DT. On this basis they developed a unified definition of DT, which we use in this paper. DT is defined as a process of change enabled by digital technologies resulting in radical innovation, which creates value through leveraging resources and capabilities (Gong and Ribiere, 2021, p. 10). In our paper to this broad definition the sustainability component needs to be added. The concept of firm's sustainability is multifaceted, therefore it can be defined and measured in many ways. The concept evolved through adopting macroeconomic sustainable development approach to business practice. Reinhardt (2000) made an attempt to define firm's sustainability through the integration of approaches grounded in development economics, natural-resource economics, financial accounting and competitive strategy. This definition covers environmental and social-cost perspectives. The focus is on value creation with all costs and revenues measured at their social opportunity costs, and environmental impacts (e.g. resources use, pollution) taken into account (Reinhardt, 2000). This basic approach has been extended by adding governance perspective. Thus, firm's sustainability can be assessed when split into three components related to the environment (E), social aspects (S) and governance (G). ESG concept allows to better understand the impact of firm's social responsibility efforts and its environmental burden as well as governance structure on quantifiable outcomes of the company's performance (Zhao et al. 2018; Drempeć et al., 2020; Zumente and Bistрова, 2021). From SMEs perspective both DT and ESG can be seen through the lens of company's external and internal factors that are necessary to achieve and sustain competitive advantage. A conceptual framework of an interface between digital transformation and sustainability can be grounded in an analysis of mechanisms, which describe value creation, delivery and capturing. The primary determinants of value creation recognized in the literature are tangible and intangible resources and capabilities, technology and infrastructure and organizational capital (e.g. relation-specific assets, knowledge-sharing routines, effective governance) (Teece, 2010; Parida, Sjödin and Reim, 2019). The implementation of ESG practices and its disclosure can be motivated by risk reduction/mitigation (Cerqueti et al., 2021; Díaz et al., 2021), strengthening the firm's reputation or increasing its public or social visibility as well as responding to social pressure and expectations (Baldini et al. 2018; Crespi and Migliavacca, 2020). Empirical research on the impact of ESG on firms' performance confirmed its positive effects on corporate financial performance (Zhao et al., 2018) and profitability (Brogi, Lagasio, 2018; Gholami et al. 2022). The implementation of ESG standards leads to value creation for both stakeholders and clients (Ting et al., 2020; Zumente and Bistрова, 2021; Bhaskaran et al., 2020).

However, as indicated by Drempetic et al. (2020) firm size matters for the measurement of the sustainability impact on firms' performance. With regard to SMEs sustainable innovation was proved to play some role in their sustainability performance (Malesios et al. 2021) and the favorable influence of ESG on capability of firms to survive was confirmed (Gangi et al., 2020). There are also negative effects. For example, the study on 87 Italian SMEs from the industrial sector shows that ESG disclosure may increase the cost of capital because the burden of disseminating ESG information is higher than the related benefits, but it is not the case for family firms (Gjergli et al. 2020). When it comes to digital transformation, this process can have different objectives, such as sales and productivity increases, seeking for new markets, introduction of innovative forms of interactions with customers as well as improvements in business decision making process or transforming the whole business model (Yucel, 2018; OECD, 2021). Numerous studies on the effects of for various business functions of SMEs and its economic performance provide evidence that it may bring efficiency gains, cost reduction, productivity growth, improve export capabilities, and increase customer satisfaction, thus positively affecting firm's competitive advantage (Dethine, Enjolras and Monticolo, 2020; Pfister and Lehmann, 2021). However, having discussed evidence about effects of ESG and DT when they were analyzed separately, we need to have a closer look at their combined effects on SMEs. There is still a discussion in the literature whether there is a positive relationship between digitalization and sustainability. The studies on this issue are still scarce, in particular those related to SMEs. The results of studies for all firm regardless their size confirmed that under certain conditions some synergies between DT and ESG implementation can be achieved. Camodeca and Almicci (2021) analyzed 40 Italian listed firms in the years 2016-2019 and proved a positive impact of digital transformation on achieving ESG. However, this positive interrelationship between DT and ESG can be achieved only if firms can manage trade-offs between economic, environmental, inclusive and technological (i.e. digital) priorities. Babkin et al. (2021) proposed a methodology to assess ESG and digital maturity and tested it on Russia's industrial ecosystem. The study confirmed significant heterogeneity in the maturity of sectors with regard to their DT and ESG. To improve performance in both areas, implementation of various types of innovations in business sector, public administration as well as cross-industry cooperation were recommended (Babkin et al., 2021). Summing up the literature review on the interrelationship between DT and ESG implementation by SMEs it can be concluded that both processes have different objectives, but they are expected to bring the same outcome. Value creation, capturing and delivery should be a result of both DT and ESG. Chart 1 presents a conceptual framework that we propose to conduct a case study analysis of a small firm from the food sector to describe the practice of DT and ESG implementation, which explains why and how integration of DT and ESG can be translated into an increase of firm's value.

Chart following on the next page

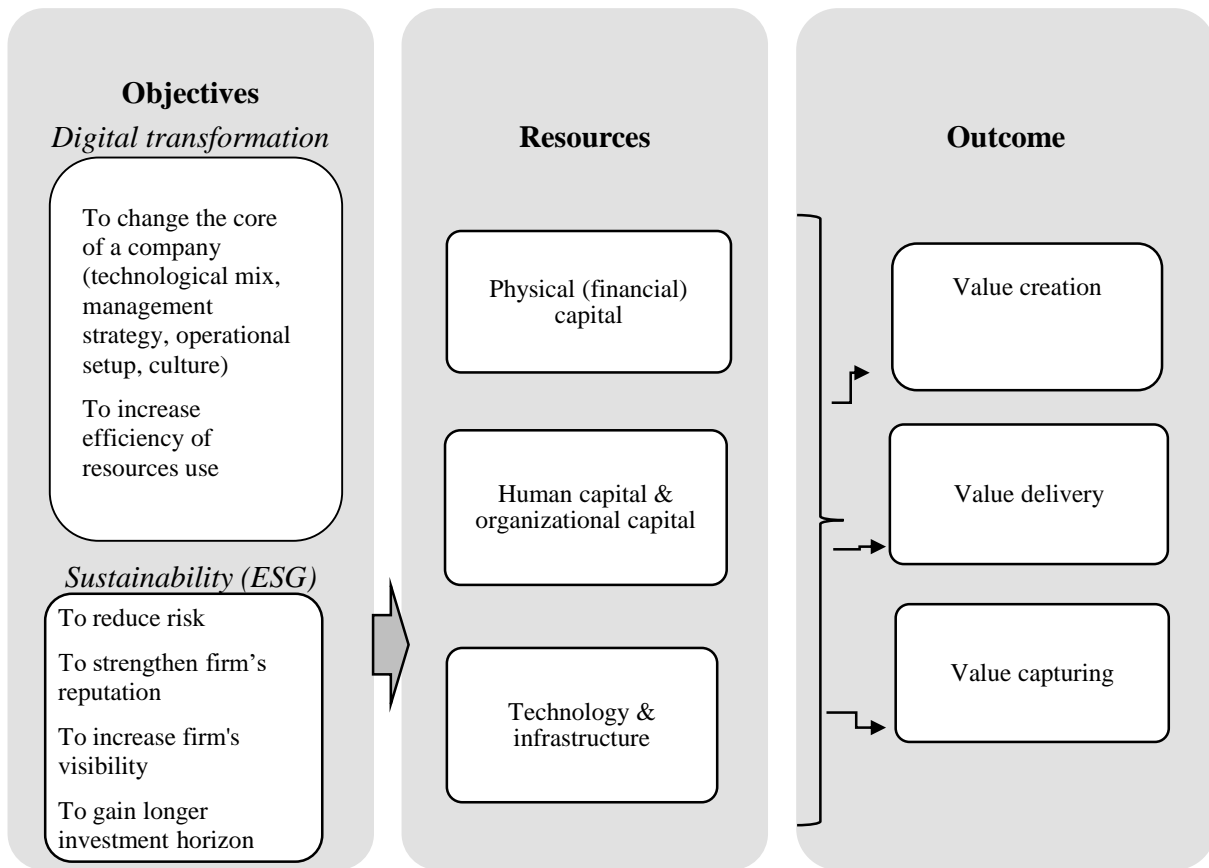


Chart 1: A conceptual framework for studying interrelationship between digital transformation and ESG

(Source: Compiled by authors based on the results of the studies discussed in the literature review section)

3. METHOD

The research uses qualitative methods and is based on a case-study analysis. The research procedure followed the approach of Robert Yin (2014) and included six research steps: planning, design, preparation, data collection, data analysis and reporting. Planning stage included literature review related to digital transformation and sustainability of SMEs (presented in section 2) and selection of relevant research method. A single case study research method has been selected as it allows to describe both processes in depth. The design stage allowed to formulate research questions, develop relevant research assumptions, select a specific case-study, which fits the planned research, and characterize the purpose of data collection along with chosen data collection techniques. The paper aims to address the following research questions:

- RQ1: To what extent digital transformation and sustainability are the competing priorities for SMEs or can these be seen as complementary long-term goals?
- RQ2: What are the main drivers, outcomes, and sources of success achieved through combining digital transformation and ESG goals?

These questions were addressed by a descriptive case study, which aimed to describe the studied phenomenon in the real-life context in which it occurred (Yin, 2014), being at the same time a pilot case study. The case for analysis was selected using purposeful sampling and theoretical sampling in order to ensure its suitability in providing relevant data to answer research questions and develop a theory as it emerges (Glaser, Strauss, 2006).

It is an SME which is the biggest producer of freeze-dried products in Poland. The case study is embedded in the food industry. The analysis was carried out from the perspective of the current state, but the historical activity of enterprise was also taken into account to characterize the necessary background and point of reference for inference. The development of research protocol was the main element in the preparation stage. Such a document is one of the most important elements influencing the reliability of research conducted using the case study method. A protocol includes a list of procedures according to which a case study will be conducted, describing in particular the process of data collection, inference and reasoning rules and ways of research results presentation (Yin, 2014). The data collection research stage took place in February and March 2022. The analysis relied on multiple data collection techniques and sources of evidence, in line with data triangulation concept. These included, three telephone-based interviews with innovation and development specialist (30-40 minutes each), answered questionnaire with 77 questions (40 multiple choice questions and 37 open ended questions), documents publicly available on the Internet, company website, and photographs. The penultimate stage of the research procedure, i.e. data analysis, included pattern matching, explanation building, analyzing time-series trends by development of firm-level logic model aimed to show how changes in a firm lead to improvements in its sustainability and digital transformation, and synthesizing the collected information. Conclusions were grounded in empirical data, and then compared to existing theories (Corbin, Strauss, 1990; Glaser, Strauss, 2006).

4. RESULTS

4.1. Company's characteristics

The company was established in 1992, currently employs 53 employees and is based in the food industry. Its activities include industrial processing of fruit, leaf vegetables and herbs based on the freeze-drying process, commonly seen as one of advanced technological processes. It is the largest producer of freeze-dried products in Poland processing 1,600 tons of raw material and delivering around 200 tons of final products per year. Freeze-drying is a drying method that allows to store food at room temperature for months or even years without preservatives. During the process the food is placed in special vacuum chambers where only the water content evaporates from products. Due to dehydration, the moisture content is reduced to 3%, which inhibits the action of microorganisms and enzymes. As a result, original shape of the product and nutritional qualities are kept and the products weight less and are easier to store. The company is certified ECOLOGICAL and meets the strict EU requirements. Its production complies with the HACCP system and is certified with FSSC 22000 VERSION 5 and Kosher certificates. Thus, company's quality system controls all products from seed, through cultivation, to final delivery. All raw materials are carefully selected and grown in Poland under the supervision of company's quality control system. Moreover, the company guarantees the quality of products and services, in accordance with the specified customer specifications. Customers who need products with low microbiology are offered vacuum-steam sterilization that allows to meet the highest microbiological requirements.

4.2. Digital transformation

The company sees digital transformation as moving away from traditional forms of production planning, production recording, document circulation, traceability, information flow in the company, which are replaced by the digital flow of information. More specifically, general objectives of company's digital transformation include improving the efficiency of processes in the company, better organization, security, enabling faster response to changes, ensuring the stability of the company's operations, increasing development potential, ensuring greater efficiency of processes and greater competitiveness of the company, departure from manual

registration of production processes and from manual production planning. The company realized the need to go digital before the Covid-19 pandemic and started to develop the concept of its digital transformation, which was followed by market research devoted to seeking system supplier able to meet the company's needs. It was seen as rather obligatory next step in the further development of the company. The process of selecting the supplier of the IT solution (including supplier market research, system capabilities screening, reference visits, etc.) took about 2 years. At that time, potential suppliers analyzed company's activities in order to present a suitable offer, run demonstrations of selected systems and performed reference visits. These initial steps were critical to contractor selection and definition of final digital transformation goals. The pandemic intensified company's activities related to its digital transformation and in October 2021, the company applied to obtain Vouchers for digitization (under the measure 6.2: Support for SMEs in the area of digitization funded by the European Commission). Although the application is still under evaluation, the company has started its digital transformation pre-implementation analysis. The process of digital transformation is rather time-consuming and costly. The initial cost was approximately 250k euros and will be followed by monthly service fees and costs of add-on IT services in the future. Initially the company owner led its digital transformation himself. Now, there is also a special team composed of employees from various departments that is overseeing the whole process. Nevertheless, all employees are aware of company's digital transformation objectives, plans and actions. The first focus areas related to the digital transformation of the company included production, production planning, production accounting, traceability, and document circulation. The company is working towards implementing the following systems: Manufacturing Execution System (MES), Advanced Planning & Scheduling (APS), Traceability and partly systems related to warehouse management, document flow management, and maintenance. These systems will be implemented in the whole company, with no pilot trials in a selected department. Initially company expected to receive the following results thanks to its digital transformation. We have assigned to each of these results the potential outcome seen in the context of value creation, capturing and delivery:

- production - release of full production capacity (and value for customers), shorter lead times than offered by competitors (value creation and delivery),
- inventory optimization - reduction of the level of maintained inventories, release of cash from excess inventories (value capturing),
- information on costs - up-to-date, reliable, individual, collective, and cross-sectional information on costs (cost location, data timeliness, reduction of time consumption, etc.) (value capturing),
- quality - maintaining high quality of products with the increasing scale of production, increasing the quality of products in response to the growing expectations of customers and the growing requirements of legal regulations (value delivery),
- money - increased revenues and expected savings, reduction of operational costs (value capturing),
- business environment - increasing the speed and efficiency of business and improving customer satisfaction (value capturing and delivery).

However, due to the turbulent economic situation it turned out that the outcome related to inventory optimization has been updated. The company decided to reduce the level of maintained inventories by less than initially planned. The most important benefits of digital transformation of the company are the ability to respond faster to the needs and expectations of customers and ensuring higher efficiency of processes and greater competitiveness of the company. The main barriers to scaling up and accelerating the company's digital transformation are financial outlays, employees' engagement related to drawing employees away from their

daily duties (personnel shortages), systems integration and hardware-software issues. These, along with efforts related to finding the right IT solutions and IT system supplier were the biggest challenges the organization has faced in trying to achieve a successful digital transformation.

4.3. Sustainability (ESG)

Sustainability is understood by the company as a technological process that is as least environmentally burdensome as possible. The company specializes in the production of ecological products (based on ecological raw materials) and thus it is of its high priority that the production is based on environmentally friendly and energy-saving technologies. The company's activity is based on the implemented nature protection policy, which assumes minimization of the negative impact of its activity on the environment. The company declares its commitment publicly on the website. Moreover, sustainability is important because the company seeks to obtain the highest quality and ecological raw materials. Although the company treats sustainability mainly as environmental sustainability and does not focus on meeting the other ESG objectives, its efforts to great extent translate into achieving these goals. The company is a pioneer of sustainable development compared to the competition. The main drivers of its sustainable development are customer demand for sustainable products and services, reduction of operating costs thanks to reduction of energy consumption and waste generation, climate risk mitigation, and positive impact on the company's reputation. Environmental sustainability refers mainly to its strategy, mission and values, technological processes, sourcing of raw materials, marketing activities and employee involvement. With regards to environmental sustainability the following measures have been implemented: use of only natural raw materials, use of production methods that minimize the consumption of cleaning, washing and disinfecting agents, minimization of waste generation, collective cardboard packaging made of recycled cardboard, heat energy recovery from cooling technological devices, use of gas boiler, garbage segregation, waste management, and initial treatment of post-process water before it is discharged to the sewage system. Social sustainability is mainly related to caring for employees, the local community and clients. Specialists are employed based on their competences, experience and motivation. Due to personnel shortages age or gender diversity do not directly influence employment. Nevertheless, the company employs people of different age and gender. For example, people over 50 years old represent 45% of all employees in the production department. The company enables employees to develop, co-finances online and in-person trainings and encourages idea generation. Most of the company's employees are people from the local community. The company works with local companies or subcontractors. Most of the suppliers (farmers, growers) come from the local community. Moreover, the company systematically supports the Polish Association for People with Intellectual Disability in the region. It cooperates with the commune, supports the organization of cultural and sports events, and the local cultural center. The company also helps local young sport stars to develop further. Client's satisfaction is really important for the company. Good and direct communication with each client via phone calls and emails helps to ensure this satisfaction. The company in its activities follows a set of strict rules included in internal documents, i.e., code of ethics (including provisions regarding human rights and work standards, health and safety, ethics and business integrity) and fair business policies. It also ensures confidentiality thanks to GDPR rules, confidentiality clauses in employment contracts, confidentiality agreements with clients and cyber security (antivirus software, backups, encrypted connection to the Internet VPN). Transparency of operation and building trust are very important in company's activities. There are some barriers limiting the company's activities in the area of sustainable development. The most important relate to necessity to incur financial, time-related, organizational and human resources outlays.

5. DISCUSSION AND CONCLUSION

Although company's general objectives related to digital transformation and sustainability are different, these two share common outcomes, thus are interrelated. According to the literature DT is conducted to change the core of a company in terms of strategy, production and operation by implementing technologies (Yucel, 2018), while objectives of ESG implementation are rather of 'soft nature', e.g. strengthening company's reputation and visibility (Crespi and Migliavacca, 2020). It turns out, however, that these goals are related to each other and should be treated as complementary; the common part is the increase efficiency of resources used. In fact, this case study confirmed that the analyzed food company works on DT and ESG simultaneously and declares that it is difficult to separate these two goals. The digital transformation will affect the economic results as well as the social and ecological aspects of the company's operation in various ways. In the analyzed food industry firm, it contributes to a significant reduction (by over 90%) of the traditional / paper circulation of planning / production / quality documents (which will be replaced by electronic circulation), the reduction of losses and the expected savings of raw materials thanks to the optimal management and control of production processes, as well as reduction of pollutant emissions. Moreover, it allows for better organization of the work of the company's employees and enable better work-life balance thanks to flexible working hours and the possibility of partial remote work. All these results are translated into company's value. Activities related to sustainability of the analyzed company share similar outcomes. These include increasing the company's value, acquiring new customers, higher quality of products, and improving competitiveness. This finding goes in line with the empirical studies on this topic which point out the synergies and confirm key role of company's value in both processes (e.g. Camodeca and Almici, 2021; Pfister and Lehmann, 2021). The analyzed case of the food firm shows that sometimes activities related to DT and sustainability compete for resources, however, have the same outcome and are comparable in terms of value. For example, the analyzed company can either invest in an IT solution to calculate its carbon footprint (which will show the weaknesses of processes in this respect and allow to lower the carbon footprint and present it on invoices for customers) or adjust the lighting in the plant to be more energy efficient. The effect for the customer is the same - more sustainable product. From the company's perspective the investment in the latter one is by far lower. Customers are willing to pay for company's products because they are sustainable, high quality, have pro-health benefits for customers, are made of organic components, and support organic farming. Further sustainability increase requires investment, which would make the product more expensive. Possible investment paths are the implementation of more advanced IT systems and/or sophisticated environmental technologies, which could lead to the delivery of additional value. The goal for the analyzed food company now is to find an optimal level of investment that will be translated into both, return on investment, efficiency and profits increases, as well as greater customer satisfaction. Based on this case study analysis we recommended for SMEs to address potential trade-offs between DT and ESG by the assessment of maturity of both processes and confront it with the maturity of customers in terms of their awareness of cost-benefit ratio of having sustainable products supported by digitalized processes. A development of methodology for assessing DT and ESG maturity of producers and consumers could be a further research topic important for theory and practice. There are several limitations related to our study, in particular single case study research method widely discussed in the literature (e.g. Yin, 2014). With this in mind, several methods were followed Yin's (2014) proposals and used during different research stages in order to mitigate these risks. In the data analysis phase, time-series analysis and explanation building were used to reduce internal validity problems. Analytic generalization was used to ensure external validity.

A study protocol and a research database were created to address the issue of reliability. Last, but not least, multiple sources of evidence and a chain of evidence were used in the research design and data collection stages to improve construct validity.

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IMPROVING CORPORATE GOVERNANCE IN THE COMPANY BY REGULATING REMUNERATION POLICY

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ABSTRACT

Remuneration policy is a well-known document in financial companies, which they are also obliged to publish in accordance with EU regulations and Commission recommendations (2004/913/EC). Directive (EU) 2017/828/EC (the so-called Shareholder Rights Directive - SRD II) newly regulated and encouraged long-term participation of shareholders in the formulation of remuneration policy and adequate reporting of remuneration, which also extends to the non-financial field. To further modernize corporate law, the European Commission has also adopted an action plan that intends to involve shareholders more actively in the corporate governance structure in order to contribute to the long-term sustainability of companies in the EU. In the light of harmonization, this modernization was necessarily followed by the Slovenian legislator and at the beginning of 2021 the amended Companies Act (ZGD-1) was adopted, which implemented the remuneration policy and reporting on this policy in the Slovenian corporate system. Reporting or, in a broader sense, disclosure of remuneration policy has been added to the very concept and scope of the remuneration policy. This is part of the general policy of the company and therefore disclosure is important to internal as well as external stakeholders. As corporate law, and especially corporate governance, regulates the relations between the management body (management or supervisory board), the supervisory body (supervisory board or board of directors), shareholders and stakeholders of the company (other stakeholders), corporate institutions must be placed in tense relations of rights and obligations between the bodies in the company, in order to improve the corporate environment and thus corporate governance itself. Namely, corporate governance also determines the structure (organization) that supports the company's goals, the means to achieve them and the monitoring of results. The purpose of corporate governance is to help create the environment of trust, transparency and accountability needed to promote long-term investment, financial stability and business integrity, thus also supporting stronger growth and the development of a more inclusive community. In addition to the legislative framework, it is therefore necessary to improve and change autonomous legal sources (eg corporate governance codes). corporate governance in companies and make suggestions for further improvement.

Keywords: *remuneration policy, reporting, harmonization, corporate governance, stakeholders, SRD II*

1. INTRODUCTION

The constant changes and challenges of the economic situation in the world and in EU, dictate the constant improvement of rules in the economy and beyond to achieve maximum impact in terms of corporate governance of economic entities. Corporate law and autonomous legal

sources impose competencies and obligations on the members of management and supervisory bodies, and on the other hand the responsibility of these bodies and their members in relation to capital investors (stakeholders) and stakeholders is relatively stricter. An important role in establishing an optimal relationship between management, supervisory bodies and capital investors (assembly) is therefore represented by corporate legislation, which tries to place various corporate institutions in a complex system of operation in a company - corporate governance. Corporate solutions are partly conditioned by adopted and amended EU legislation, and partly by autonomous sources and good corporate practice (i.e. soft law). Among the latest innovations, the remuneration policy and reporting on it in companies is regulated in more detail, but it was necessary to implement it from EU regulations into national company laws. The article is based on compliance with the harmonization regulations of EU law and the amended provisions of Slovenian Companies Act (hereinafter: ZGD-1)¹, which is the parent law in Slovenia (the so-called "corporate constitution") and regulates the management of companies and relations between individual bodies in the company. Also, in the systematics of legal bases, the so called "soft law", ie autonomous sources such as the Slovenian Corporate Governance Code (hereinafter: Code)² (with envisaged changes) and all infra-cited recommendations and guidelines of the EU and individual institutions.

2. LEGAL FRAMEWORK

Remuneration policy is a already well-known document in financial companies, as the last financial crisis in 2008 exposed significant risks in remuneration and remuneration of directors in proportion to the drive to achieve company profits, which, according to some, led to moral hazard. this is supposed to (co) contribute to the financial crisis. As a result, the EU has very quickly approached regulating (limiting) the area of remuneration with two approaches; as recommendations (optional autonomous law) and mandatory harmonization law through EU directives. The EU Commission Recommendation of 14 December 2004 fostering an appropriate regime for the remuneration of directors of listed companies (2004/913/EC)³ and COMMISSION RECOMMENDATION of 15 February 2005 on the role of non-executive or supervisory directors of listed companies and on the committees of the (supervisory) board (2005/162/EC)⁴ and Commission Recommendations complementing the supra-defined recommendations (2009/385/EC). In addition, the remuneration policy is regulated by the European Commission's 2010⁵ and 2011⁶ Green Paper on the Corporate Governance of Financial Institutions and the stricter rules on the governance of financial institutions of 2011, proposed by the European Commission under CRD IV⁷ (Kocbek, 2021, p. 1075). Mandatory sources of remuneration policy in the EU include Directive (EU) 2017/828/EC on the promotion of long-term participation of shareholders⁸ (hereinafter: Shareholder Rights Directive - SRD II), Which amended Directive (EU) 2007/36/EC (hereinafter: Shareholder

¹ Companies Act (Official Gazette of the Republic of Slovenia, No. 65/09 - official consolidated text, 33/11, 91/11, 32/12, 57/12, 44/13 - US decision, 82/13, 55/15, 15/17, 22/19 - ZPosS, 158/20 - ZIntPK-C and 18/21).

² The Slovene Corporate Governance Code for Listed Companies was jointly drawn up and adopted by the Ljubljana Stock Exchange Inc., the Slovenian Directors' Association and the Managers' Association of Slovenia on 18 March 2004. They agreed to amend and supplement it on 14 December 2005, 5 February 2007 and 8 December 2009. The Code in its current wording was drawn up and adopted by the Ljubljana Stock Exchange Inc. and the Slovenian Directors' Association on 27 October 2016 (edited in January 2018). Due to changes in legislation, a recast is being prepared in 2022.

³ Commission Recommendation of 14 December 2004 on the promotion of an adequate remuneration system for directors of public companies (2004/913/EC).

⁴ Commission Recommendation of 15 February 2005 on the role of non-executive directors or members of the supervisory board of public companies and on committees of the board of directors or supervisory board (2005/385/EC).

⁵ Green Paper - Corporate governance of financial institutions and remuneration policy {COM (2010) 285 final} {COM (2010) 286 final} {SEC (2010) 669}.

⁶ Green Paper - The EU corporate governance framework {COM (2011) 164 final}.

⁷ COM (2011) 453 final in COM (2011) 452 final.

⁸ DIRECTIVE (EU) 2017/828 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2017 amending Directive 2007/36/EC as regards the promotion of long-term participation by shareholders - Shareholders' Directive II.

Rights Directive – SRD I).⁹ Otherwise, the SRD I did not directly regulate the remuneration policy itself in a broader sense, so it was completely replaced and supplemented in this area by the SRD II. In order to further modernize remuneration policy and corporate governance, the European Commission has also adopted an Action Plan,¹⁰ which intends to involve shareholders more actively in the corporate governance structure. The main purpose is to contribute to the long-term sustainability of companies in the EU.¹¹ The remuneration policy in a broader sense thus includes the policy (delimitation) of payments to members of management and supervisory bodies, and part of the remuneration policy is also the report or, in a broader sense, the disclosure of the remuneration policy. This is part of the general policy of the company and therefore disclosure is important to internal as well as external stakeholders. (Massena Partners, 2017) The discussed SRD II had to be implemented in state legislation within the specifics of each state regulation by 10 June 2019, but some Member States and Slovenia were late due to the known crisis situation. With the amendment to the ZGD-1 (ZGD-1K)¹², the Republic of Slovenia implemented the guidelines deriving from the SRD II, because the regulation under the "obsolete" ZGD-1 was insufficiently decided and not was in line with the newly adopted SRD II and other recommendations and guidelines. Since it is the directors (members of management bodies) and members of supervisory bodies who contribute with their work to the long-term success of the company's operations, in addition to the regulation of remuneration itself, it was necessary to regulate and place this area within the legal position. Since the SRD II primarily refers to joint stock companies whose securities are traded on a regulated market (public joint stock companies), it was necessary to place the remuneration policy in the legal organizational form of a joint stock company, which has a pragmatically regulated choice of management system in Slovenia. The situation itself may vary depending on the management system chosen; single-track or double-track. In Slovenia, a dualistic model of management prevails, which is characterized by a coherent and institutional and personal separation of management and control functions, while in a one-tier system both functions are connected within the same body, board of directors and in the company's autonomy. As the remuneration policy is somehow immanent to the personnel body in the joint stock company, it was necessary to include in ZGD-1 the decision of the General Meeting on the remuneration policy in the spirit of non-interference with individual competences of the company bodies (and their interests). a tool for achieving the company's business performance.

3. CORPORATE INTERESTS INTO THE COMPANY

Increasingly complex and extensive legislation and autonomous legal acts in company law impose on members of management and supervisory bodies certain competencies and obligations that are intertwined. In the spirit of good and efficient corporate governance, it is therefore necessary to clearly delineate the individual interests that arise in the company (enterprise; entity; Unternehmen) and the company (company, corporation; Gesellschaft). The common goal and effect of the actors (holders of different interests) in the spirit of corporate governance must be to satisfy the common interests of all stakeholders. In addition to the constant competencies and obligations imposed by corporate law and autonomous legal resources on the members of management and supervisory bodies, the responsibility of these bodies and their members is also tightened. In addition, other actors inside and outside the company are included in the effective management system. Interests in a company are polyvalent.

⁹ DIRECTIVE 2007/36/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 July 2007 on the exercise of certain rights of shareholders in listed companies - SRD I.

¹⁰ Action plan: European company law and corporate governance - a modern legal framework for better shareholder participation and sustainable companies. COM (2012) 740 final.

¹¹ Ibidem: 1076.

¹² ZGD-1K - Novella ZGD-1; Official Gazette of the RS, no. 18/2021 of 9.2.2021.

In this sense, interests could be (theoretically) defined as individual, supra-individual and transpersonal. In doing so, individual interests are asserted by shareholders (partners) and creditors, the company itself is supposed to assert supra-individual interests, and transpersonal interests are realized in the company. (Kocbek et al., 2010) All identified interests are in conflict, dynamic and contradictory. For this reason, the task of legislation and autonomous legal rules is to harmonize and define the various interests in society as much as possible, so that there are no direct contradictions and conflict situations. It is therefore first necessary to clearly distinguish the company from the company. From a legal point of view, the bearer of interest in an economic entity is only the company as a legal entity, and not a company that does not have legal personality. Therefore, their interests are also different. Thus, the company as a carrier of entrepreneurship is oriented towards the "exploitation" of the company (the company has a company to exploit its interests), and the company's interest is reflected in the interests of employees, managers, various groups of workers, which means that the interest of workers united (Kocbek et al., 2010), p. 24-26). Furthermore, individual different interests in the economic entity are also manifested through the management and supervisory bodies in the company (thus also through hierarchically subordinated derivatives - individual bodies and services). Of course, the corporate governance system in the company is very relevant, because individual bodies do not have the same interests in a one- or two-tier corporate governance system. The company's bodies are the bearers of various interests, which in internal relations are formed as a constant compromise between interests with the aim of "exemplary (exemplary)" corporate governance of the company with the company. In a two-tier (mostly coherent) management system, the legislator took care of the definition of the representation of various interests, while in a one-tier management system this is left more or less to the autonomy of shareholders. The management (management board or board of directors) is thus the bearer of the company's interests, which also represents its interests vis-à-vis the company and is responsible for the company's management. Thus, ZGD-1 stipulates that the Management Board (the function of managing the company and the function of representing the company) manages the company's operations independently and at its own risk. As a result, the Management Board performs its primary function exclusively in the company and can therefore only be the proposer of certain resolutions and its executor in relation to the company. The freedom of management is thus manifested only in the context of entrepreneurial activity (business management) (Bratina, et al. 2008, pp. 287-290). The General Meeting of the Company, as a body that unites a multitude of individual interests of shareholders (partners), in principle finds it difficult to form a common interest in favor of the company (individual, in principle diametrically opposed interests), so the supervisory board is in charge. In principle, it must arbitrate between the various interests of the company (management) and the individual interests of shareholders and the company. Thus, the primary common goal of the members of the Supervisory Board and the Supervisory Board is the company and, in connection with this, the interest of the company (Kocbek et al., 2010), p. 31).

4. IMPLEMENTATION OF THE REMUNERATION POLICY

Remuneration policy covers all principles and decisions regarding salaries and / or remuneration. It is defined as part of personnel policy. Remuneration and remuneration of members of supervisory, operational and management bodies have a major impact on the performance and achievement of good results in companies. They can influence a greater willingness to make strategic decisions to achieve long-term goals in society. One of the central conflicts of interest in most companies is the conflict between the personal interests of shareholders and other stakeholders who are supposed to strive for long-term development and lasting success. The basic principle - failure should not be rewarded - leads to the fact that remuneration policy is one of the main instruments that lead managers to accept greater risks

for society (Bratina, 2020). The great financial crisis and the accompanying media scandals have identified the remuneration of executives as one of the main triggers for taking excess risk. Based on the experience and market failures of companies, regulations have been developed that contribute to a clear, simple and transparent process of rewarding management bodies and enable shareholders to actively participate in determining managerial remuneration (Tomić et al., 2018). Due to the very rapid development of capital markets, the trend of tracking "directors'" salaries was the first to appear in the United States. Over the last 50 years, the ratio of a manager's salary to a worker's salary there has increased by an average of 380%. The most significant change, however, is in the last 30 years. The economic crises (especially in 2008), on the other hand, showed serious errors in the management remuneration system. The most frequently highlighted are the lack of transparency, the lack of period limitation and the inability to reimburse bonuses already paid. Namely, management decisions are often short-term oriented, motivated by accompanying rewards, which can jeopardize the long-term goals and sustainable orientation of the company. The time after the attempt can be considered as the beginning of regulation in the field of remuneration. i. Dot-com balloon in the USA. The bankruptcy of some of the major technology giants occurred in the early 21st century, and the main reason was the high indebtedness of these companies, which borrowed at a price below market. The bursting of the bubble led to the write-off of more than 50% of these loans, and the public began to rightly wonder why such an unfolding took place. Cases such as WorldCom (also Enron, Parmalat,...) came to the fore, in which the CEO borrowed money from the company he ran for stock trading. To prevent the economy from collapsing and restoring confidence in the market, the US Congress passed the Sarbenes-Oakley Act¹³ in 2002, which, along with the unification of financial reporting standards, introduced the obligation to adopt corporate governance codes and limit the remuneration of corporate governance bodies. The ratio between the average salaries of employees and members of management bodies has fallen sharply. The new law prohibited companies from taking out loans to finance or credited members of boards of directors and administrations. There is also the possibility of so-called reimbursement, which means that the company can claim back the paid reward to a member of the management body if it proves that the results were different from expectations, or if there has been misleading investors (Tomić et al., 2018). The law, which stopped the uncontrolled growth of earnings, did not only affect American companies, it applied to all companies listed on the American stock exchange, which also covered many companies from the EU. The test of the effectiveness of the legislation took place in 2008, after the "real estate bubble burst", which also led to a large reduction in the average remuneration of administrations, which had previously started to rise dramatically again. The answer was again stricter legislation. In 2010, the Dodd-Frank Act was thus enacted, prescribing t. i. say on pay (talk on pay) principle. This allows the company's shareholders to organize and vote at any time on the adequacy of the company's remuneration. Such regulations in the United States also gave rise to EU directives dealing with shareholders' rights and the remuneration of management and supervisory bodies in companies (supra in more detail).

4.1. European Commission Directive

SRD II has re-regulated issues related to the remuneration of management and supervisory bodies, while also upgrading the solutions in the above-mentioned recommendations of the European Commission. The essential novelty was regulated in Articles 9a and 9b, which introduce two acts, i.e. the directors' remuneration policy and the shareholders' right to vote on remuneration policy and the remuneration report and the information to be provided and the right to vote in this regard.

¹³ An Act to protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the securities laws, and for other purposes. PUBLIC LAW 107-204—JULY 30, 2002.

In view of the above, we can conclude that the current regulation in ZGD-1 was compared to e.g. German or Austrian regulations more in line with or closer to the solutions of the SRD II (because Slovenia has enacted some solutions from the recommendations of the European Commission from 2010 and 2011, while Germany and Austria have not legally regulated and changed this) (Bratina, U. 2020). The need for changes was based on the long-term development of companies by addressing the main shortcomings identified in the implementation of the previous directive (Tomić et al., 2018):

- short-term objectives of administrative bodies,
- weaknesses in the control of the remuneration of members of the bodies,
- weaknesses in the control of related party transactions,
- shortcomings in the exercise of cross-border shareholder rights.

The central goals were aimed at the lack of mechanisms to prevent the actions of company management, which are aimed only at short-term repayment, which leads to inefficient corporate governance and detrimental consequences for the strategic and long-term goals of the company. Almost all discussions and studies, before and after the adoption of the SRD II were intended to promote long-term shareholder involvement and emphasized the same goal - the importance of long-term goals of the company as the basis for a sustainable orientation of the economy. In addition to the significant influence of shareholders on the adoption of the company's remuneration policy, which are regulated in Articles 9a and 9b, the core areas of the SRD II are (Tomić et al., 2018) also:

- Identification of shareholders, transfer of information and exercise of shareholders' rights - in accordance with the more direct communication of the company with shareholders, by obtaining current information on shareholder identification data and processing of this data; in addition to improving the transmission of information in the shareholder rights chain, especially in a cross-border context, a high level of transparency concerning intermediary costs and non-discrimination in terms of costs in practice for domestic and cross-border exercise of shareholder rights; a more modern shareholder voting process in accordance with the right to know whether their vote has been taken into account, by providing electronic confirmation of the voting statement in this case and the possibility of inspecting the voting results to be collected by the company.
- Transparency of institutional investors, asset managers and "proxy" consultants - with the aim of ensuring long-term results and the existence of the company.
- Related party transactions - consistent with providing adequate protection for related party transactions, public disclosure of material transactions, providing information on the identity of related parties and providing restrictions for directors and shareholders to participate in the decision-making and ability of related parties.

All of the above is extremely important for the establishment of preconditions for cooperation and the exercise of shareholder rights regarding the remuneration policy of members of management bodies. The main goal in regulating voting rights is the obligation of the company to determine the remuneration policy, which refers to the members of the management bodies and to provide shareholders with voting rights at the General Meeting on the topic of remuneration policy. The vote of an individual shareholder may be binding or merely consultative. Objective of the SRD II therefore, all managers' remuneration is consistent with the company's remuneration policy adopted by the general meeting. The intention is this, regardless of whether the vote is binding or non-binding, as the proposer wants to ensure transparency and the widest possible discussion on the topic. In the event that the shareholders' vote is binding and that the policy is not voted on by the majority at the General Meeting, it is envisaged to continue following the practice that was in force before the voting proposal.

The company's management is obliged to submit an adjusted remuneration policy to the vote, which can only be done at the next general meeting (Bratina, U. 2020). In the case of non-binding or of the consultative nature of the shareholders' vote on the remuneration policy at the General Meeting, the company is nevertheless obliged to pay the remuneration on the basis of the General Meeting resolution in accordance with the principle of due diligence. Also, in case of refusal, the management is obliged to submit an adjusted policy at the next general meeting, but in case of violation of the listed conditions, no sanctions are envisaged. In the event of exceptional conditions, Member States may allow certain companies to derogate from the remuneration policy. The derogation is therefore allowed exceptionally: temporarily, under special conditions, and if this is necessary to ensure the conditions of long-term stability and sustainable operation of the company. Such an exception must contain procedural conditions and have certain elements under which such a derogation is allowed. The deviation is defined only as a possibility (Tomić et al., 2018). SRD II it does not merely offer the possibility of deviating in the direction of reducing the remuneration of management bodies in the company. The possibility of their temporary increase is also identified. The term temporary derogation opens up space for arbitrary decision-making between the time of deviation from the adopted policy and the establishment of a different practice. The remuneration policy must nevertheless be put to the vote as soon as possible, at the time of any change or every four years. If a company provides variable remuneration, the policy must clearly define comprehensive and diverse award criteria. It should indicate financial and non-financial criteria based on social responsibility objectives and explain how it achieves these objectives. Information must be specified on any deviation and in the period in which it occurred, as well as on the possibilities for the company to claim a refund of overpaid rewards (Clawback Period). SRD II it also stipulates that the remuneration policy must be made public on the company's website and remain freely available for as long as possible (Tomić et al., 2018).

4.2. Remuneration policy under the slovenian companies act (ZGD-1K)

With the amendment to ZGD-1K, the area of remuneration of members of management and supervisory bodies has been fully harmonized with the SRD II, using the appropriate possibilities provided by the Directive in this regard. Nomotechnically, this was done by amending Article 270 of ZGD-1 regarding the remuneration of members of the Management Board, Article 284 regarding payment to members of the Supervisory Board and by amending Article 294 regarding discharge. For implementation, the (most important) new articles have been added, namely Article 294.a (remuneration policy) and Article 294.b (remuneration report), which define all components of the remuneration policy on the one hand and the remuneration report on the other. According to the amendment, public listed companies are obliged to adopt a policy of remuneration of members of management and supervisory bodies at least every four years, which is voted on by shareholders at the general meeting of the company. The new Article 294.a implemented the provision of Article 9a of the SRD II - on the right to vote on remuneration policy. The essence of the regulation is that public joint stock companies must form a remuneration policy for all members of management and supervisory bodies as well as executive directors who do not otherwise have the status of management under Article 10 of ZGD-1, in accordance with the SRD II however, they are among the directors. So far, ZGD-1 has allowed joint stock companies to determine the remuneration policy, but it has not commanded this. According to the SRD II however, public limited companies have an obligation to formulate a remuneration policy. For non-public joint stock companies (as well as for other capital companies), the policy in question remained the subject of an autonomous decision of the company's bodies. The new legislation, in accordance with the option provided by the SRD II, defines the consultative nature of the General Meeting's vote on the remuneration policy.

As in Germany, the question arises in our literature as to whether such a transfer of remuneration powers and the conditions of employment of managers to shareholders does not interfere excessively with the role of the supervisory body and thus reduces the effectiveness of management supervision (Kocbek, 2019). In principle, the cogent regulation with ZGD-1 could pose a problem in placing it among the competencies of individual bodies in the company, but the legislator, using the words "Company....formulate...." And "... in the vote to the General Meeting for approval, gave a clear message. , that the proposer and initiator of such a remuneration policy may also be left to any other body, leaving the further implementation to an autonomous regulation (more precisely infra). Determining the remuneration policy after the company's general meeting has not been a very common business practice so far. Under the new regulation, however, it is important that in the event of a general meeting rejecting the remuneration policy, only the temporary remuneration regime in accordance with the proposed policy applies (coherently), with an amended remuneration policy to be submitted immediately at the next general meeting (third paragraph 9.a Article of the SRD II). The provision of Article 294.a of ZGD-1 does not in any way interfere with other provisions of the law that determine the competencies of individual bodies and other material issues, including regarding remuneration (eg the provision of Article 284 of ZGD-1, which prohibits the participation of members of the Supervisory Board at a profit). In addition, it is stipulated that a company whose securities are traded on a regulated market shall submit its remuneration policy to the vote at each significant change, and in any case at least every four years. The new regulation also abandoned the definition of the principles of remuneration policy, as well as what it should be, leaving it to companies that will formulate policy on the basis of guidelines that already appear as drafts of an autonomous legal source (Guidelines on the standardized presentation of remuneration). report under Directive 2007/36/EC, as amended by Directive (EU) 2017/828 as regards the encouragement of long-term shareholder engagement¹⁴). The legislator only stipulated that the remuneration policy should show in a clear and understandable way in relation to individual components of remuneration e.g. the contribution of remuneration to the promotion of business strategy, long-term development and sustainability of the company. The content of the remuneration policy is specified and the necessary components are listed and their description required for an adequate remuneration policy (eg all fixed and variable remuneration components) (including all allowances and other benefits in any form) and their relative share in the remuneration; all financial and non-financial benchmarks (where applicable as regards social responsibility) for the allocation of variable remuneration components, including an explanation of how these criteria contribute to the promotion of business strategy, long-term development and sustainability of the company and presentation of methods used to determine eligibility; deferral of payment and determination of the conditions that can be met for the company to claim a variable remuneration, in the case of payment of remuneration in the form of shares: periods of allotment, conditions for holding shares after acquisition (if any) and an explanation business strategy, long-term development and sustainability of society; an explanation of how the remuneration and employment conditions of the employees were taken into account in determining the remuneration policy, including an explanation of which group of employees was involved; presentation of the process of determining and implementing and reviewing remuneration policy, including measures to prevent or manage conflicts of interest; in the event of a change in the remuneration policy, an explanation of any significant changes and a review of the extent to which shareholders' votes and opinions regarding the remuneration policy and the remuneration report have been taken into account, etc.). An important message of the third paragraph of Article 294a of the ZGD-1 is that the voting on the remuneration policy at the General Meeting of Shareholders is of a consultative nature, even though the proposal originally provided for a binding resolution (Kocbek, M. 2021, p. 1081).

¹⁴ Available at: https://ec.europa.eu/info/sites/default/files/rrg_draft_21012019.pdf

A similar technique can be found in German law¹⁵ (par. 120a dAktG). This is extremely important especially for the company's supervisory board, which with such a solution has retained the powers (including responsibility) for determining remuneration and formulating remuneration policy, and the general meeting somehow "forms" (grants) a non-binding opinion on the prepared remuneration policy. In this way, the concept of different interests of bodies in a joint stock company and delimitation of interests in the company and the company was fully realized¹⁶ (Kocbek, 2021, p. 1082). If the General Meeting of Shareholders does not approve the proposed remuneration policy, the company shall submit the amended policy to the vote at the next General Meeting of Shareholders. However, the company may determine the remuneration of the members of the management and supervisory bodies and the executive directors only in accordance with the remuneration policy, which was submitted to the vote for approval at the general meeting. This norm coherently resolves cases where the remuneration policy has not been approved, and at the same time obliges the proposer (supervisory board) to submit an amended and adjusted act of remuneration policy to the next general meeting, without explicitly mentioning what changes should be made. following the German model, in principle, changes are not even necessary if the supervisory board has sufficient arguments for such action) that these can be kept to a minimum (Kocbek, 2021, p. 1082). Thus, at the general meeting of the company, the remuneration policy can only be approved or rejected, and a simple majority in concluding the represented share capital is sufficient for such a decision, as it is a normal resolution. Of course, in accordance with ZGD-1, it is necessary to place the decision on the remuneration policy on the agenda of the General Meeting and submit an appropriate resolution proposal, which can be immanently formed only by the Supervisory Board or the Board of Directors. permissible. Thus, the General Meeting cannot change the proposed remuneration policy and a similar solution was taken as in the case of the adopted annual report and its discussion at the General Meeting. Therefore, the resolutions of the General Meeting that would change the submitted remuneration policy would be null and void, nor would the resolutions that would partially change or approve the remuneration policy be valid, as it is considered as a whole for all members of management and supervisory bodies and executive directors. cannot be shared. Therefore, it can be concluded that the systemic Article 294.a of ZGD-1 (despite the fact that it appears under the section of the law: Powers of the General Meeting) does not interfere in any way with the distribution of powers of bodies in a joint stock company and does not change the concept of ZGD-1 and coherence arrangements in a two-tier management system, thus leaving the autonomy of formulating and determining policy to the supervisory board, which in fact also performs the personnel function in the appointment of management. Additionally, in 294. a Article ZGD-1 stipulates that a company may temporarily withdraw from the remuneration policy in exceptional circumstances, which cover only cases where this is necessary for the realization of the long-term interests and sustainability of the company as a whole or for securing its assets, if the policy contains procedural conditions. under which a derogation may be applied and provisions on which policy elements may be derogated from. As a sign of a public event, the fifth paragraph of Article 294.a of ZGD-1 stipulates that after voting on the remuneration policy at the General Meeting, it is immediately published on the company's website, together with the date and results of voting, where it must remain free and publicly available for at least as long as it is used, and for at least ten years (ZGD-1K, 2021).

¹⁵ Germany and Austria, for example, regulate share law in separate laws - each in its own Share Act (Aktiengesetz, 'dAktG' and 'aAktG'). Both laws regulate only a joint stock company, not other companies.

¹⁶ German law expressly provides that the resolution of the general meeting in question does not create any legal consequences and obligations (first paragraph of paragraph 120a d of the AktG) and cannot be challenged. In relation to the Supervisory Board, the Supervisory Board has no legal remedy against the non-approval of the decision on remuneration policy.

4.2.1. Remuneration policy report

An important part of the SRD II is communication and improving the relationship with the company's shareholders. Communication can take place on an ongoing basis, but most often companies use it through an annual report, which is presented at the general meeting. For companies with a very compact ownership structure, the annual report is a mere formality and is often intended more for the external public than for shareholders, as shareholders mostly already have their representatives on supervisory boards. For companies with dispersed ownership, the annual report is an important bridge for maintaining relationships and informing shareholders about the company's operations, vision and strategic decisions (Kocbek et al., 2018). The composition of the income statement is prescribed according to the basic elements that it must contain, and the form is usually left to the company, unless the legislator in the implementation of the SRD II does not provide otherwise in national law. Some recommendations for the preparation of a remuneration report can be found in different countries, but most often the countries that have recently implemented the reporting obligation in legislation are inspired by the member states that have already implemented the matter. The instructions are also prepared by many consulting houses, which also have the necessary knowledge and human resources for such reports.¹⁷ Individual solutions and examples of comparative guidelines for the preparation of reports will be given supra. The report on the remuneration of the governing bodies of the company must contain an annual statement, an annual report on the remuneration and the remuneration policy of the governing bodies in the future. The part containing the remuneration policy may be omitted if the company does not intend to propose and put to the vote the remuneration policy. When a remuneration policy is subsequently omitted from the remuneration report, this report must contain detailed details of when the current remuneration policy was approved and where it can be found on the company's website. The remuneration report may include more information or details than required by law if members of the governing bodies believe that this is good for the company and communication with shareholders. Otherwise required disclosures about the measures taken or success in achieving the objectives may not be disclosed if, in the opinion of the management or CEOs may be market sensitive. In this case, the non-disclosure and the reasons for it must be stated in the remuneration report, which must also state if and when the information will be disclosed in the future (Companies Regulations 2019, 2019). The data used for remuneration must relate to all employees, including executive directors. For the sake of coherence and transparency, companies most often use figures derived directly from financial reports, which contain essential data on labor costs and employees. Investors also expect additional comparisons with other important distributions and payments and an explanation of how the profit is distributed. cash flow. Additional information may depend on the size of the company, the industry in which it operates, or the stages in the life cycle of the company. The reasons for choosing additional comparisons and methods of their calculations should be explained in the appendices and explanations. The annual report on remuneration must contain a statement describing how the company intends to implement the approved remuneration policy in each financial year. The statement must contain (if possible) the performance criteria and relative weights for each of them and the performance targets set for the set criteria and the way in which the rewards will be calculated. If it is not the first year of approved remuneration policy, the statement must contain a detailed explanation of significant changes in the method of implementation of remuneration policy and a comparison with the method of implementation of remuneration policy in the previous year. The statement must also explain any deviations from the remuneration policy implementation process described in the report. This statement does not necessarily contain information that is already in the remuneration report, as well as

¹⁷ Compare with <https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/audit/deloitte-nl-audit-remuneration-report-best-practices.pdf>

information that is disclosed in the policy itself (Companies Regulations 2019, 2019). The annual remuneration report must also contain a list of the names of the members of the various committees dealing with the remuneration policy of the members of the management bodies in the year to which the report relates (remuneration and appointment committees). It must also be clear who advised and assisted such committees. If any of the company's committees or commissions have used the services of external consultants, they must explain and justify these costs in detail, as well as explain the effect of such external advice. The severance pay and statutory remuneration scheme can only be set by the company in accordance with the already adopted remuneration policy. However, if he wishes to pay a benefit outside the remuneration policy prior to the approval of the shareholders, he must prepare a separate amendment to this effect and propose it to the shareholders for a vote whenever possible. Such an amendment must be available for inspection by shareholders at least 15 days before the vote (Companies Regulations 2019, 2019). The remuneration policy must contain a tabular description of each individual component of the "remuneration package" for an individual member of the company's management body. If the articles apply to all directors in general, the table must also include any specific arrangements specific to each individual director. It must also be explained for each component described in the table:

- how each component contributes to the achievement of short- and long-term strategic goals of the company;
- how each component works and information on possible disposal conditions;
- if companies are rewarded with shares, what are the assessment conditions and the length of holding securities;
- what is the maximum possible payout in relation to the listed components;
- a description of the framework used to assess performance (if possible);
- information on any provisions for reimbursement of payments or suspension of payment for them.

The company must also compile a table of probable future remuneration policies. Such a table must be supplemented with records that define the relationship to individual components (Tomić et al., 2018). A separate table should provide information on directors who are not in executive positions and the company's approach to determining the remuneration to be paid to such directors. Any fees paid for other tasks and such other items must be taken into account in the nature of the remuneration. The reports must also include simulations of the scheme and the payout policy in the event of loss of function (severance pay). After the vote, the comments of individual shareholders are generally taken into account or at least recorded at the General Meeting. All of this is then posted on the company's website.

4.2.1.1. Solutions in article 294. B of ZGD-1

ZGD-1K regulated the scope of the remuneration report for companies whose securities are traded on the regulated market, which must prepare a clear and comprehensible remuneration report, which contains a comprehensive overview of remuneration, including all benefits in any form provided by the company provided or owed to an individual member of the management and supervisory body and to the executive director in the last financial year, in accordance with the remuneration policy. The preparation of the remuneration report is the responsibility of the members of the management and supervisory bodies and the executive directors, and the remuneration report itself must be reviewed by the auditor, who prepares the report attached to the remuneration report. The report on remuneration is submitted to the General Meeting in the same way as the annual report. The General Meeting has the right to hold a consultative vote on the remuneration report for the last financial year (same rules as for the remuneration policy - supra in more detail).

The company must immediately publish the report on remuneration after the vote at the general meeting on the company's website, where it must remain free and publicly available for at least ten years. Ten years after the company's publication in the remuneration report, they no longer provide public access to the personal data of members of management and supervisory bodies and executive directors. In addition to the personal names of individual members of the management and supervisory body and the executive directors, the remuneration report itself must contain the following information, if any (Bratina, U. 2020):

- total remuneration granted or paid, broken down by component, relative share of fixed and variable remuneration, an explanation of how total remuneration is in line with the adopted remuneration policy and also how it contributes to the company's long-term performance, and information on how performance criteria have been applied;
- the annual change in remuneration, the performance of the company and the average remuneration of full-time employees of the company for that period, for at least the last five financial years, presented together in a way that allows comparison;
- all receipts from any company in the same group;
- the number of shares and stock options provided and the main conditions for exercising the rights, including the exercise price and date and any changes to these conditions;
- whether and how the possibility of reimbursement of variable remuneration has been used;
- any derogations from the procedure for implementing the remuneration policy, and in particular derogations due to exceptional circumstances, including an explanation of those derogations and the definition of the specific elements of the remuneration policy from which they have been waived.

With regard to the remuneration of each individual member of the Management Board (including the Executive Director), the remuneration report must also contain details of financial benefits or benefits or services which:

- they have been approved or provided by a third party to a member of the Management Board in connection with his activity as a member of the Management Board;
- have been approved to a member of the Management Board in the event of early termination of office, including changes agreed in the last financial year;
- were approved to a member of the Management Board in the event of regular termination of office, with the monetary value and the amount spent or reserved by the company in the last financial year, including changes agreed in the last financial year;
- were granted in this connection to a former member of the Management Board whose term of office was terminated in the last financial year and provided in the last financial year.¹⁸

The remuneration report may not include specific categories of personal data on individual members of management and supervisory bodies and executive directors within the meaning of EU GDPR rules¹⁹ or personal data relating to the family situation of individual members of management and supervisory bodies and executive directors. Due to the amendments to ZGD-1, which improved the notion of remuneration policy and remuneration report, it will be necessary to introduce (adapt) provisions *de lege ferenda* into the Code, which will clearly define remuneration policy as follows from Article 294.a, and the remuneration report from 294. b Article of ZGD-1.

¹⁸ The fact is that due to the limitations of ZGD-1 (especially Article 284), the data between members of management bodies and executive directors and members of supervisory bodies in Slovenia will be very different in amount, as the law prohibits members of the Supervisory Board from participating in profits.

¹⁹ Determined by Article 9 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (OJ 2016 L 119 of 4 May 2016, p.1).

In addition, the preparation of the policy itself and consequently the reports will have to take into account already established (international) guidelines and recommendations in this area. on this basis. These should take into account the legislative framework and the company's good practice and specifics for policy-making and reporting, so that a document defining the company's commitments regarding the remuneration of management and supervisory bodies and executive directors can be developed. In doing so, the remuneration policy should, for example, be clear and comprehensible, with a detailed description of all components of fixed and variable remuneration with all allowances and benefits. It should include pre-defined criteria for financial and non-financial performance and methods for determining whether these criteria are met. Remuneration policy should therefore define how an individual remuneration contributes to the promotion of the business strategy, long-term development and sustainability of the company. As follows from ZGD-1, such a remuneration policy should be submitted to the Assembly for voting at each significant change, or in any case after the expiration of four (term) years. Consequently, the remuneration report should be a document containing a comprehensive overview of the remuneration of management and supervisory bodies and executive directors, including any benefits in any form granted or owed to individual directors in the last financial year, including new employees and former directors, all in accordance with the company's remuneration policy. The preparation of the remuneration report will be the responsibility of the members of the management and supervisory bodies and the executive directors, and will have to be reviewed by the auditor and a report on the review will be attached to the remuneration report. Thus, due to the legal change, it will be necessary to revise and supplement the provisions of the Corporate Governance Policy Framework with a separate chapter Remuneration Policy (in the Code), which will have to clearly define and highlight the corporate phrase that the company's Supervisory Board formulates remuneration policy. legislation and recommendations of good practice in this field and put it to the vote of the Assembly for approval, the Assembly resolution being of a consultative nature only. Based on the wording of Article 294.a of ZGD-1, it will be necessary to regulate all important legal postulates, namely that if the general meeting does not approve the proposed remuneration policy, the company must submit the amended remuneration policy to the next general meeting. In the meantime, the company can only pay out receipts that have been submitted for voting to the general meeting, regardless of whether they have also been accepted. Remuneration policy will have to establish a clear separation between management and supervisory bodies and must be adapted to the situation in the company and the market, so as to promote the company's long-term sustainability and ensure that remuneration is in line with the results achieved and the company's financial situation. Remuneration policies cannot be substantially changed without a presentation and proposal to the general meeting. However, the company is expected to put its remuneration policy to the vote at each significant change, and in any case at least every four years. Allowable changes that are not essential could be e.g. technical changes to the remuneration decision-making process or changes in terminology related to remuneration policy, etc. The company could temporarily and exceptionally deviate from the remuneration policy under certain legal conditions, and must immediately publish on its website the remuneration policy, the result of the General Meeting's vote and the report on remuneration in the last financial year. The remuneration policy and the remuneration report should be free of charge and publicly available for at least as long as they apply, ie. at least ten years. In addition to the amendments to the Code, it will be necessary to prepare additional autonomous rules - guidelines for the preparation of a report on remuneration policy on the model of foreign practices. In fact, based on Article 9.b of the SRD II, the task of the European Commission is to prepare guidelines for the preparation of the remuneration report of members of management and supervisory bodies and executive directors, which will certainly be the basis and framework for and later implementation in Slovenia as well.

The purpose of the guidelines is to provide balanced and flexible guidelines for reporting individual director remuneration in order to enable not only shareholders but also potential investors and stakeholders to assess the remuneration of directors, the extent to which these remuneration is related to the company's performance and thus how the company implements the remuneration policy in practice. The guidelines are intended to take full account of the interests of shareholders, potential investors, other stakeholders and different companies, but are not aimed at a "one-size-fits-all" approach. Thus, in addition to legal and amendments to the Code, it will be necessary to prepare some novelties in Slovenian corporate practice, such as guidelines based on legal articles and draft non-binding European guidelines modeled on the Finnish Code, which is the only foreign code to include this content. Thus, it contains a series of tables that will be needed for the standardization of remuneration reporting under Article 294.b of ZGD-1. The approach to formulating guidelines is likely to be similar to the current practice in corporate governance, so that they will be prepared for public limited companies, with the reference that they are also applicable to other joint stock companies, or other capital companies, if they decide to use them with defined by society (soft law hierarchy). The guidelines are likely to provide, based on existing models, the legal basis for their applicability, the remuneration policy process itself (from the competences of the authorities, through the content (detailed description) of the policy, the remuneration policy decision-making process and the final publication process), the adoption and publication of a report following the remuneration policy. In parallel with the recommendations and guidelines of the drafters and trustees of the Slovenian Code for Public Limited Companies, the Slovenian State Holding (SSH) will probably provide its recommendations and guidelines in this area, which will most likely present more binding recommendations for remuneration policy. Although he will have to follow Article 294.a of ZGD-1, he will probably be more detailed about his expectations for what policies he will vote in general meetings in accordance with his code, which is binding on companies with majority state ownership.

5. CONCLUSIONS

Data on disclosures of remuneration of management and supervisory boards have been improving in Slovenia since the amendment to the nominal and structural disclosure of remuneration in ZGD-1C in 2009. Despite the recommendations of the Code, none of the Slovenian companies disclosed the remuneration policy, which would explain the performance criteria, set goals and their weights for calculating the variable part, thus enabling shareholders to understand how the company's results are related to the remuneration of board members. supervision). One of the reasons why the remuneration policy of management boards was not disclosed is, at least for state-owned companies, that this area has been fully regulated by the Slovenian ZPPOGD²⁰ and subsequent regulations since 2010, with rare exceptions. In the ZPPOGD, the salaries of management boards in state-owned companies remain limited. The multiple of the salary of a member of the Management Board may amount to a maximum of 3% for small companies, a maximum of 4% for medium-sized companies and a maximum of 5% for large companies, and even less in some activities, and variable remuneration up to 15% (Kravanja Novak et al., 2013) . Exceptionally, it is possible to deviate from these restrictions if the SSH General Meeting obtains the appropriate consent of the Government of the Republic of Slovenia to vote on this. In Slovenia, the largest change in the field of managers' salaries was also noticeable in the abandonment of managers' payments from profits (for tax reasons and poorer business results), but there are still no long-term incentives in the structure of management remuneration to encourage long-term sustainable business success.

²⁰ ZPPOGD - Remuneration of Managers in Companies Majority Ownership of the Republic of Slovenia and Self-governing Local Communities Act (Official Gazette of the Republic of Slovenia, No. 21/10, 8/11 - ORZPPOGD4 and 23/14 - ZDIJZ-C).

The acceptability of payments with ownership shares or rights to them is declining due to the current economic circumstances. Due to current and past non-disclosures (or limited disclosures), we also do not know whether newer reward mechanisms are in place, such as deferred bonuses, maluses and "clawback clauses". These stem from regulatory requirements in the banking and financial sectors, but have also been applied in other industries in companies and ensure that bonus payments are carried over to periods when decision results are shown: for loss-making decisions, bonuses are does not pay out, and in cases where there are changes in accounting methods and policies or errors, bonuses are claimed back (Kravanja Novak et al., 2013). Current regulations for state-owned companies limit the remuneration of management boards to such an extent that, with the constant change of management boards in the largest Slovenian state-owned companies, it is becoming difficult to recruit capable managers who would come from the private sector and take on both short-term and career-risky functions. However, we can conclude that after more than a decade of established professional criteria, which contributed to the increase in average salaries and also the reduction of high salaries, and the current legal requirements, the direction in Slovenia remains to keep the salaries of leading managers (mostly state-owned and managed by SSH). socially acceptable frameworks. A similar situation can be seen in the payments of members of supervisory boards, who were prevented from participating in profits or being paid in correlation with the company's profitability with the amendment to the ZGD-1. As a result, autonomous rules have been developed for fixed remuneration (compensation for performing the function) and compensation for loss of time (attendance fee), which should be in accordance with the responsibilities and tasks to be performed by the Supervisory Board under the law, recommendations of good practice and the Code. Due to the actual situation with the payments of members of management and supervisory bodies and executive directors on Slovenian soil (especially for companies with predominant state ownership), the transposition of the SRD II. in ZGD-1 is extremely important, especially for public joint stock companies, which in the future will have to approve the proposed remuneration policies of members of management and supervisory bodies and executive directors. stakeholders in these companies. We hope that in addition to public limited companies, a larger number of non-public joint stock companies will take advantage of their autonomy and regulate similar rules on remuneration policy and reporting in the direction of sustainable reporting and placement of the company in a socially responsible environment. In order to achieve an appropriate policy, not only will the legal basis and direct transposition of EU directives be enough, but additional regulatory efforts will be needed to develop a Code and guidelines and other bases of good practice to be competitive in the EU in terms of remuneration policy. I can also hope that after more than a decade, due to transparency in the design, implementation and publication of the remuneration of members of management and supervisory bodies, the need for restrictions by ZPPOGD for state-owned companies will disappear. Despite the actual and useful value of the introduced corporate tools for improving corporate governance and appropriate placement in the existing legal framework and competencies of individual bodies, some ambiguities should not be overlooked, which could have negative applications, especially on Slovenian soil. First of all, we would point out the non-regulation or non-classification of procurators in the concept of remuneration of procurators in public joint stock companies. If we highlight their current role and importance and some inappropriate corporate practices, of course their non-inclusion in the remuneration policy can become a problem, as following the current practice, where persons who either did not meet the conditions for appointment to the position of procurators (proxies) corporate function of management, either they did not want corporate responsibility (purely obligatory, which is milder) because their remuneration policy will be able to deviate from the adopted policy at the general meeting. Given the fact of an inconsistent understanding of the position of procurator as a proxy and by attributing managerial powers to this corporate article, there is a

great fear of circumventing the rules. Therefore, we believe that it will be necessary to place procurators autonomously within the company's rules, both in terms of remuneration policy and in terms of its reporting. In addition to the above, the placement of remuneration policy in the system of corporate law and corporate governance has somewhat neglected an important factor that can significantly affect the diversity and applicability of remuneration policy, namely the taxation of remuneration itself. Attention should be paid to various forms of taxation of income (since it is not a classic form of corporate income, nor income that is subject to personal income tax). However, benefits and their distribution and workload have a major impact on employee motivation as well as on the health of internal relationships. If employees are overburdened, these relationships can break down. (Meifert and Kesting, 2004) Comparisons with tax rates within the EU show a more comprehensive picture and place the current system in Slovenia alongside its competitive economies. Namely, taxation also has an impact on the company's balance sheet, accounting methodology and minimization of the tax burden. It is also necessary to assess the inclusion of receipts in various tax systems of comparable and competitive economies and to compare the current regulation in Slovenia after the adoption of ZGD-1K. In this part, we see considerable opportunities for improving corporate governance by using the remuneration policy tool and establishing a more competitive environment for companies, also through more appropriate tax treatment. In general, we can conclude that Slovenian corporate legislation has exemplary (following the example of comparable corporate systems) implemented the SRD II into its national legal order and thus satisfy all the various doctrinal interests and the division of competences of the bodies in society. In addition, such a tool of remuneration policy and its reporting will need to be consistently transposed and included in the Code and the preparation of guidelines, samples and other recommendations that will give companies (in addition to public limited companies) sufficient basis and potential to develop a set of adequate remuneration policies depending on the promotion of business strategy, long-term development and sustainability of the company. Taking into account additional proposals for the placement of tax-friendly treatment, the remuneration policy can also become a key tool for Slovenian companies to ensure a competitive corporate environment in the EU.

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MANAGERS COMPETENCIES IN THE CONTEXT OF DIVERSITY MANAGEMENT IN THE ERA OF GLOBALIZATION

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ABSTRACT

As globalization progresses, the international market is opening up, multinational organizations are gaining more and more influence and creating increasing competitive pressure on small and local businesses as well. Migration is increasing and clashes of different cultures, nationalities and views; people from different cultures and social backgrounds are increasingly confronted. Diversity brings better economic results, and companies around the world are acknowledging that this is their goal in bringing diversity. Companies in Slovakia will also have to employ groups of people who have so far been on the fringes of their interest. Requirements for managers and their competencies are constantly changing. As time and market evolve, the demands on manager's increase and companies and managers have to adapt to it. This process is very fast and it is not always possible to react fast enough. The personality of the manager and his competencies play a significant role in the performance of the managerial profession. In general, managers in a global environment should have global thinking, international experience, and strong technical and strategic skills. Promoting diversity at the highest level of leadership and managerial competencies focused on the diversity management is considered an important factor influencing the business performance. The aim of the research is to identify the competencies of managers in the context of management diversity in the period of globalization.

Keywords: *Competency, Diversity, Management, Manager*

1. INTRODUCTION

The economic, political, social and, ultimately, technological environment has changed significantly in both the national and international dimensions. The most significant challenges affecting current developments in the economic environment include globalization, the knowledge economy, demographic change, and, more recently, the economic and refugee crisis. All these effects also have implications for human resources management; the need for good organization in a diversity environment is increasingly resonating. The concept of management diversity originated in America in response to the need to effectively manage organizations with multicultural human capital. As globalization progresses, the international market is opening up, and multinational organizations and businesses are gaining more and more competition and putting increasing pressure on small and local businesses and organizations. As a result of computerization and automation, a quality workforce is becoming the most important and valuable asset and the demand for qualified employees are constantly growing. Businesses are doing their best to reach potential employees and are willing to devote more and more money to recruitment. Migration is increasing and there are clashes of different cultures, nationalities and views. As a result of these changes, traditional recruitment practices are no longer enough and organizations are forced to look for new, more effective solutions. Diversity management is "a systematic and planned effort by an organization to employ and retain employees with diverse backgrounds and abilities" (Bassett-Jones 2005, p. 170). Thomas (1990, p. 112) clarifies this definition and extends diversity management to a way of managing the organization that "allows each employee to reach their full potential." Diversity alone does not bring a competitive advantage. It can be as much a threat as an opportunity. The broader definition of Olsen and Martins (2012, p. 1169) therefore includes three management diversity

objectives, namely to increase the diversity of human capital; ensure that the diversity of human capital does not impede the achievement of the organisation's objectives; and ensure that the diversity of human capital contributes to the achievement of the organisation's objectives. We will therefore understand diversity management as a means of ensuring diversity, minimizing its negative aspects and maximizing its benefits. The term diversity refers to the differences between people within an organization. T. Cox Jr. (2001 p. 4) defines diversity as "variations in social and cultural identities between people living together in a defined employment or business arrangement". Other authors define diversity through attributes as real or perceived differences between people in terms of race, ethnicity, gender, age, physical and mental abilities, sexual orientation, religion, work and family position, appearance and other attributes. (Bell 2012; Bassett-Jones 2005). These attributes can be divided into those that are obvious (ethnicity, age, gender, etc.) and those that are not outwardly apparent (personality, religion, values, etc.). As these definitions show, diversity, especially cultural and ethnic, is currently supported by globalization and migration, but in other forms it has been relatively significant for some time. Diversity understood in this way can have a positive effect on the company's performance, but it can bring problems that will cause the performance to decline. The main perceived problems of diversity include reduced communication efficiency and the risk of misunderstandings, more conflicts between co-workers, lower employee loyalty, lower coherence of the work team • higher risk of discrimination, higher costs. It is also possible that a dominant group will be formed and other members of the workforce will be separated (Bassett-Jones 2005; Cox 2001). These problems are often caused by incorrect assessment of circumstances and improper implementation of management diversity, resulting in increased costs and reduced business performance. The aim of our research is to analyse the attitudes of Slovak managers to diversity management and to identify competencies in relation to diversity for business management in the future.

2. SELECTED THEORIES OF DIVERSITY MANAGEMENT

Yang Yang and Konrad (2011) distinguish two basic theoretical currents: institutional theory and resource-based theory. The difference between these theories lies in where they derive legitimacy for diversity management. Institutional theory is based on anti-discrimination policy and laws and aims to eliminate discrimination. Resource-based theory is based on the business intention to produce a profit either by reducing costs or increasing revenues.

2.1. Institutional theory

Institutional theory is historically older, and understands organization as part of the environment in which it is located and its form as a result of normative environmental influences. As competing companies located in a similar or identical environment are exposed to the same environmental influences, their internal standards will be the same, or at least similar. According to this theory of diversity, management is based on legal, social, professional cultural and ethical standards and aims to comply with these standards. Such diversity management can be called institutionalization. It is implemented using standards and regulations and its effectiveness is evaluated according to compliance with the mentioned external standards. Its real but perceived value is not evaluated. A common measure used in the application of this theory is the representation of minorities in the ranks of employees and their perception of the organization. (Yang Yang and Konrad 2011).

2.2. Resource-based theory

While institutional theory focuses on the organizational similarity of businesses, resource-based theory is based on the diversity of business performance. It is based on the view of the company as an entity consisting of various sources (physical capital, financial capital, human capital)

capital and capital resources). The company's performance then depends on the composition and use of these resources. According to resource-based theory, diversity management is a means to better obtain and use those resources. Management diversity effectiveness is judged by its impact on business performance (Yang Yang and Konrad 2011).

2.3. Multidimensional model

A new approach to this issue has brought a multidimensional model that looks at diversity management in terms of socio-psychological research focused on values and intercultural-psychological research focused on inculturation (Olsen and Martins 2012). Management diversity outcomes can then be distinguished at the individual, group, and organizational levels (Olsen and Martins, 2012). Olsen and Martins (2012) categorize values based on Rokeach's definition of values. According to this definition, value is a certain way of behaving, or end state, socially or personally more advantageous than another end state, or way of behaving. They then divide the values into instrumental and terminal. Instrumental values are understood as a means to achieve the desired end state. Terminal values are in themselves a desired end state. From this point of view, organizations can be divided into those that perceive diversity as a terminal value, as a means to achieve other goals of the organization, or as a dual value (both terminal and instrumental). This division basically corresponds to the division into institutional and resource-oriented diversity management (Yang and Konrad, 2011) but adds a combination of them.

3. COMPETENCES IN HUMAN RESOURCES MANAGEMENT

According to the latest forecasts and developments in the world, human abilities and skills are gaining momentum. The history of the concept of managerial competence is relatively young. The authors began to deal with managers and their competencies in the 1950s, and it was not until a few years later that the term competence was used for the first time. Every company can buy the latest machines, technologies or other tangible goods, of course, depending on financial possibilities. However, companies in this area differ only minimally. However, what can give a company a competitive advantage and differentiate itself from other companies is human capital. It is not available to the same extent, because no two people are the same. Getting a manager with rich experience, sufficient knowledge and skills is very challenging nowadays, because every company strives to attract the best. If a company has or trains such people, it has a high chance of being successful. It is therefore necessary to find suitable ways of training and developing managers. One can agree, however, is that it doesn't matter if the manager is a visionary, charismatic, or confident. His skills, relationships in all positions of the corporate hierarchy, experience, knowledge and his intuition are important. Management is an important part of every business and forms a specific process during which managers perform organizational, control, management and coordination functions in order to meet business goals. Managers must achieve certain results and benefit the company. However, in order to do so, they must have certain abilities. Requirements for managers and their competencies are constantly changing. As time and market evolve, the demands on manager's increase and companies and managers have to adapt to it. This process is very fast and it is not always possible to react fast enough. For this reason, many professionals try to predict trends and developments and develop theories describing the competencies that will be required of managers in the future. The development of a competent approach has been taking place especially in recent years, as companies are under increasing pressure. Competences and their application in activities have proven to be a successful factor in supporting the development of the company and their adaptation to the tensions of the environment. Thus, a competency model describes a specific combination of skills, knowledge, and other characteristics usually grouped into more homogeneous units, called competencies. (Veteška, 2008, p. 103).

It is one of the key tools for managing people in companies. It is an organized and comprehensive calculation of competencies - the ability to perform activities associated with a given position in the company (Hroník, 2006, p. 3)

3.1. Competences

Competences are the skills of managers that can be further developed, acquired, improved. This includes experience, skills and knowledge that, when used effectively, contribute to achieving business goals. Based on the competencies, it is possible to distinguish exceptional managers from average ones, therefore it is necessary to define and further develop individual managers and their competencies. Competences are perceived as "the sum of the achieved performance or human work and the brought human potential". If one thing is missing, competence as a whole is also missing. (Plamínek, 2005, p. 25) Bedrnová (2005, p. 11-12) divides the components of competencies into social competences, which are related to the social environment both at work and in personal life, and professional ones directly related to job classification.

3.2. Competence models

Competence models are created as a starting point for the identification of individual managerial competencies and are a measure of a company's success. Competencies are basically a combination of knowledge, characteristics and skills required by a company. It is one of the key tools for managing people in companies. It is an organized and comprehensive calculation of competencies - the ability to perform activities associated with a given position in the company (Hroník, 2006.; Koubek,2000). Competency models vary depending on what the company's goal is. According to Kubeš et al. (2004) three competency models can be distinguished, namely the model of central competencies, the generic competence model, the specific competence model.

3.3. Competences of the manager of the future

If a company wants a model that determines the competencies needed for all employees of the company, it will focus on creating a model of central competencies. This model contains "competencies such as cooperation, process improvement, adherence to quality standards, etc., which should be able to be demonstrated by all managers, i.e. not only a foreman who discusses with his employees how to improve the production process, but also, for example, a sales director thinking about improving strategy or trading policy. "(Kovács, 2009, p.48)" The successful manager of tomorrow will have a completely different profile, as the manager had today and yesterday. " (Prokopenko, Kubr, 1996, p.87) The present time and constant change is putting pressure on the ever-increasing level of managers, who are an integral part of economic and social events. There are great demands on management and their staffs, as the training of managers is very difficult. The ever-changing situation and rapidly changing requirements put managers in a position where it is difficult to determine a concept or standard of preparation. Managers must therefore be flexible and able to determine for themselves what is good for the company. Nevertheless, there are certain trends in the requirements for the competencies of modern managers. The theory that deals with globally competent managers is the theory by Adler and Bartholomew (1992), which identify the seven necessary managerial competencies needed for a successful global manager. In addition to explaining each competency, Adler and Bartholomew also explain the difference between a global manager and a regular international manager:

- Global overview: unlike regular managers, they understand the global business environment from a global perspective;
- Local overview: the global manager knows many cultures, with a regular manager only one,

- Synergistic knowledge: the global manager works and learns from people from different cultures simultaneously, while the regular manager works with people from other cultures separately;
- Change and adaptation: a regular manager adapts to life in only one culture, while a global manager is able to adapt to life in multiple cultures;
- Intercultural interaction: the global manager uses intercultural skills on a daily basis, with the average manager only exceptionally;
- Cooperation: the current manager follows a well-defined hierarchy based on cultural and structural dominance, the globally competent manager cooperates with foreign colleagues as peers;
- Foreign experience: the ability to develop the organization thanks to experience from abroad, in the case of a common manager often the inability to complete the assigned tasks. Spreitzer, Mahoney, and McCall (Sarges, 2013) focus on future challenges that they believe require different competencies than those required today. Spreitzer and his team identified 14 dimensions needed to train successful global managers. These are divided into:
 - Eight dimensions of end-state competencies: these include competencies such as business knowledge, risk-taking, commitment to success, sensitivity to cultural differences, courage to engage, discovering the best qualities in people, overview, honesty,
 - Six dimensions focused on learning: openness to criticism, search for learning opportunities, flexibility, use of feedback, cultural entrepreneurship, and requiring feedback. (Sarges, 2013, p.484) In addition to the above sizing, Spreitzer et al. a tool for evaluating the competence of managers by dimensions. The Prospector, as the tool is called, helps companies determine what dimension to include in manager education programs, and how managers should be selected for those programs. At the same time, Prospector recalls possible future challenges for managers who will be required to take on new competencies as requested so far. The benefit of this model is a scientific approach to determining and creating a set of competencies for the future development of managers. (Earley; Ang, 2003, p. 196) It follows that managers will need a new set of managerial competencies in the future than is currently required. As Allred, Snow and Milles (1996) have summarized, there are five categories that will be required of managers in the future, namely technical specialization based on knowledge, cross-cutting and international experience, collaborative leadership, self-management, personality traits (integrity, credibility, flexibility).

As can be seen, the characteristics of globally successful managers are always different depending on the author. Despite the fact that many, especially international companies, are aware of the need for managers with the above-mentioned qualities, there is currently a shortage of them in Europe. In addition to the view given above, there is another theory concerning the competences of Euro managers. Based on an analysis of world-class European companies, Heller identifies ten key strategies for quality European managers, namely to lead leadership, drive radical change, reshape culture, split rules, use "organization" (new approaches to central management), maintain competitive advantage, achieve constant renewal, manage "Motivators", teamwork, achieve TQM (total quality management). (Cejthamr; Dedina, 2010, p. 38) Europe is constantly uniting both politically and economically, which is also leading to new demands on managers. The role of companies is to prepare their managers for the new challenges that arise in the process of unification. It is no longer just a matter of understanding the company's goals and vision, it is also necessary to remove intercultural barriers.

4. RESEARCH RESULTS AND DISCUSSION

In our research, we focused on identifying the competencies of managers in Slovakia in the context of management diversity, based on Heller's theory. Research on Euro managers has confirmed that these managers need to be able to manage co-workers, as well as to co-operate, collaborate and lead them. Among other things, they must be able to adapt to new cultures, languages and unexpected situations, which they must be able to evaluate from several angles. They must therefore have a clear view, be flexible and constantly educate and adapt to new trends. The survey was conducted in the form of a questionnaire, which was sent to 126 selected companies in the Slovak Republic via e-mail. The questionnaire is a research (or survey), development and evaluation (especially diagnostic) tool for mass and relatively fast survey of information about knowledge, opinions or attitudes of respondents to current or potential reality through written inquiry; 105 respondents completed the questionnaire, which represents a return of 83%. The questionnaire was structured; its completion was anonymous and voluntary. The questionnaire contained 16 questions that were closed or semi-closed. The aim was to determine the sensitivity of managers in relation to the competency management approach and the diversity of management in the context of future developments. Here are the most important findings. When asked whether managers are familiar with the concept of competence and competency approach, 64 respondents answered in the affirmative, only 11 respondents answered in the negative; 26 respondents could not express themselves unequivocally. When asked whether competencies for the performance of a managerial function are set in the surveyed companies, 58% answered in the affirmative; 26% stated that the competencies are listed in part e.g. within the scope of work. 16% of respondents did not meet in companies with competencies. The research shows that managers not only perceive competencies as one-sided competences but also perceive them as abilities or knowledge and behaviour, which results from the combinations of selected answers by individual respondents. It can therefore be argued that the perception of competencies in terms of skills, knowledge and behaviour is relatively widespread among managers in Slovak companies. Thus, it was confirmed that even in practice, the determination of managerial positions to achieve the success of companies, improve the performance of employees and their more effective operation in the performance of work. Similarly, 37% of respondents answered positively to the question about knowledge of the concept and issues of management diversity; 44% stated partial knowledge and 19% of respondents are not familiar with the issue of management diversity. Only 31% of respondents perceive the requirements of management diversity in the company's practice, 57% stated a narrowing of the issue of management diversity to comply with the principles of anti-discrimination. Thus, it was confirmed that even in practice, the determination of managerial positions to achieve the success of companies, improve the performance of employees and their more effective operation in the performance of work is implemented; however, diversity management is limited. When it came to determining the required managerial competencies in the future, the intention was to find out to what extent it is important for companies to define competencies for individual positions in the future. The surprising finding was that only 36% of companies place high priority on determining the competencies needed for specific management positions in the future. Another 41% set an average priority for this activity. 16% of companies give low priority to determining competencies in the future. Almost 40% of companies give low or no priority to determining managerial competencies in the future. As a result, even though companies are aware of the importance of managerial competencies, they are more focused on the present than the future. The questionnaire also addressed the degree of lack of required managerial competencies. Answers to the question: Do you encounter a lack of required competencies (skills, knowledge, and behaviour) among managers? 42% of respondents stated that they often encountered a lack of required competencies.

When defining the degree of importance of the set competencies of managers in the future, we focused on specific competencies, which can be described as competencies of Euro managers and competencies of the future. Thus, it can be argued that the most important competencies of managers in the future are considered command of foreign languages, adaptability and flexibility, ability to make decisions, willingness to take responsibility, ability to develop leadership and maintain competence advantage, to achieve TQM. Respondents gave different answers if possible. The most frequently mentioned competencies were authority and expertise, which ranged from very important to important. Respondents also consider it important to respect cultural differences and the ability to manage people in a multicultural environment. The research also points to differences in length of practice and gender of respondents. For managers of length of experience, the most important were foreign language skills, achieving TQM, the ability to work in a team, the ability to handle information and the ability to solve problems. Managers who work shorter are more focused on modern technology, teamwork and the ability to communicate with multiple cultures. In contrast, managers with more than 15 years of experience emphasize flexibility, leadership and the ability to organize the right time and responsibilities. They also place great emphasis on leadership. It can be argued that managers with shorter lengths of experience are more oriented towards the current time and the team. Managers with longer positions in a given position tend to see strength in individuality, the ability to lead and adapt. The differences are also visible from the point of view of women and men. While for women the 5 most important competencies included problem-solving skills, foreign language skills, teamwork, personal communication and sensitivity to cultural differences, for men they were decision-making, leadership, timing management, competitive advantage and information handling. It can therefore be argued that the determination of individual competencies also depends on the personality of managers, the length of their experience, gender and thus that despite the generally determined direction given by market developments and the global situation; it is difficult to determine a specific list of managerial competencies. This can lead to a lack of necessary managerial competencies for individual managers. 81% of respondents confirmed that they face this phenomenon and constantly face a lack of required competencies in managers. From the point of view of management diversity, human resources management has a key position in the company. HRM managers working in a global environment should have a global mind-set; have an international one experience, strong technical and strategic skills. This means obtaining in particular the following general ones knowledge (Buyens, 2007):

- intercultural and interpersonal knowledge,
- ability to adopt other cultures,
- ability to establish contacts with local authorities, understand the local market, local legislative regulations,
- ability to adapt to different national cultures on an international scale,
- ability to implement the BSC method and metrics for evaluating the benefits of human resource management
- to the company's performance,
- global leadership and leadership skills for human resource management throughout the organization and in its individual branches,
- management of change management and diversity management.

5. CONCLUSION

Compared to the past, the current labour market is much more dynamic, stemming from the rapid development of new technologies, globalization and the changing nature of the economy, which is reflected in changes in skills requirements. The success of a company and its future depend to a large extent on its managers.

Competencies are needed for the successful work of managers, and in case of their lack, one of the solutions is the education of managers. Manager training can take place through various formal or informal forms of manager training. Education is a process that helps managers improve their work by gaining new knowledge and understanding, learning about the environment in which they work, not only through formal forms of education but also by learning from experience. It is therefore important for companies to be aware of the benefits that training and development of managers brings them, and especially the benefits of investing in training in the long term. Investing in manager training is often a high cost for businesses. It is clear from the results of the questionnaire that companies have problems finding Euro-managers and therefore it is necessary to put effective forms of education into practice. For training to be effective, companies need to properly analyse the competencies they want to develop, determine their level and give managers the tools to develop them and help them to implement the acquired knowledge as soon as possible after training. An area in which companies in the world differ significantly from companies in Slovakia is the training that companies provide to their employees on the topic of non-discrimination and compliance, as well as on overcoming subconscious prejudices and managing diversity in teams, and positive acceptance of differences in the workplace. Today, the need for management diversity is increasingly resonating, and properly managed diversity can bring more effective problem solving, greater flexibility, more creative and innovative solutions, competitive advantage in recruiting new employees, marketing advantage in addressing various customers. Diversity brings better economic results, and companies around the world are acknowledging that this is their goal in bringing diversity. Companies in Slovakia will also have to employ groups of people who have so far been on the fringes of their interest.

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DISPUTE RESOLUTION AND LEADERSHIP STYLES - A POSSIBLE ANALYSIS

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ABSTRACT

The purpose of this study is to examine the relationship between the leadership of business organizations to manage conflicts within their organizations and with other entities. For this reason, an exhaustive review of the literature on leadership decision-making and conflict management has been carried out, focusing on sociodemographic variables that have the greatest influence. In addition, a study of conflict management has been carried out in the community of Madrid. The aim of the study was to identify the most decisive sociodemographic variables that explain how leaders manage conflicts in the most important business nucleus in Spain. The statistical study was based on data collected on demographic variables and leadership styles in conflict management through a survey carried out in July 2019 of 394 leaders of Madrid organizations, complying with Spanish and European legislation on the protection of personal data.

Keywords: *business mediation, conflict management, leadership*

1. INTRODUCTION

Human beings are above all social beings that relate to each other, forming different types of groups to carry out multiple activities. Business organizations are not exempt from this type of relationship; moreover, it is usual for individuals in this type of entity to organize themselves hierarchically in such a way that some interrelate with others through leadership mechanisms, therefore, it is important that leaders develop an adequate role in the resolution of conflicts that are generated in organizations [1]. Furthermore, globalization has made decision-making and conflict resolution increasingly complex as new causes and types of conflicts have emerged [2,3,4]. The role of leadership, in order to resolve conflicts [5,6,7] should have a series of mechanisms that help establish what type of relationship exists between the leader and the subordinates [8]. In most cases, in companies these leadership mechanisms are usually established precisely by leaders in the way they relate to their subordinates. The importance of the topic of study lies in the fact that the leadership styles used in conflict resolution must take into account that to a greater or lesser extent any worker within an organization can be a potential leader or become a leader throughout. Therefore, it is of interest to study the incidence of sociodemographic variables in the leadership style used, the most important being gender [9,10,11] or the level of studies [2]. Many studies have been carried out on the leadership style adopted based on the demographic age variable, however, there is little research that relates age and educational level with the leadership style used in conflict resolution and the methods used. The analysis carried out of the relationship between the style of leadership adopted and the resolution of conflicts within and between organizations is also novel.

2. LITERATURE REVIEW

2.1. Leadership style when solving conflicts

Many business executives often find themselves in need of conflict resolution within their own organizations and between organizations, and they must use all their leadership skills to do so. We can define leadership as the process of influencing and motivating a group of people towards a common goal [12].

I also understand that the first responsibility of the leader is to define reality and the last is to thank his subordinates for the tasks carried out. Between these two stages the leader has to play a double role of serving and demanding [13]. In any organization, the presence of emotional tensions and conflicts of all kinds is common, and it is here that they can help them release tensions, harmonize misunderstandings and deal with disruptive behaviors [14]. However, the style with which conflicts are managed has been and continues to be measured using different classifications. One of the first conceptual outlines to classify conflict management started from the idea that conflicts must be identified and managed fairly and sensibly, for this, those who have to find solutions to conflicts must enjoy skills such as Communication, being oriented to problem solving and negotiation skills, is therefore a simple dichotomy of cooperation-competition [15]. For many scholars this dichotomy is too simplistic to reflect the complexity of individual perceptions of conflict behavior [16,17] and this led to the development of a more applied style classification [18]. Although many researchers have proposed numerous classifications, for example, it has been argued that individuals select between three or four conflict styles [19,20]; the most accepted one has been the conceptualization of [21]. These authors differentiate the styles of interpersonal conflict resolution in two basic dimensions: caring a lot about themselves and caring about others. We can say that while the first dimension explains the degree to which a person tries to solve his own problems, the second dimension tells us to what extent the individual also tries to solve the problems of others. As a result of the combination of these two dimensions, five specific styles of conflict management emerge: 1) The integrating style in conflict resolution is characterized because the individual focuses his leadership in solving the problems of oneself and others, 2) the leadership style in avoiding conflict resolution corresponds to that individual who shows a low concern for solving the problems of himself and others, 3) the obliging style implies a low involvement on the part of the leader in solving his problems, but nevertheless with a high concern for the problems of others, 4) the dominating conflict resolution leadership style is characterized by a high concern for the problems of himself and a low concern for the problems of others. and 5) the leadership style compromising in the conflicts are associated with an intermediate involvement. both in solving his own problems and those of others. As this is the classification accepted as suitable by the academic community, it is the one we have used in the conduct of our study.

2.2. Hypotheses formulation

In this paper quantitative methods will be used during testing hypotheses. The empirical study gave an opportunity to find the answer for the hypotheses.

The first hypothesis is

- H0: There is no relationship between the level of education and leadership style.
- H1: There is a relationship between the level of education and leadership style.

3. LEADERSHIP STYLE AND ITS RELATIONSHIP WITH DEMOGRAPHIC VARIABLES

Many studies have focused on analyzing the factors that determine the leadership style adopted. In this sense, [22,23] suggest that women have a more cooperative orientation towards conflict management than men, other studies show that women are more competitive [24,25] while some authors consider that the difference in conflict management is not so much in the sex of the individual as in the role of gender played [25,26,27], of In this way, they maintain that the differences in conflict management do not affect the behavior of men and women by their sex in itself, but by learned behavior patterns with masculine and feminine characteristics [28]. Psychological studies show us that men and women tend to carry out conflict management strategies according to their gender role [29]. Furthermore, many academics maintain from their studies that men tend to be more conflictive [30], aggressive [31] and competitive [23], while

women seek consensus [32,23]. Although, on the other hand, other research suggests that men avoid conflict mediation more than women (32) and when a woman avoids them it has more to do with power differences than with her gender [33,34,35]. The reason may be that many men experience anxiety in social settings, and this may explain why men are more likely to avoid conflict intervention than women [36]. So it can be said that in general there is a consistent agreement in the literature on gender differences in the style of managing conflicts, we can cite in this sense to other major works regarding whether women prefer compromising styles (37), easy-going or avoidant [38]. The question that arises next is whether there are other demographic variables that influence the way conflict is managed, and in this sense we can affirm that if based on, for example, the research that was carried out to determine if demographic characteristics affect organizational conflict where 5 questions were asked to collect information on the sex, marital status, income, education and work experience of the participants [39]. The importance of the age of leaders in taking into account the leadership style and the conflict resolution model is highlighted in the research [40], which shows how leadership patterns are changing, even existing intergenerational collisions.

4. LEADERSHIP STYLE AND CONFLICT RESOLUTION

Leaders in organizations must manage human resources and conflicts [53], their role is very important since employees are often attentive to the leadership style used in conflict management [54]. The Integrating style in management conflicts seeks the exchange of information and examines the differences to arrive at an effective solution acceptable to both parties. When leaders use an integrative style, they care as much about themselves as about others and solve problems [47]. Leaders who use an integrative style ensure that there are fewer disputes and that conflicts are short-lived in organizations [55]. The obliging style seeks to minimize differences and maximize commonalities to satisfy the concerns of the other party. It is a very suitable system when it is very difficult to find meeting points, but still the leader must make a decision. Like the integration style, it is a cooperative style, but it differs from this in that it is indirect and passive [56]. The dominating style is characterized in that leaders are more concerned with their own interests than the interests of the other party, it is very uncooperative. Managers who adopt this style tend to be ineffective in achieving their objective and tend to treat their subordinates inappropriately, which often leads to conflicts and is unlikely to comply with management directives [55]. The style of avoiding is associated with situations of withdrawal or evasion, leaders who adopt this style for conflict management are not usually concerned with themselves or with others, it is a non-cooperative and indirect style. This style has also been called non-confrontation, inaction, or withdrawal, and is often inappropriate and ineffective [57]. The compromising style is based on what you have to give to receive, which is why it starts from the principle that in all conflict situations both parties have to give in something to reach a solution acceptable to all. Available research on this style of conflict management tells us that it is a style that is perceived by organizations as moderately appropriate and effective [57].

5. DATA COLLECTION AND METHODOLOGY

5.1. Methods

The questionnaire that was asked to the leaders of the companies was carried out in July 2019, which consists of 10 questions where the topic under study is addressed. 390 questionnaires were collected and analyzed in the R statistical program where a Chi-square hypothesis test was performed in order to analyze whether there is a relationship between the form of leadership and the way to resolve conflicts within the company and with companies external. In addition, in order to obtain a previous analysis of the most relevant variables such as age or level of studies, an analysis of the variables was carried out, by contrasting the Chi-square hypothesis

and an ANOVA study. For the study of the possible independence or not between qualitative variables, the Chi-square statistical tool was used to test the hypotheses that are presented. The statistical technique ANOVA has been used to study the possible relationship between qualitative and quantitative variables. As important data, it should be noted that the survey was answered by 390 individuals, of whom 224 are men and 166 women. Analyzing the age where the most responses are grouped lies in the range of 41-50 years with a total number of 173 respondents, followed by the range 21-40 with 104 responses. In the data related to the level of studies, there are two categories that stand out from the others, 167 respondents have UNI studies and 112 HNC.

6. RESULTS

A chi-square test is a statistical test used to compare observed results with expected results. The purpose of this test is to determine if a difference between observed data and expected data is due to chance, or if it is due to a relationship between the variables you are studying. First, the relationship between the level of study and the leadership style is studied.

- H0: There is no relationship between the level of education and leadership style.
- H1: There is a relationship between the level of education and leadership style.

Table 1: Chi-square hypothesis test. Relationship between Study level and Leadership Style

Frequency	Leathership Style					X ² test	
Study Level	COMP	DOM	AVO	INTE	OBLI		
HNC	30	4	3	55	10	X ²	29.904
HS	16	1	0	32	2	df	12
M	11	4	1	20	13	P-value	0.002886
UNI	56	3	0	64	28		

The level of studies are related to the leadership style since, as the test shows, the p-value is less than 0.05. The following test analyzes the relationship between the level of study and how to resolve conflicts with other organizations.

Table 2: Chi-square hypothesis test. Relationship between Study level and Resolution of external conflicts

Frequency	Resolution of external conflicts				X ² test	
Study Level	ARB	CON	COU	MED		
HNC	9	70	10	23	X ²	39.2
HS	0	33	3	15	df	9
M	16	23	9	12	P-value	0.0000106
UNI	35	63	17	52		

As in Table 2 it is stated the p-value is lower than the level of significance, so it is concluded that there is a relationship between the variables. The following test analyzes the relationship between the level of study and the way to resolve internal conflicts.

- H0: There is no relationship between the level of studies and how to resolve internal conflicts.
- H1: There is a relationship between the level of studies and the way to resolve internal conflicts.

Table 3: Chi-square hypothesis test. Relationship between Study level and Resolution of internal conflicts

Frecuency Study Level	Resolution of internal conflicts						X ² test	
	ARB	CON	COU	MED	NEGC	NEGM	X ²	63.969
HNC	9	38	8	18	2	37	df	15
HS	0	27	2	9	0	13	P-value	0.0000
M	10	10	6	9	11	14		
UNI	20	27	21	32	9	58		

As in the case of resolving conflicts with other companies, in the case of internal conflicts there is also a relationship between the variables since the p-value is lower than the level of significance. Other variables that were put in relation to the leadership style and the way of resolving conflicts is the age variable. The ANOVA table was used for its study.

- H0: There is no relationship between age and leadership style.
- H1: There is a relationship between age and leadership style.

Table 4: Analysis of variance (ANOVA) for the parameters Leadership style and age variable

Anova	Df	Sum Sq	Mean Sq	F value	p-value
Leadership style	4	1149	287.31	3.731	0.00542***
Residuals	385	29650	77.01		

***, **, * *significant at 1 %, al 5% y al 10 %.*

In this case, since the p-value is less than 0.05 it can be concluded that there is a relationship between age and leadership style. Going deeper into the matter, two more studies are carried out.

- H0: There is no relationship between age and how to resolve conflicts with other organizations.
- H1: There is a relationship between age and how to resolve conflicts with other organizations.

Table 5: Analysis of variance (ANOVA) for the parameters how to resolve conflicts with other organizations and age variable

Anova	Df	Sum Sq	Mean Sq	F value	p-value
Resolution of External Conflicts	3	1063	354.3	4.599	0.0036***
Residuals	386	29736	77.0		

***, **, * *significant at 1 %, al 5% y al 10 %.*

As in the previous case, the p-value is less than 0.05, so it can be concluded that there is a relationship between age and how to resolve conflicts with other organizations.

- H0: There is no relationship between age and how to resolve internal conflicts.
- H1: There is a relationship between age and how to resolve internal conflicts.

Table 6: Analysis of variance (ANOVA) for the parameters how to resolve internal conflicts and age variable

Anova	Df	Sum Sq	Mean Sq	F value	p-value
Resolution of External Conflicts	5	1217	243.34	3.159	0.0083***
Residuals	384	29582	77.04		

***, **, * *significant at 1 %, al 5% y al 10 %.*

In this case, the p-value is less than 0.05, so it can be concluded that there is a relationship between age and the way to resolve internal conflicts. Once this analysis is done, the main hypotheses of the study are raised. Relationship between leadership style variable and resolution variable styles conflicts between organizations.

- H0: There is no relationship between leadership style and how to resolve conflicts between organizations (variables are independent).
- H1: There is a relationship between leadership style and how to resolve conflicts between organizations.

Table 7: Chi-square hypothesis test. Relationship between leadership style and resolution variable styles conflicts between organizations

Frecuency	Resolution variable styles conflicts between organizations				X ² test	
	ARB	CON	COU	MED	X ²	
Leadership style					X ²	28.587
COMP	18	71	12	40	df	12
DOM	5	3	0	4	P-value	0.004535
EVI	0	3	0	1		
INTE	18	91	18	44		
OBLI	19	21	9	13		

To analyze the relationship between the leadership style variables and the way to resolve conflicts between organizations, a Chi-square hypothesis test is performed. The results shown in the table offer a p-value of 0.02104, said value being less than 0.05, thus rejecting the null hypothesis, so it is concluded that there is a relationship between the variables. In turn, analyzing the table of frequencies provided, it is observed that there are frequencies much higher than others, as, for example, in the case of being an integrative leader predominates with 91 observations to resolve conflicts in a conciliatory manner, in the case of a Commitment leader two ways of resolving conflicts predominate, with 58 responses they would resolve the conflict in a conciliatory manner and 34 of them in a mediating manner. Relationship between leadership style variable and resolution variable conflict styles in the organization.

- H0: There is no relationship between leadership style and how to resolve conflicts in the organization (variables are independent).
- H1: There is a relationship between leadership style and how to resolve conflicts in the organization.

Table 8: Chi-square hypothesis test. Relationship between leadership style and resolution variable conflict styles in the organization

Frecuency	Resolution variable styles conflicts in the organization						X ² test	
Leadership style	ARB	CON	COU	MED	NEGC	NEGM	X ²	50.547
COMP	10	33	10	20	9	59	df	20
DOM	2	0	0	1	0	9	P-value	0.0000
EVI	0	2	0	1	0	1		
INTE	14	60	19	33	9	36		
OBLI	13	7	8	13	4	17		

To analyze the relationship between the leadership style variables and the way to resolve conflicts in the organization, a Chi-square hypothesis test is performed. The results shown in the table offer a p-value of 0.0000531, said value being less than 0.05, thus rejecting the null hypothesis, so it is concluded that there is a relationship between the variables. At the same time, analyzing the table of frequencies provided, it is observed that there are frequencies much higher than others, for example, in the case of being an integrating leader predominates with 60 observations to resolve conflicts in a conciliatory way following with 36 responses negotiate oneself. In the case of a leader who defines his way of leading as a commitment, he emphasizes that the way to resolve conflicts between organizations is to negotiate oneself with 50 responses.

7. CONCLUSIONS

The main motivation for this article was the possible relationship between leadership style used in conflict resolution and the preferred method of conflict resolution to resolve conflicts both internally and between organizations. For this, a survey of a set of 10 questions carried out in July 2019 was used to 394 leaders of different companies in the Community of Madrid (Spain). Based on the data obtained, an analysis based on the Chi-square test and the Anova test was carried out to contrast the relationships between different demographic variables, the leadership style used in conflict management and the method used to resolve conflicts within the organization and with other organizations. Among the most important findings, it should be noted that age and level of education are related to the leadership style used, and the method used to resolve conflicts. Likewise, we have also verified that there is a close relationship between the leadership style used for conflict resolution and the method of resolution thereof, this relationship exists both in the case of internal conflicts in organizations and between organizations. This study is of great interest because we have shown that there is a relationship between demographic variables and leadership style in conflict resolution, which in turn is related to the method of conflict resolution. This appreciation serves to predict which conflict resolution mechanisms will be the most used, being able to foresee both companies and public entities, the necessary resources and, where appropriate, estimate the necessary items to carry out the arbitration, mediation, judicial, etc. In relation to previous studies, while some researchers confirm that the sex of the individual influences when managing conflicts [38,39] We have not been able to confirm this relationship, the gender of the leader is not decisive, as other investigations have also been pointed out [25,26,27], since conflict management does not it depends both on sex itself and on learned behavior patterns [28]. As main contributions, this work includes other variables other than gender (e.g. age and educational level) and that we have not found in any study that has carried out an analysis taking them into account together. In this sense, we have only found research that relates these other demographic characteristics, but only in relation to the origin of conflicts in organizations and not to leadership [39]. Therefore, in this sense, we consider that our work supposes a contribution to the research, since we have been able to relate the leadership style in conflict resolution and the method of

conflict resolution, with age and educational level. Due to the importance of this study, we consider the need to deepen it. In this way, it would be important to extend the analysis to other geographical areas of Spain, and also to other countries of the world, which would allow comparing and determining the differences in the way of leading conflict resolution and the method used in the resolution of these.

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THE ROLE OF PERSONAL BRANDING IN CONTEMPORARY LEADERSHIP AND MANAGEMENT

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ABSTRACT

The following research encompasses areas of personal branding and marketing, and its aim is to analyse the role of personal branding responsible for the success of contemporary Croatian managers and to show how it redefined their role and manners of management and leadership. The media as we know it changes its form on a daily basis. The emergence of new types of media and social networks changes the context of communications in general. Interactivity and great communication exchange speed in digital age enable each participant in the communication process its feedback almost in real time. This is exactly why the importance of the process has never been greater, which is something that is recognised by managers and leaders today. They employ PR experts not only for enhancing their company's image but for improving their personal images and branding too. A manager and leader's image, their personal branding and communication with the media in contemporary society are becoming immensely important in their professional career, and this is equally important for the image of the organisation they are leading. The research focuses on the current role of personal public relations in contemporary leadership and management. Therefore, the main goal of the research is to investigate the role of personal public relations in contemporary leadership and management through the attitudes, opinions and experiences of 22 top managers in the Republic of Croatia. The research argues the importance of managers' personal image and ways of influencing their company's image, showing the importance of using personal public relations professionals and interest in specific knowledge and skills within the same field.

Keywords: *image, leadership, management, personal branding, public relations*

1. INTRODUCTION

Personal public relations are created by individuals who communicate with their public, while at the same time creating their image. The book "You are the Message" by the American theorist Roger Ailes (1988) explains that a person is a walking message, and the image representing them as an individual is extremely important. Whether it is a particular type of organisation, a non-profit organisation, a political institution, or a multinational corporation, that is, to a politician, a famous person or the president of the board, image is an element of decoding the message by which the organisation or person communicates to the public. Therefore, image is crucial for a high-ranking person in a corporation. High-ranking managers, even when perceived negatively by the public, are often perceived as successful due to their created image,

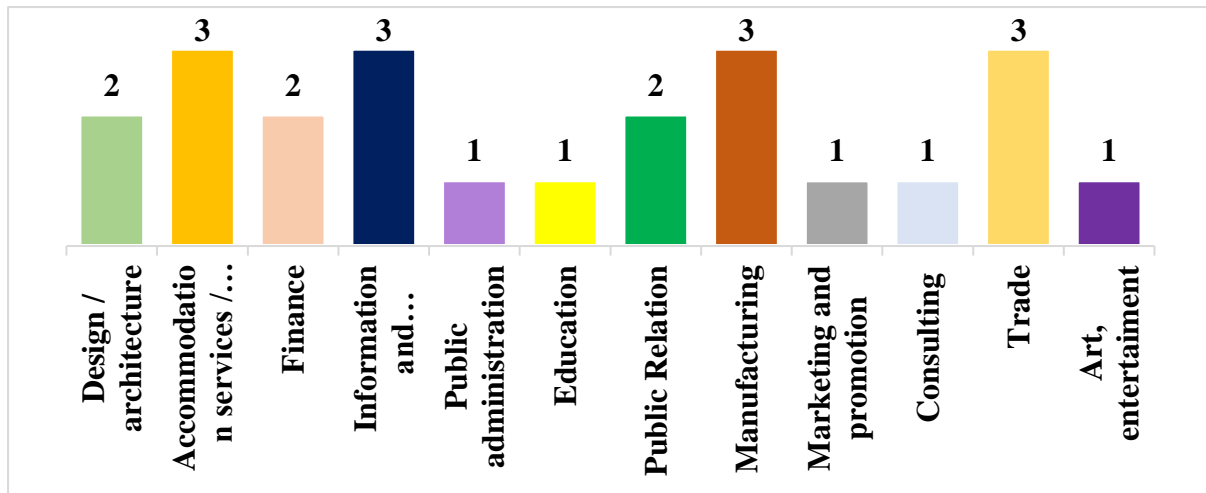
which is often the result of well-managed personal public relations, with an emphasis on strategic communication between identity and image. Unlike identity, which implies what a person is, image is a depiction of that which an individual sends to the environment, that is, the way he or she presents themselves to the public and the way the public perceives them. The right business image, according to Tomić (2016: 659), can contribute to the development of an individual's career: "Personal communication management, as a form of counselling, places special emphasis on individuals and their characters (values, abilities, weaknesses) and positions them in key markets, labour markets or public opinion". Most authors who have dealt with personal communication management believe that individuals working on their own, should view personal public relations as companies or products to be sold in the marketplace. While analysing his research, Nessmann (2009: 9-10) detected three approaches to personal communication management: branding or marketing model, reputation model, PR model. Personal communication management combines the features of all three of these models. The emphasis is on the values, strengths and weaknesses of individuals in order to better position themselves and leave the best possible impression on the public. According to Nessmann (2009), a professional approach to personal communication management must be conscious, systematic, and continuous. In personal communication management, a strategic approach is important, which includes getting to know the client and his problems, goals and vision, researching his environment and how he is perceived by the public, followed by a further analysis of the collected data, choosing a clear strategy which defines goals, target groups and messages the client wants to send, the implementation of the campaign itself, and, finally, the analysis of the implemented campaign. To be aware of our own qualities, those which provide our advantage in the business world and those which can be an obstacle in our work, is a prerequisite for getting to know ourselves and based on that any entrepreneur can take the first step towards building good personal relationships. Skoko (2011: 9) believes that good personal public relations can help us swim in the business world more aptly, be more inclined to it and sell ourselves to it more easily. Creating a personal brand leads to gaining influence and reputational power, which is reflected in the contribution to the specific field of activity, while the basic skill of brand management is intelligent and responsible use of that power (Peters, 1997).

2. THE RESULTS OF THE EMPIRICAL RESEARCH

The purpose of this paper is to examine the perception of the concept of personal public relations in the business environment from the perspective of high-ranking managers, and to point out the importance of personal public relations to achieve a better image not only of the managers but the whole community, that is, the company or corporation in which this manager acts. The research focuses on the current role of personal public relations in contemporary leadership and management. Therefore, the main goal of the research is to investigate the role of personal public relations in contemporary leadership and management through the attitudes, opinions and experiences of top managers in the Republic of Croatia. The following individual goals also emerged from our main aim: exhibiting the importance and role of personal public relations among top managers, viewing a contemporary manner of managing personal public relations in companies, studying social networks in the context of personal public relations, emphasising experience with and reason for using professionals in the field of personal public relations, explaining the importance of managers' personal image and ways of influencing their company's image, showing the importance of using personal public relations professionals and interest in specific knowledge and skills within the same field. The research was conducted using qualitative methodology, the method of semi-structured in-depth interviews. The task of the examiner was to adapt to the respondent and to lead and direct the interview based on a previously prepared guide, which contains topics and framework issues which he or she wants

to discuss with the respondent. The method provides a deeper understanding of the way a certain group of people think about a topic. The basic premise of this qualitative approach is to gather diversity of views on topics, which is fully consistent with the purpose and objectives of the research. The list of the managers' specific names and surnames was created with the help of the LinkedIn platform, in order to facilitate further communication by phone and reach a specific person within the selected company. During the telephone conversation, the respondents were explained the purpose of the research, the topics of the in-depth interview, the duration, the manner of conducting the interview, as well as the manner of processing personal data. In-depth interviews were conducted through the communications platform Zoom, in accordance with the epidemiological situation, but also in accordance with the managers' obligations (complicated coordination of live interviews). Each interview lasted for 30 minutes on average. All interviews were conducted between January 20 and March 1, 2022. For the purposes of this research, a deliberate sample of managers in the Republic of Croatia were selected without the use of quotas, but with the intention to include managers of micro, small, medium and large companies, persons of male and female sex, persons of different age groups, persons of different experience regarding the leading position in the company and persons from companies which either have or do not have a public relations department. Considering the type, size and structure, the sample cannot be considered a representative of Croatian managers. Accordingly, the purpose of the research was not to quantify and empirically generalise the results on the population of top managers in Croatia, but to gain a deeper insight and understanding of the role of personal public relations in management and the impact of the top managers' personal image on the image of the company. In the part where the results of the research are presented, the cited statements do not reveal the managers' names and the names of their companies due to personal data protection. This does not affect the results of the research, since the research is focused on content analysis of the perception of personal relations in the business environment from the perspectives of high-ranking managers. Regarding the gender characteristics of the respondents, the sample consists of 16 males and 6 females, and regarding the age of the respondents it consists of three persons aged 25 to 34, five persons aged 35 to 44, nine persons aged from 45 up to 54 and five persons aged 55 to 64. In terms of education, two people have completed secondary education and twenty people higher education. Regarding the respondents' years of experience in a leading position in the company, seven people have up to 5 years of experience, four people have 6 to 10 years of experience, six people have 11 to 15 years of experience, four people have 16 to 20 years of experience and one person has over 20 years of experience. In addition, 11 respondents come from a company which has a public relations department, while another 11 come from a company that does not have a public relations department. As for the size of the company in which the respondents work, 7 people come from a micro company, 5 people from a small company, 6 from a medium-sized company, 4 from a large company. The sample about the activities of the respondents' companies is shown in Figure 1.

Figure following on the next page



*Figure 1: Activities of the respondents' companies
 (Source: private research)*

As shown in Figure 1, with regard to the company's activities, the sample consists of two persons from the field of architecture and engineering, three from hospitality, two from finance, three from information and communication, one from public administration, one from education, one from public relations and media, three from the manufacturing industry, one from advertising, one from management consulting, three from wholesale and retail business, and one person from the arts, entertainment and recreation.

2.1. The awareness regarding the importance of personal public relations

The managers in companies which have a public relations department discover that lots of work takes place within it, even that which is not related to public relations at all. Accordingly, respondents cite the following set of jobs that in some companies fall within the category performed by the public relations department: advertising, marketing, sales, preparation of press releases, media relations, public relations focused on the brand (Brand PR), relationships product-oriented public relations (reputation PR), reputation management, market research, internal and external communications management, institution-oriented communications, personal public relations, crisis communication, social media management, event management, sponsorships, editorial work. This list shows that in practice public relations departments cover a rather wide range of activities. This insight indicates the need to question how much public relations employees time must systematically engage in public relations, let alone specific personal public relations activities. This is particularly challenging in micro companies and small companies. Personal public relations are important to managers, but behind that there seems to be no clear and visible organisational commitment of the company to it. It is not at all evident in the current organisational structures and processes, both in the companies in which the managers are employed and in other companies on the Croatian market, at least according to their knowledge. They argue the importance of personal public relations with the following theses: personal public relations have a direct impact on the overall image of the company, a financial impact, a direct impact on the success of cooperation with internal and external stakeholders, the personal image of a manager is important as a factor in attracting new employees, and good public relations usually means a good relationship with the media. The answers also show the attitude of the respondents, according to which this is certainly important for large companies which are more exposed to the media, companies which are in financial markets or export companies. They also point out that the context of micro companies and small companies is completely different, and the question is whether they should pay special attention to personal public relations and to what extent it should be improved.

The following is a series of quotes from the managers who state the importance of personal public relations from their own experience. Given below are only their statements, without any personal data:

- *"Us managers are the mirror of the company we represent."*
- *"It may not have been important a few decades ago, but it is very important today in this intertwined world. "Technologies have changed the circumstances a lot."*
- *"None of us want to be on the front page of Google in a negative context, do we?"*
- *"Investors are also looking at who is in charge of the company."*
- *"Today, there are platforms related to employment in which employees give reviews, describe their work experience within the company, interpersonal relationships in the company, tangible and intangible working conditions, and even measure how the company is managed. Employees are very sensitive to how they are treated, vertically from top to bottom."*

During the interviews, there was expressed awareness of the importance of personal public relations, especially for large companies. However, despite this, the situation is the opposite in practice, even in large companies which have the financial prerequisites to deal with it professionally. To the question "Is there a department or employee in your company who specifically deals with personal public relations (personal PR)?", the majority answered "No". The respondents believe that personal public relations activities are currently negligible in Croatian companies and, if there are any, they are fused together with the existing public relations and /or marketing activities. They state that they are primarily of a temporary nature, and not a consequence of systematic work. Personally, they don't know a company that does this continuously and systematically. They assume that individual managers, outside of their official work, undergo individual media training with the support of an external expert. Several managers who state that they have a person within the company who specifically deals with personal public relations, also point out that this person is additionally involved in other activities within the company. These people are burdened with various jobs and cannot devote themselves to the main activity properly. The following are separate statements as examples of the presented views:

- *"We have a person who deals with that, but not exclusively that. This person basically caters for all the needs of other, who are due to their work in contact with public relations."*
- *"We are too small to single out personal PR as a separate activity."*
- *"With us, everything is intertwined; public relations, marketing and sales."*

It is logical to assume that the importance of a particular business activity reflects, although not exclusively, whether the business activity of personal public relations is organised into a department, a team, or whether exists through a person specifically employed to perform these jobs. Furthermore, managers conclude that personal public relations have yet to find their affirmation as a specific public relations activity. If we recall for a moment that Croatia is mostly a country of micro and small companies (according to the criterion of the number of employees), it is realistic to expect that personal public relations, as a standard practice, will find its place under the sun within large companies possessing the required financial opportunities, but also reasons to deal with it systematically and professionally. According to the managers, when implemented in business practice, personal public relations are more the result of their personal initiatives than organisational commitment. In accordance with the synthesis of the respondents' attitudes, we identified four basic elements which describe the cause of the respondents' prevailing perception of personal public relations in the business environment: (1) lack of financing, (2) the absence of the need for special segregation or delegation of a specific person, (3) personal public relations are not a priority over the

company's existing activities, (4) so far there has not been any awareness within companies that this requires continuous work. The managers who state that there is a person in charge of personal public relations in their company, basically point out that they deal with the management of personal public relations and communication with the media. In rare cases they asked for external professional help from experts or specialised organisations.

2.2. Social networks and its potential in the context of personal public relations

Conducting the managers' personal public relations, for the most part, is about communicating through social media. In their practice, there is basically no standardised approach; there is no analysis of current circumstances, planning of target groups, creation of key messages and selection of media, or analysis of communication effects. Furthermore, almost all managers point out that they use social networks, except two separate cases who wish to remain as anonymous as possible. LinkedIn is considered a core network in the context of a business presentation, although almost all managers use several social networks at the same time. In addition to LinkedIn and Facebook, Instagram, Twitter, Tik Tok, Pinterest and Xing are also used in some cases. The stated reasons for using LinkedIn are creating a network of business contacts and creating business opportunities. They use Facebook because, as they say, it is "the largest network of users, providing the largest reach", it offers "good opportunities to target certain groups and the ability to observe the behaviour of the end users – consumers". The reason for using Twitter is the fact that it is "suitable for creating short business and private messages". Instagram is used to produce media content related to free time, that is, content which is mostly associated with private life. Although LinkedIn is said to be used mostly to create a network of contacts and business opportunities, they highlight the following additional features that LinkedIn provides as a tool: attracting employees through the employer branding process, influencing others, learning, promoting employee success, information and insight into industrial trends. The following statements from which the previous interpretation is evident are given below:

- *"Potential respondents are researching various sources in order to get better information about the future employer." I believe that sometimes the 'target' is the business profile of the company, but also the profiles of the leading people of the company. You all wanted to be perceived as a desirable employer, didn't you?"*
- *"Although the word 'influencer' has become very fashionable in Croatia, there are not many business influencers in Croatia, at least not in the way it appears in the US. There is certainly some potential here. On the other hand, my schedule is so full that I don't know when I would be able to deal with that. "*
- *"Surely, the reflection of a company's climate reflects the practice of the CEO who praises the success of his employees by naming the exact department and employee who achieved this success, or recognises successful business suppliers, etc."*

Furthermore, the research has shown that social networks are in most cases run by the managers themselves. They are not in the habit of using the services of social media management professionals when it comes to their profiles. Some also receive help from colleagues at work, while there are cases where social networks are divided into several employees in a way that each employee deals with his or her assigned social network. A kind of common denominator of the way managers specifically use social networks is convenient intuitive use, without planning long-term activities and measuring their effectiveness. According to the respondents' statements, it follows that the concept of *sometimes* is the most common description of the frequency of their activities on social networks. From their answers it can be decoded that there is no clearly expressed desire to be more present than they are, especially digitally, in the context of social networks, although they are aware that this is expected of them.

As they have pointed out several times, personal public relations are far from a trend in Croatia, and they express the need for these specific public relations activities to be elevated to a higher professional level within the company or through more or less continuous professional support from external experts or companies. They believe that a large part of managers in Croatia will have to admit that they do not know everything and that they need support in managing personal public relations inside and / or outside the company. It is expected that managers use social networks for private and business purposes. LinkedIn is used exclusively for business purposes, Twitter, Facebook and Instagram for private and business purposes, while Facebook and Instagram belong to a more private sphere of use. Furthermore, the purpose of using social networks is not unified in the workplace, so managers and their companies use it as a tool for personal communication, forming personal connections with other people, for learning and informing themselves about the industry trends, for targeted advertising, raising awareness of the company, presentation of products and services, and some even for direct sales. This is evident from the following statements:

- *"They help redirect customers to the web store."*
- *"They make it easier to reach people and make business contacts."*
- *"We use it as a means of advertising."*
- *"It allows us to have direct contact with customers."*
- *"They help strengthen our brand awareness."*

Although they are not divided about the impact of their personal image on the public perception of the company, there is a divide between managers about whether their specific profile on social networks helps to create and / or improve personal image in public. Those who believe that their profile on social networks helps to create and / or improve personal image in public argue that the majority of Croatian business world is present on social networks and that this has a significant role ("a large scope and everyone follows everything"). On the other hand, the other group of managers believes that the effects of their social profiles on the creation and / or improvement of personal image in public are very limited, or non-existent. They believe that word-of-mouth and behaviour during direct personal contact have more significant effects on creating and / or improving personal image in the public although digital platforms have a significantly greater reach. This is shown in the following statements:

- *"They don't help, image is something I have been creating for years, privately and in business. It is not influenced by social networks. "*
- *"They help insofar as they enable better visibility and recognition of what I do, but in my job, direct personal contact with people is more important."*
- *"It doesn't help me much because I rarely publish on social media."*
- *"All the networks are full of fakes and the question is to what extent do those who follow and read believe everything that is written. People and companies like to present themselves as better than they are."*

Most managers have not received any training related to the use of social networks, nor do they express a desire to improve their own knowledge or skills in this segment because they believe that this is not in their job description. They are more interested in improving their own live communication skills, as can be seen from the following statements:

- *"I'm not really interested in social media, I'm interested in speaking skills."*
- *"I have people who deal with social networks, that is not my priority. I am interested in my behaviour in the real world, the decisions I make, what and how I speak, a life without scandal..."*

- *"I think LinkedIn as a tool is quite familiar to me."*
- *"I am more interested in media relations and handling the media."*

In accordance with the synthesis of the respondents' attitudes, the research points to the fact that conducting personal public relations is characterised by a more or less passive-reactive approach, non-planning, unsystematic and partial use of opportunities in the form of networking and opening business opportunities. What is lacking, as they themselves acknowledge, are more activities which would be aimed at stakeholders, such as employees, suppliers, potential investors, etc. They do not use the full potential of social networks. Perhaps it is most accurate to say that managing personal public relations is predominantly intuitive.

2.3. The experience of hiring a professional

Some managers who have hired professionals at least once to manage personal public relations have used services from only two areas: public speaking and media relations. They had the following reasons to use the services of personal public relations professionals: (1) awareness of how the results of (large) companies are increasingly associated with the success of their leading individuals, but also their behaviour outside of working hours (2) desire to strengthen personal reputation, (3) the awareness that managers cannot be out of the public eye even if they tried, and that (4) a digital footprint leaves both positive and negative traces.

Only one manager in this sample pointed out that he does not consider his personal image in public important and that his personal image cannot change the image and perception of his company in public. All other managers think the opposite. For all of them, their personal image is inseparable from the company's image, and the relationship is strong and visible depending on the importance of the company, which is evident from the following statements:

- *"Better personal image will positively affect the company's image"*
- *"The company is experienced personally through key people."*
- *"As a manager, I make decisions and my decisions have a direct impact on the company. It is the deeds that make a person, not words. "*
- *"Since I am the owner and director of the agency, my personal image and the company's image are inseparable."*
- *"Decent behaviour and transparent governance are noticeable."*
- *"Even if you want to, you cannot separate your image from your company's image."*

Managers point out that their overall behaviour, even in private, if under public scrutiny, affects the company's image. According to them, managers embody the core values of the company, have an impact on investor confidence, on the perception of the company's innovation, the perception of organisational climate and culture, as well as the company's attractiveness as an employer. This is evident from the statements below:

- *"With the selected content I publish on social networks, including social inclusion and socially responsible business, I can more easily create a positive image of my company and gain public trust."*
- *"The way you communicate, your approach, your appearance and your public appearance often form your first opinion of the person and company you represent."*
- *"Managerial behaviour affects the confidence of potential or current investors."*

Most respondents agree that managers should use the services of personal public relations (personal PR) professionals. They argue their views in favour of hiring professionals for the following reasons: greater commitment to work and higher working standards, familiarity with the latest trends, professionalism. Many managers are mistaken in thinking they understand everything, know everything and do everything well.

Personal PRs can offer better knowledge of the media, as well as a broader perspective and impartiality, since they have a higher understanding the field of crisis communications. This is evident from the following statements:

- *"Experts guarantee not leaving image to chance."*
- *"In order to make the most of the opportunities they have for the public's perception of the company and the individual who represents the company. It is often marginalised and not given enough attention, so I think it is good to use professional services. "*
- *"We need managers, depending on how much the company they run is exposed to the public and how important it is to be visible. If it is important to them, it is logical that they manage their visibility and personal communication in the most professional way possible. "*
- *"Professionals are needed to carefully send out the company information."*
- *"Managers do not have enough knowledge and breadth, they often make mistakes and damage companies."*
"Because they specialise in that area of expertise and they certainly know how to communicate in crisis situations."
- *"The financing sector may not need it, but corporations certainly do. We don't have a culture of communication yet; assertiveness, body talk, etc. "*
- *"If the system is large enough, it's very important because a lot of people are looking at you and following you."*
- *"Personal image and company image are intertwined and it is certainly important to deal with them professionally."*
- *"Communications are becoming more complex and attention needs to be paid to that."*
- *"They are important for planning and prioritising messages."*
- *"Most managers do not know how to behave in public, so hiring experts would certainly help them."*

Some managers who express personal interest in knowledge and skills in the field of personal public relations emphasise its following areas: public speaking, social media management, interpersonal skills, strategic communication, the most common mistakes in public relations. Others have no interest in it, they think that this is an area in which their employees should be involved, or that they have nothing new to learn compared to what they already know and use.

3. CONCLUSION

Interviews with 22 managers indicate that their personal public relations are declaratively important, and they are willing to offer arguments as to why this is so. However, the current practice in their companies and their knowledge of the practices of other companies in their industries in some way denies the declared importance of personal public relations. According to them, personal relations departments, or specifically employed persons for personal public relations, are extremely rare. The managers also believe that the current use of personal public relations in Croatia is characterised by an ad hoc approach that is mostly intuitive and reactive, without planning and measuring the effects where the people who manage this activity are the managers themselves. Managers in companies which hired people specifically for public relations do many other jobs besides the one they are meant to do. The question is how much room is allowed for systematic commitment to personal public relations in these circumstances. When it comes to personal public relations, the managers emphasise that the context is not the same for large and small companies. While large companies should think about what their leaders do and say, for small companies this is still less important. They argue this with the fact that small companies are not a part of the stock exchange, they are not interesting to the media, nor are they the focus of investors.

Despite the managers' scepticism in the context of the importance of personal public relations for small companies, they point out that small companies should, however, practice personal public relations, if nothing else, to attract employees. The fact that these managers run their personal public relations themselves indicates that professionalisation and a systematic approach to the topic have yet to enter Croatian companies. They give more importance to their live words and deeds than to those on digital platforms, although they undertake a special kind of risk and even show vulnerability in the context of negative news which permanently remain in the virtual world. Younger managers are somewhat more inclined to social networks, while for the older ones it represents a kind of a challenge. LinkedIn is recognised as an optimal network in the context of presenting a business. Furthermore, of all the potentials of communication on LinkedIn, most of their activities come down to personal networking and creating business opportunities. The potential for communication with employees, promoting the success of others or the possibility of influencing others (business influencing) is largely untapped. Of course, engaging in personal public relations requires certain financial investments, which is a big problem for small businesses. Regardless of the size of a company, its leader is perceived as the embodiment of the company's values, and this should be considered. All interviewed managers are aware of this. Therefore, the issue needs to be addressed, and not left to chance or intuition. Image, as a commodity which distinguishes individuals in the market from one another, and its public positioning through marketing strategies not only needs more attention within each company, but is an area still insufficiently studied, so any further scholarly research is highly recommended.

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DISCUSSING SUSTAINABLE BUSINESS PRACTICES – THE CASE OF TOURISM SECTOR IN ALBANIA

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ABSTRACT

Sustainable economic and social development is widely affected by climate change. Apart efforts at public sector level to adapt legislation and climate national strategies, a country's success in undertaking climate change policies is strongly related to its private sector incentive in responding to the impacts and risks of climate change. This paper explores the needs for implementing sustainable business practices within the hospitality industry in Albania. The focus is placed on the tourism sector, as one of the drivers of Albanian economy, and examples of green practices within the hotel industry are provided as recommendations for implementing the sustainable business model within this industry. The paper employs a case study strategy based primarily on desk research. The discussion is led by a review of sustainability practices among the business sector and a summary of Balkan and Albania progress toward the implementation of their climate agenda.

Keywords: *sustainable business model, climate change, tourism, green hotel, Albania*

1. INTRODUCTION

Sustainable economic and social development is widely affected by climate change. Significant national and international discussions are currently taking place regarding the planning, financing and implementation of climate change adaptation. Apart efforts at public sector level to adapt legislation and climate national strategies, a country's success in undertaking climate change policies is strongly related to its private sector incentive in responding to the impacts and risks of climate change. The concept of sustainable development is closely related to the term sustainable entrepreneurship. The private sector is not immune to climate change and disaster risk. The increase of prices of raw materials, costs of maintenance and materials and even increased risk of business continuity are some of the consequences that businesses could suffer if they do not take measures to adapt to the changing climate. Therefore, business entities need to embrace sustainability practices in order to contribute to a green economy and to guarantee a healthy business activity in the long run. Such reform are directly related to the economic, social and environmental system. The aim of this paper is to explore sustainable business practices and their impact in building resilience to climate within the private sector in the Balkans and in Albania. The focus is placed to the tourism sector, as one of the drivers of Albanian economy, and examples of green practices within the hotel industry are provided as recommendations for implementing the sustainable business model within this industry. The paper is organized as follows. The first section reviews the main benefits of improving business sector practices for obtaining a sustainable business model. The second section explores the path of Western Balkan countries towards sustainability and climate resilience. The remaining sections focus on Albania and its climate agenda, by exploring the tourism industry and the need for implementing sustainable tourism practices. The paper end with recommendations on its main topics.

2. CLIMATE RESILIENCE WITHIN THE BUSINESS SECTOR

Awareness on climate change is raising among business sector. The need to respond to climate change risks is becoming more and more evident, while businesses are increasing their adaptive capacities to respond to these new risks and challenges. The direct expected impacts of climate change on business sector include increased physical risk, disrupted logistics and operations, unsure supply chain, higher costs and impacted demand and prices. In addition, indirect risks may occur including financing, reputation and regulatory aspects (Hoffman and Woody, 2008 and Agrawala et al., 2011a). Despite the increased impact foreseen among the business sector, most action related to climate change is still focused on government intervention. However, under this light, Terpstra and Ofstedahl (2013) suggest several ways that the government can engage in order to help businesses stay or enrol a sustainability path, including enrolling awareness raising campaigns, providing technical assistance, and easing financing procedures for green investments. In addition, governments can implement policies and programs that indirectly incentives climate action, such as introducing tiered water-pricing schemes, developing and enforcing climate-smart building standards, implementing climate-smart zoning regulations, or promoting public-private partnership in the environmental sector (Terpstra and Ofstedahl, 2013). Bruton (1996) has summarized six adaptation strategies that business can undertake, namely: preventing losses, tolerating losses, spreading or sharing losses, changing use or activity, changing location, and restoration. The sustainability path of business sector is often associated with the concept of Sustainable Business Models (SBM), which considers, apart from merely profit, a wide range of stakeholder interests, including environment and society. Bocken et al (2014) have introduced 8 archetypes that group different mechanisms and solutions for implementing a sustainable business model, namely: Maximise material and energy efficiency; Create value from 'waste'; Substitute with renewables and natural processes; Deliver functionality rather than ownership; Adopt a stewardship role; Encourage sufficiency; Re-purpose the business for society/environment; and Develop scale-up solutions. Measures for implementing sustainable business model practices differ among sectors. Within the transport sector for instance, technological improvement is needed and is still not sufficient to reach the emission reduction targets as set by different governments (UNEP, 2012, Bocken et al (2014). Within the tourism sector, the implementation of a sustainability model requires meeting the needs of the host population in terms of improved living standards both in the short and long term; satisfying the demands of a growing number of tourists; and safeguarding the natural environment in order to achieve both of the preceding aims (Cater, 1993). Farrell (1999) highlights the 'sustainability trinity', which aims at the smooth and transparent integration of economy, society and environment in business practices. Despite the increasingly recognized benefits of implementing a sustainable business model, companies are often reluctant to implement climate adaptation measures. This has been observed by many studies. A comprehensive study of private sector engagement in adaptation practices by the OECD, have reviewed the practices on adaptation undertaken by 16 companies in a case study approach. They found that while businesses level of awareness on climate issues was high, few companies had carried out an assessments of risks from climate change, and even fewer had implemented climate adaptation in their management practices (Agrawala et al., 2011a). The reason for this lies in the increased costs of implementing an adaptation strategy and the limited studies or practices of implementing a cost-benefit analysis when considering adaptation options especially when Global Integrated Assessment Models are discussed (Agrawala et al, 2011b).

3. SUSTAINABILITY PATH IN THE BALKAN REGION

Climate issues and sustainability targets are at the core of international discourse, and have intensified since the UN Paris Agreement in 2015. In December 2019, the EU presented the

European Green Deal, a roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all. The European Green Deal covers all sectors of the economy, notably transport, energy, agriculture, buildings, and industries such as steel, cement, ICT, textiles and chemicals (EC, 2019). While governments across EU are working towards the sustainability goals, it has become obvious that the environmental ambitions of the European Green Deal will not be achieved by acting only within the EU, as climate change and disaster risk do not know borderlines. The future sustainability will not be accomplished if all the households, business entities, private and public institutions within and beyond the EU do not act on these challenges to contribute to building back better our economies after a shock is experienced. Western Balkan (WB) countries share a similar political context, coming from a communist past, which, to various extents, continues to affect their development path. The development agendas in Western Balkan Countries call for more action toward climate resilience and sustainability. The National Strategy for Development and Integration 2015-2020 (NSDI II) is the basic strategic document of Albania that combines the European Union integration agenda with the sustainable economic and social development of the country, including the link with the Sustainable Development Objectives. The Foreign Policy Strategy of Bosnia and Herzegovina 2018-2023, adopted by the Presidency of Bosnia and Herzegovina, is the basic strategic document that focus on Bosnia and Herzegovina's contribution to the Global Sustainable Development Goals (SDGs) 2020-2030. Bosnia and Herzegovina made a commitment to adopt its own action plan and roadmap on achieving the sustainable development goals within their social, economic and ecological development-focused dimensions. Implementation of the sustainable development goals in Bosnia and Herzegovina coincides with the priorities related to its aspirations for Euro-Atlantic integrations membership. The National Strategy for Sustainable Development is the main strategy of Montenegro that follows the UN Agenda 2030. It calls for the education of future generation about the risk of degradation of natural resources and the limited availability of other resources. It outlines the responsibility towards future generations and the obligation to sustainable and mutually linked valorisation of the four groups of national resources of Montenegro. Moreover, the leaders of the Western Balkans, meeting in Sofia in 2020, at the Western Balkans Summit acknowledged the need to lay the groundwork for a major transformation of the region, which would reverse the challenges of sustainable development and climate change opportunities and would link the elements of the "European Green Agreement" with the priorities for each sector. Business sector is recognized to have a crucial role in the process. The OECD's SME Policy Index has identified that, SME greening measures and policies are now included in overall SME strategies in almost all of the WB economies, but with limited implementation. The existing SME strategies of WBC include measures related to providing advice and guidance to SMEs on improving resource efficiency (in particular energy efficiency), promoting eco-innovation and introducing financial incentives for SME greening (OECD, 2019). Despite the actions taken at policy level, the implementation of sustainability practices among the business sector in the WBC is still very low. Knez et al (2022) study revealed that the reason for this most often lies in the insufficient commitment of decision-makers to make significant changes in the field of climate change transition. They suggest that the EU must use its influence, expertise, and financial resources to mobilize its neighbours to join them on a sustainable path. This low level of commitment may be due to the low level of awareness that several entities have on issues on climate change and sustainability. A survey aiming to monitor the existing practice and gather information on the preferences of the practitioners and experts for more education, was conducted in the framework of an EU funded project in the Western Balkan Countries. The results indicated that currently the vocational education systems in the WB region do not offer much in terms of education for climate and resilience.

The respondents indicated the needs practical skills, followed by improved theoretical knowledge. Among others, the survey relieved a significant interest to take part in the future professional courses, even if under a voluntary scheme (K-force, 2017). The results of another survey conducted by Shyle (2018) in Tirana (Albania) highlight the level of knowledge and awareness that people and business have about sustainable development. The study results show low levels of knowledge by businesses to the concepts of sustainable development and the need for further measures to improve this situation in the future.

4. RESILIENCE AND SUSTAINABILITY WITHIN THE TOURISM SECTOR: THE CASE OF ALBANIA

Based on these observations, this session aims at contributing the sustainability agenda of one of the WB countries, namely Albania, by focusing on one particular sector: tourism and hospitality. A case study research is used for achieving the purposes of the study, using the tourism and hospitality sector as the context for developing a sustainability and climate resilience set of recommendations. The next sessions will present firstly the background information on Climate and Sustainability agenda of Albania. Then the case study of tourism and hospitality sector analysis is presented based on a large set of data that was reviewed and used. A set of recommendations for enrolling a sustainability path within the tourism sector is compiled based on the data presented.

4.1. Background: Sustainability Agenda in within the tourism sector in Albania

Climate action has been set as a priority by the government in Albania. With the signing of the Paris Agreement by the Government (New York, April 22, 2016), Albania has entered a new era of acceptance of international climate policy, where all parties aim to collectively keep the increase of global temperature up to 2 ° C above the pre-industrial level. Albania as part of the Mediterranean region is considered highly vulnerable to climate change. The Mediterranean region is characterized by a high risk of suffering multiple and successive damages, due to climate change that simultaneously affects all major sectors such as tourism, agriculture, forestry, infrastructure, energy and public health. The next climate scenario for Albania predicts changes, such as increased temperatures, reduced precipitation and reduction of water resources and arable land. The most sensitive areas in Albania are the coastal ones, while the most vulnerable sectors are water resources, agriculture, energy and tourism. Albania designed the National Adaptation Plan of Albania to support the implementation of EU environment and climate legislation, aiming to strengthen cross-sectoral coordination in Albania on climate, environmental protection and development measures (Ministry of Tourism and Environment, 2019). The Albanian Government have recognized the importance of tourism as an economic growth sector. A relevant document for sustainable tourism development is the National Strategy for Sustainable Tourism Development 2019-2023 that visions Albania as a hospitable, attractive and authentic destination for sustainable development of economic, natural and social potentials of the country. However, compared to other countries in the Mediterranean regions, the development of tourism in Albania is still far from the potential represented by the natural, historical and cultural resources of the country. Infrastructure, accommodation capacities, quality of services, offers and tourist product are all factors that have somewhat hindered the sustainable and consistent development of tourism in Albania, leaving room for an uncontrolled and chaotic development that has actually kept it at the bottom of this industry, but still risking its viability in the long-term. In addition, the Law no. 107/2014 "On Planning and Territorial development" and the General National Territorial Plan for Albania (2015-2030) deal with sustainable territorial development through the rational use of land and natural resources and current and future potentials for development of the territory in the national and local level, based on the balance of natural, economic and human needs and public and private interests.

Despite the existence of the general policy framework for the tourism sector, the sustainable tourism practices and action that should be undertaken by business sector are not articulated in the above-mentioned Documents. Finally, the National Energy Strategy 2018–2030 addresses some possible measures to increase energy efficiency, under the Energy Efficiency scenario and reduce Greenhouse Gas emissions, related to the sustainable tourism actions, such as:

- Road maintenance through cooperation of the public and private sector;
- Construction of new tourist ports, equipped with the necessary infrastructure and modern logistics for this purpose;
- Reconstruction of existing poor quality roads and construction of new roads
- Promotion of investments based on public-private partnership for local tourism purpose

4.2. Implementing sustainable tourism practices in Albania

Tourism is one of the leading growth sectors of the global economy, bringing in billions of dollars annually in developing countries and transporting millions of people internationally. However, the tourism industry's growth through the years has created an increasing amount of stress on the environment (Alexander, 2002; Pinto et al, 2016). Tourism has been recognized as one of the driving forces of Albania's economy - providing jobs and income to thousands of families. The sector has experienced a constant growth since 1990 (MTE, 2019), with a few bad years, however this growth has disregarded environmental aspects. Travel and tourism affect all sectors of Albania's economy, stimulating the growth of small and medium-sized enterprises in other sectors – creating more jobs and income along the way. Albania has shown progress in the path toward promoting and developing the tourism sector, as well as sustainable practices within it. However, still the sector is faced with many challenges and the achievement of sustainability seems far along the way. Despite the higher efforts of the last year to monitor and orient tourism development towards sustainability, much damage created during the first two decade after the fall of communism is irreversible. Taking into account the sustainability goals of the sector, some recommendations for achieving sustainable tourism development in Albania are outlined in the next session. These recommendations are widely based on international practices and scientific literature in the field of sustainable entrepreneurship and sustainable tourism.

4.2.1. Development of inter-sectoral strategies

Sectorial strategies are inadequate to capturing all the dimensions for achieving sustainable tourism development. Collaboration between institutions of different profiles is essential in drafting and implementing a strategy for tourism. Inter-sectorial cooperation and policy development has higher potential of capturing and achieving sustainability goals.

4.2.2. Development of specific sustainable tourism sectors

Ecotourism, alternative tourism, responsible tourism, soft tourism, low-impact tourism, community tourism, and so on, are dimensions of tourism whose potential should be assessed and promoted in Albania. Promoting these practices of tourism has also the advantage of creating a better image of the country, as ecotourism practices attract tourists. Many practices and incentives given by the government have primary focus on mass tourism, rather than sustainable tourism (VAT reduction, tax exemption). Therefore, fiscal incentives should be extended to the promotion of softer forms of tourism. Ecotourism practices can in addition be used as a marketing tool or tactic to give businesses a competition advantage.

4.2.3. Develop sustainable tourism services and products

Tourism requires three levels of resources: the attractions for tourists, including natural, cultural and purpose-built; the infrastructure and superstructure, to support tourist activities; and the

physical and social settings, including the hospitality of the community (Liu, 2003). Sustainability practices should be included into hospitality premises. As environmental problems are becoming bigger, and public policies are asking for improvements in every sector considering environmental issues, tourism sector has responded to the challenges. Today many tourism facilities are becoming greener. This can be achieved by making more efficient use of energy, water, materials and services. "Greening" should include the building phase of a facility, as well as the everyday activities and processes. Indeed, the processes are those, which give the major contribution in the environmental friendly approach of a company. Moreover, greener activities lead to lower costs and liabilities, higher return and low-risk investments, increased profits, and positive cash flows (Alexander, 2002). To achieve these goals, eco-hotels should meet the below requirements:

- Ecological sustainability
- Contribution towards conserving the environment
- Training programs which help employees to understand the importance of conserving environment
- Economic return promise to the local community.

A strong stakeholder collaboration is crucial in this regard. In particular, tour operators, travel agents and national tourism organizations are essential entities in developing and promoting sustainable tourism products and touristic destination.

4.2.4. Enhance a pro-active involvement of tourism stakeholders

Sustainable tourism development requires simultaneously meeting the needs of the tourists, the tourist businesses, the host community and the needs for environmental protection. The effective planning and implementation of collaboration and partnerships among various stakeholders in the process of tourism development is thus required. There is no data on the degree of involvement of stakeholders in the process of strategic development of the sector. In less developed countries in particular, the local community strives to benefit from tourism development, but are often faced with the inability to participate in the development process (Liu, 2003). A greater level of local involvement in the planning and development of tourism is an essential prerequisite of sustainable tourism. Another reason why the local community should be involved in the policy development process is that it is part of the "Tourism Product". The locals are those who interact with tourist and their attitudes and behavior constitute the 'hospitality' resource of a destination (Smith, 1994). The more that local residents gain from tourism, the more they will be motivated to protect the area's natural and cultural heritage and support tourism activities. By integrating and reconciling these needs and concerns, an improved quality of life can be achieved for the community, while the tourists gain satisfactory experiences, the tourism industry makes a fair profit and the environment is protected for continuous future use (Liu, 2003).

4.2.5. Introducing the concept of demand management

Demand management refers to finding enough tourists to fill capacities. It is often deemed more critical than resource management since tourist demand usually fluctuates more frequently than tourist resources (Liu, 2003). Demand management is important in achieving the sustainable management of tourism resources and the environment. Such concept is not integrated in policy development in Albania. However, working upon it, can make tourism strategies more tangible and practical.

4.2.6. Identify and assess the carrying capacity of the sector

The weakest components (the bottleneck) of the industry defines the maximum potential tourism capacity of a destination. Infrastructure and amenities determine the actual or effective tourism (carrying) capacity while agency and administration normally set the level of the realized capacity in a given period of time. As addressed previously, supporting infrastructure for tourism activities is very problematic in Albania. However, the carrying capacity include much more aspects - physical, ecological, psychological, social and economic (Liu, 2003). Each of these carrying capacities has different thresholds and different implications for tourism development. Physical carrying capacity refers to the maximum number of tourists a site or destination can physically accommodate, based on the minimum space a tourist needs, say a couple of square metres on a crowded beach. Ecological carrying capacity is related to the impacts of tourism on the natural environment and the long-term viability of the natural resources. Psychological carrying capacity is concerned with the perception and satisfaction of tourists, which varies across different types of tourists, holidays and destinations. Social carrying capacity involves the sociocultural impacts of tourism that will influence the attitude of the local community towards tourism. Economic carrying capacity has strong connections with the profitability and opportunity costs of tourism development. Therefore, the careful assessment of the carrying capacity under the challenges of achieving sustainable tourism development is essential. As Pasko (2016) also outlines, the calculation of carrying capacity should be done once the development model of a tourist destination is defined. A more specific approach adapted to the principal characteristics of the environment and types of tourism that could develop successfully is needed, in order to address the problems of sensitive coastal ecosystems, specific environmental climate, great wealth of cultural heritage, specific tradition and behaviour of the local population, etc.

4.2.7. Awareness raising for sustainable business model practices

Incentives, activities, programs and campaigns for awareness raising and educational purposes are extremely important in order to implement any of the strategies and above listed recommendations for the achievement of sustainable tourism. It is through education and knowledge that the interconnection between the tourism, environment and economic development can be captured and actions toward the achievement of sustainable tourism goals be embraced by businesses, local communities, and government units. Improving climate literacy among entrepreneurs of the sector can be achieved through thorough awareness raising campaigns. Topics such as energy savings, recycling, sustainable cleaning and maintenance processes, sustainable resources use are rarely, if not never, mentioned within the hospitality sector. Tourist accommodations can have large, expensive energy requirements, especially for space heating and cooling systems. However, there are many options for conserving energy. Strategies from designing for solar heating, to something as simple as providing good insulation, can help reduce or eliminate the need for costly heating and cooling. As for recycling a hotel can begin its green hotel process by something as simple as setting out recycling bins, to converting brochures, flyers and menus into .pdf format and making them available online, reducing this way the use of paper. Chemical products, especially those used for cleaning, cause much damage to the environment. Cleaning is especially intensive in hotels and touristic residences. Therefore, any initiative for reducing or replacing their use with ecological products contributes in the environmental improvement of activities. Water-efficient practices use improved technologies that deliver equal or better service using less water. Water conservation encourages hotels to better manage how and when water is being used, addressing both the technical and human side of water management issues. Using local and seasonal products is another contribution to the environmental industry from the sector (Alexander, 2002; Holladay, 2018).

These practices are rarely implemented within the sector in Albania. A survey 105 actors within the hospitality sector developed by Gaspari (2015) on sustainability practices in the South Albania found that the most used sustainable tourism practices involved energy savings, while waste management was the most disregarded. Being green is always an evolving process. Many ideas are developed in order to act green and to create a green image. Promotions of sustainable transport among the employees and guests, as well as training and environmental education captains, are well known actions in environmental behaviour. Nevertheless, a very important factor in becoming green is to realize that, while some steps may be small, none are insignificant. In conclusion, some criteria that hospitality sector could check in their path towards sustainability practices include:

- Dependence on the natural environment
- Ecological sustainability
- Proven contribution to conservation
- Provision of environmental training programs
- Incorporation of cultural considerations
- Provision of an economic return to the local community

5. CONCLUSION

This paper analysed the concept of sustainable business models within the hospitality sector in Albania. It is based on the need to develop climate resilient communities within the business sector in light of the engagement of Albania in the climate goals and its sustainability agenda. A set of recommendations was drafted in relation to the implementation of a sustainable tourism sector, classified in integrated main topics or areas of improvement. The progress and awareness of business sector in such aspects is still very low, therefore much more effort is needed to implement and sustain a resilient tourism sector, able to face the challenges of climate change and embrace a sustainability agenda.

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VOLUNTARY DISCLOSURE OF CROATIAN HOTEL COMPANIES BEFORE AND DURING THE COVID CRISIS

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ABSTRACT

The aim of this paper is to determine the difference in the quality of voluntary disclosure of listed hotel companies in Croatia for the observed 2013 and 2020. It has been proven that quality reporting reduces capital costs, promotes the company and in this way the company gains the trust of investors. There are two types of disclosure that apply to listed companies, mandatory – regulated by law and voluntary – depends on the decision of management. The notion of quality of voluntary disclosure in this paper refers to the amount of voluntarily published information regarding the business of a company that helps users of this information in making correct judgments regarding the current situation and future business results. For the purposes of operationalizing the research, an aggregate measure called the transparency index was used. In this paper each voluntarily published information has equal significance, so an unweighted index was used. In accordance with the above methodology, a questionnaire of 50 questions was prepared, which includes historical data, business information, managerial analysis, business plans, non-financial and statistical information, as well as information on the management, supervisory board and shareholders. The research for the purposes of this paper was conducted on a sample of 14 hotel companies whose shares were listed on the Zagreb Stock Exchange at the end of 2013 and at the end of 2020. The difference in the quality of voluntary disclosure between 2013 and 2020 was determined by the Wilcoxon test. The results obtained by testing indicate that in 2020 voluntary disclosure is significantly better.

Keywords: *company's characteristics, financial reporting quality, voluntary disclosure*

1. INTRODUCTION

The development of technology, especially the Internet, has contributed to making business information available to all interested users. These can be current and potential investors, creditors, business partners, local community, etc. There are two types of disclosure: mandatory and voluntary. Mandatory disclosure is regulated by law. In Croatia, the disclosure of listed companies is regulated by the Croatian Financial Services Supervisory Agency Act (NN 140/05, 154/11, 12/12), the Capital Market Act (NN 65/18, 17/20, 83/21) and Accounting Act (NN 78/15, 134/15, 120/16, 16/18, 42/20, 47/20). In addition to these laws, it is important to mention the International Financial Reporting Standards (IFRS) and the Global Reporting Initiative (GRI) standards. The Accounting Act requires the application of IFRS for all large companies, for all companies whose securities are listed on the Zagreb Stock Exchange as well as for those companies that are preparing for listing on the Zagreb Stock Exchange. In addition to the above legislation, in Croatia there is an additional framework for mandatory disclosure and is determined by the legal obligations of companies to state institutions such as the Tax Administration, the Financial Agency and the Central Bureau of Statistics.

1.1. Voluntary disclosure

In addition to business information that they are obliged to publish, companies also publish business information whose publication is not prescribed by any legal act - voluntarily disclosed information. Bilić (2018: 4) defines voluntary disclosure as publishing financial and non-financial information on business results and operations that was not explicitly

requested by Croatian Financial Services Supervisory Agency (HANFA), nor is the obligation to publish them explicitly stated in the Capital Market Act. Barako (2007: 118) defines voluntary disclosure as publishing financial and non-financial information in annual reports more than prescribed by national laws and accounting standards. Demand for business information is high because investors and creditors make their decisions based on information published in financial and non-financial statements. In this way, the investment risk is reduced to an acceptable level. In addition to financial statements, many other information are analyzed, such as information on employees, managerial rewards, business risks, internal transactions, business forecasts, etc. Figure 1 shows the financial and information flow in the financing of companies. The left side shows the flow of capital to companies. There are two ways of capital flow: directly - by investing in the capital market and indirectly - through intermediaries such as banks, investment funds and insurance companies. The right side shows the flow of information from companies to capital owners. There are two ways in which information flows: directly - companies communicate with capital owners through the media and the publication of financial statements, and indirectly - through intermediaries such as financial analysts (Healy and Palepu 2001: 408).

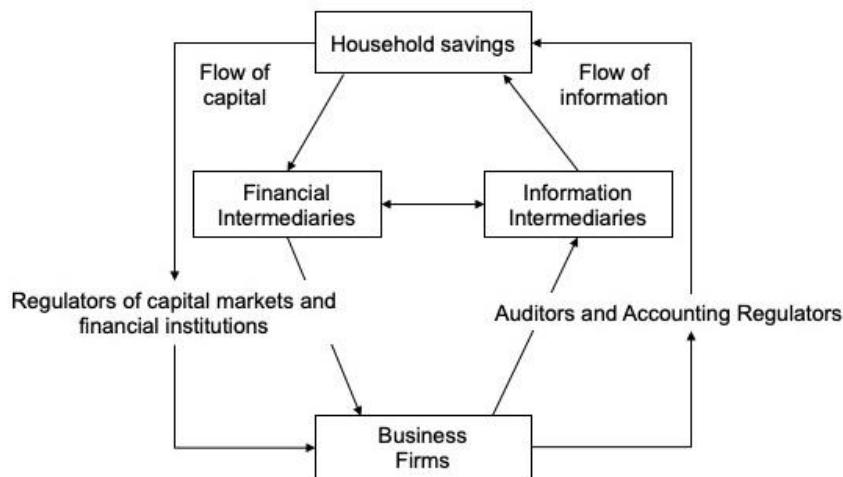


Figure 1: Financial and Information Flows in a Capital Market Economy
Source: Healy and Palepu (2001: 408)

In addition to the interests of external users, there is also the interest of companies that publish information. These can be reducing the cost of capital, increasing the liquidity of shares and promoting the company. However, the management is reluctant to publish information so that the company would not lose its position on the market. Gray et al. (1990: 602) conducted research in the USA and the United Kingdom on what managers fear most and what are the main reasons for refraining from voluntary disclosure. They singled out 10 reasons:

- loss of competitive advantage
- cost of data collection and processing
- cost of control of published information
- the possibility that they will be called out by employees and unions
- threat of takeover or merger
- cost of publication
- technical problems in data processing
- the possibility of intervention by state agencies
- the possibility that they will be called out by politicians and buyers
- the possibility of tax intervention.

Bilić (2018: 3) states that publishing information about business is a cost, but managers agree to it because they expect to benefit. In doing so, they make sure that no damage occurs to them. Managers pay the utmost caution not to divulge trade secrets or something that could put a company at a disadvantage in the market. This is the main reason for not publishing business information, especially detailed business plans. The more precise the voluntarily disclosed information, the greater the possibility of a weaker position of the company.

1.2. Quality of voluntary disclosure

It is common to use the term quality when evaluating business disclosure. Aljinović Barać and Bilić (2021: 58) define the quality of voluntary disclosure as the level of transparency, that is, the amount of voluntarily disclosed business information that help users make the right judgments about a company's history, current state and future business results. Voluntarily disclosed business information is considered to be any information published in an annual report without its publication being required by a regulation or legal act. Hopkins (1996) defined the quality of disclosure as the ease with which investors read and interpret information. Diamond and Verrecchia (1991) define the quality of disclosure as the accuracy with which investors predict the value of securities after the report is published. According to Botosan (2004), high-quality information is that which is useful to users of information for the purpose of making business decisions. Brown and Hillegeist (2007) state that quality information is provided by those companies that ensures that investors have the range of information necessary to make appropriate judgments. Quality business information ensures more elastic demand and more intense price competition (Dranove and Zhe Jin 2010: 15). The term "quality of financial statements" according to Beattie et al. (2004: 20) in financial disclosure can be defined in various ways, depending on variables of interest. Beretta and Bozzolan state that different authors have different definitions of disclosure quality, depending on their interest (shareholders, clients, suppliers, etc.). According to their understanding, high-quality disclosure is positively associated with accuracy and negatively associated with the dispersion of future profit forecasting results (Beretta and Bozzolan 2008: 1). Same authors state that high-quality information is useful to external users when evaluating a company's past and future business. Scott (2009: 65) emphasizes that highly informative reports are called transparent, accurate, or high-quality because they provide investors with a lot of useful information. The same author uses the term "quality of reporting" when he states that financial analysts rank the quality of disclosure, as well as when describing papers that dealt with the relation between quality of disclosure and cost of capital (Scott 2009: 451). Bilić (2018) states that some authors in the USA use ready-made assessments of the quality of disclosure in their empirical research (Imhoff 1992, Lang and Lundholm 1993, Welker 1995, Botosan 1997, etc.). Due to the importance of information for the capital market in the USA, there was an institution that dealt with the assessment of the quality of disclosure. AIMR - Association of Investment and Research (since 2004 the name was changed to CFA Institute - Chartered Financial Analysts Institute) had a department CIC - Corporate Information Committee (Healy et al. 1999: 490). The CIC issued annual reports in which companies were ranked according to the quality of disclosure. Those companies whose reports contained the most information, as well as those that made the most progress in the field, received awards for excellence (Sengupta 1998: 462). Considering the number of listed companies in the USA, as well as the specifics of various types of activities, each type of activity was evaluated separately. Each type of activity was evaluated by 13 analysts, specialists in the field. Given the importance of the quality of voluntarily disclosed business information, this issue has been addressed by specialized institutions.

According to Bilic (2018), the world's largest association of accountants, the American Institute of Certified Public Accountants (AICPA) issued a report in 1994 with guidelines for improving the quality and efficiency of disclosure (AICPA 1994). In this report, companies are instructed to pay attention to the following five categories:

- financial and non-financial data
- managerial analysis of financial and non-financial data
- projections of future business
- information on managers and stakeholders
- history of company.

Beretta and Bozzolan (2008) state that the Canadian Institute of Chartered Accountants (CICA) has also issued disclosure guidelines:

- vision of the company (core business and long-term business strategy)
- critical business factors
- opportunities and resources for achieving the desired results
- expected results, associated risks and opportunities should be included in the annual reports.

2. LITERATURE REVIEW

Corporate disclosure has been researched since the 1960s. According to Bilić (2018), the first research was conducted by Cerf (1961). He researched the factors influencing disclosure in annual reports. In a sample of 527 listed and unlisted companies, he researched the impact of profitability, asset size, number of shareholders, type of activity, methods of financing, stability of profit growth, stability of dividend growth and management characteristics on disclosure. He evaluated the quality of disclosure by a weighted index. The results indicated that disclosure is influenced by the size of assets, profitability and the number of shareholders. He pointed out the size of assets as the main factor. Cerf also identified shortcomings in disclosure related to depreciation and taxes. Although not all factors have been tested by statistical methods, and the use of statistical methods has been flawed, his work has attracted the attention of scientists who have continued to research corporate disclosure. Of the early researches, two should be highlighted, Singhvi and Desai (1971) and Buzby (1975). Singhvi and Desai (1971) researched the impact of asset size, number of shareholders, stock exchange quotation, type of auditor and profitability on disclosure, on a sample of 100 listed and 55 unlisted companies. Like Cerf (1961), they used a weighted index. The results indicated that disclosure is influenced by stock exchange quotations, asset size, type of auditor and profitability. As the main influencing factor they pointed out stock exchange quotation. All factors were examined by statistical methods, and unlike Cerf (1961), statistical significance was also examined. Buzby (1975) researched the impact of asset size and stock market quotation on disclosure. He used a weighted disclosure quality index, and obtained weights for the index in consultation with financial analysts. 88 companies were in the sample - 44 listed and 44 unlisted companies. The results proved that disclosure is affected by size but not by stock market quotations. Most of researches of the quality of voluntary disclosure examine the impact of certain characteristics of company on the quality of voluntary disclosure. These characteristics of the company can be the size of the company, profitability, liquidity, indebtedness, type of auditor, years of existence of the company, years of quotation etc. Bilić (2018) states that in addition to the impact of company characteristics on the quality of voluntary disclosure, the benefits that companies have from voluntary disclosure reporting are also researched. These benefits can be borrowing on more favorable terms, increased liquidity of securities on the stock exchange, increased investor interest, etc. When assessing the quality of disclosure, attention is paid to the amount of published information as well as on the content of published information. Buzby (1975) uses the term information adequacy, Wallace and Naser (1995) use the term information content,

and the terms informativeness and timeliness of information are often used. The first researches on the quality of voluntary disclosure were conducted in countries with developed capital markets. Due to the specifics of the institutional and economic organization of each country, most researches of this kind were conducted on a sample from only one country. The following is an overview of the most commonly researched characteristics.

- Company size - large companies attract the attention not only of investors but also of other stakeholders, such as local community, journalists, unions and state administration. So it can be said that large companies are exposed to increased disclosure requirements. The influence of company size on the quality of voluntary disclosure was researched already in the first research (Cerf 1961). In addition, the positive impact of company size on the quality of voluntary disclosure has been proven by Singvi and Desai (1971), Buzby (1975), Firth (1979), McNelly et al. (1982), Cooke (1992), Lang and Lundholm (1993), Wallace et al. (1994), Owusu-Ansah (1998), Depoers (2000), Pervan (2006), Agca and Onder (2007), Barako (2007), Li and Zhao (2011), Aljinović Barać et al. (2014) and Bilić (2018).
- Quotation on the stock exchange - scientists who have researched the impact of quotation on the stock exchange on the quality of voluntary disclosure state that listed companies are in some way forced to publish more information about their business. The positive impact of quotation on the stock exchange on the quality of voluntary disclosure has been proven by Singvi and Desai (1971), Firth (1979), Cooke (1992), Inchausti (1997), Entwistle (1999), Glaum and Street (2003) and Aljinović Barać et al. (2014).
- Type of auditor - Scott (2009) points out that the audit reports of the Big Four must be of high quality because otherwise they have more to lose. This means that the Big Four operate all over the world and make high profits. Any significant omission in one country would affect negatively on their business in other countries. Lee et al. (2003) point out that large audit firms are a signal to the market that disclosed business information are accurate. Other authors who have studied the impact of the type of auditor on the quality of voluntary disclosure state that large auditors do not fail to state everything that is important in financial statements and thus put pressure on management to further explain what is stated in the audit report. The positive impact of large auditors on the quality of voluntary disclosure has been proven by Craswel and Taylor (1992), Inchausti (1997), Naser et al. (2002), Clarkson et al. (2003), Agca and Onder (2007), Barako (2007), Li and Zhao (2011), Pervan and Bartulović (2012) and Bilić (2016).
- Type of activity - according to Owusu-Ansah (1998) the intensity of legislation varies among activities, which also affects voluntary disclosure. Bilić (2016) states that various activities not have the same amount of information to publish. In addition to these two authors, the difference in the quality of voluntary disclosure with regard to the activity was also proven by Cooke (1989), Wallace and Naser (1995), Entwistle (1999), Barako (2007), Bartulović and Pervan (2014) and Aljinović Barać et al. . (2014).
- Cost of capital - Diamond and Verrechia (1991) conducted a study in which they proved that increased disclosure of business information reduces information asymmetry, which leads to increased interest of large investors and to a reduction in the cost of capital. The same conclusion was reached by Lang and Lundholm (1996), Botosan (1997), Sengupta (1998), Botosan (2006) and Francis et al. (2008).
- Profitability - already in the first research of its kind Cerf (1961) proved the positive impact of profitability on the quality of voluntary disclosure. Companies that operate profitably with high quality disclosure about their business raise the value of their securities as well as their liquidity in the capital market. The positive impact of profitability on the quality of voluntary disclosure has also been proven by Singvi and Desai (1971), Ali et al. (2004), Agca and Onder (2007), Pervan (2006), Francis et al. (2008) and Bilić (2018).

In addition to the above characteristics, researches also take into account other characteristics such as the number of shareholders, the turnover of securities on the stock exchange, the number of years of quotation on the stock exchange, etc.

3. SAMPLE SELECTION, RESEARCH METHODOLOGY

On 31.12.2020. 21 hotel companies were listed on the Zagreb Stock Exchange. 14 of them were selected for the research sample. The sample was selected on the basis of two criteria: that the same companies were listed on the Zagreb Stock Exchange on 31.12.2013. and that the share code has not changed. In accordance with the previously explained concept of the quality of voluntary disclosure, for the purposes of operationalization of the research, an aggregate measure called the transparency index was used. In this paper, any voluntarily published business information is of equal importance, so an unweighted index was used. In accordance with the above methodology, a questionnaire of 50 questions was prepared, which includes historical data, business information, managerial analysis, business plans, non-financial and statistical information, as well as information on the management, supervisory board and shareholders. Each published information amounts to 0.02 points, so that the maximum value of the questionnaire is 1 and the minimum value of the questionnaire is 0. The questionnaire was completed on the basis of data disclosed in the annual report. Although listed companies disclose other reports, the annual report is considered to be the most important and comprehensive report about business of listed companies.

The difference in the quality of voluntary disclosure between 2013 and 2020 was determined by the Wilcoxon test. Since this is a single sample with two repeated measurements, the one sample Wilcoxon test was applied.

Research hypothesis H1 states: the quality of voluntary reporting of listed hotel companies in Croatia in 2020 has significantly improved compared to 2013.

4. RESULTS

Figure 2 presents the descriptive data of the sample related to the measurement for 2013 and for 2020. It is obvious that the data for 2020 are better. The mean increased from 0.2014 to 0.4214; the maximum increased from 0.34 to 0.70 and the median increased from 0.2200 to 0.4100.

		Indices 2013.	Indices 2020.
N		14	14
Mean		,2014	,4214
Std. Deviation		,10212	,16815
Minimum		,00	,00
Maximum		,34	,70
Percentiles	25th	,1350	,3500
	50th (Median)	,2200	,4100
	75th	,2800	,5100

Figure 2: Descriptive Statistics
 (Source: Author's work)

Figure 3 graphically presents data from descriptive statistics. If one outlier with a value of 0 is excluded from 2020, it can be seen that the minimum for 2020 is just slightly less than the maximum for 2013 (the maximum for 2013 is 0.34, and if the outlier with a value of 0 is excluded from 2020, the minimum for 2020 is 0.32).

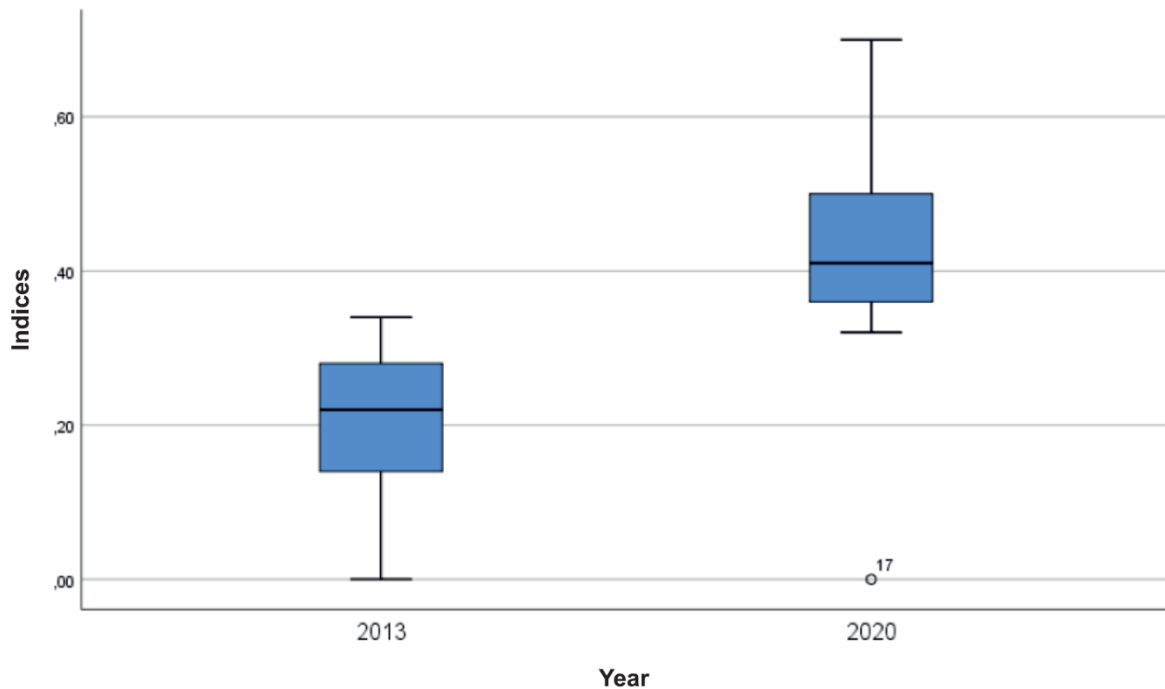


Figure 3: Graphical presentation of descriptive statistics
 (Source: Author's work)

Figure 4 presents the ranks for the first and second measurements. One negative rank was recorded (the value of the indicator on the second test was lower than on the first test) and thirteen positive ranks (the value of the indicator on the second test was higher than the value of the indicator on the first test).

		N	Mean Rank	Sum of Ranks
Indices 2020. - Indices 2013.	Negative Ranks	1 ^a	3,50	3,50
	Positive Ranks	13 ^b	7,81	101,50
	Ties	0 ^c		
	Total	14		

a. Indices 2020. < Indices 2013.; b. Indices 2020. > Indices 2013.;
 c. Indices 2020. = Indices 2013.

Figure 4: Ranks
 (Source: Author's work)

Figure 5 presents the significance of the test, less than 0.05 for the observed outcomes which means that a statistically significant difference was found between the first and second measurements.

	Indices 2020. - Indices 2013.
Z	-3,078 ^b
Asymp. Sig. (2-tailed)	,002
Exact Sig. (2-tailed)	,001
Exact Sig. (1-tailed)	,000
Point Probability	,000

a. Wilcoxon Signed Rank Test; b. Based on negative ranks

Figure 5: Test Statistics^a
 (Source: Author's work)

5. CONCLUSION

The aim of this paper was to determine the difference in the quality of voluntary disclosure of listed hotel companies on the Zagreb Stock Exchange in the two observed years, 2013 and 2020. In addition, a comprehensive overview of researches on the quality of voluntary disclosure is given. The results of the research present that the quality of voluntary disclosure significantly improved in 2020 compared to 2013. For companies listed on the Zagreb Stock Exchange, Bilić (2016) researched the difference in the quality of reporting between different activities for the period from 2009 to 2013 and found that companies engaged in accommodation, food preparation and food service made at least quality reports about their business. Given that tourism and thus the hotel industry is of great importance for the Croatian economy, it was expected that hotel managers realise the possibility of promotion through better reporting. The COVID-19 pandemic, which began in 2020, is an additional motive for hotel companies to report, because in this way existing and potential business partners can obtain information on the situation in hotel companies. This is in line with the findings of Sengupta (1998) who emphasizes that the importance of information grows if market uncertainty grows. Verrecchia (1983) researched the reasons why managers sometimes do not publish business information. He found that users of information interpret non-disclosure as bad news and thus lower the value of company. The quality of voluntary disclosure is greatly influenced by the legal regulation of mandatory disclosure. The higher requirements for mandatory disclosure leads to the higher quality of voluntary disclosure. In the period from 2013 to 2020, there were changes in the Capital Market Act and the Accounting Act in Croatia, which certainly contributed to increasing the quality of voluntary disclosure.

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THE ROLE OF AUDITORS' COMPETENCE IN PUBLIC EXPENDITURE MANAGEMENT - EVIDENCED BY ETHIOPIA'S MINISTRY OF FINANCE AND PROCUREMENT AND PROPERTY ADMINISTRATION AGENCY

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ABSTRACT

The general objective of the study was to assess the role of auditors' competency in public expenditure management as evidenced by the Ethiopian ministry of finance (MOF) and public procurement and property administration agency (PPPAA). The study used a mixed-methods approach to collect qualitative and quantitative data using questionnaires and document analysis. The respondents for the surveys were chosen using multistage sampling from the ministry of finance and the public procurement and property administration agency. The analysis was conducted using the SPSS and Process macro4. Andrew F. Hayes (2022) mediation analysis technique. The result revealed that auditors' competency has a significant direct effect on the mediating variable audit quality and the dependent variable public expenditure management and has a significant indirect effect through the mediating variable on public expenditure management. The study established that auditors' competency has a deterrent effect on the parties involved in the expenditure management areas to work in line with legal frameworks. The ministry and the agency should work hard to strengthen the competency of auditors through on-the-job and off-the-job training so that they can improve their public expenditure management.

Keywords: *Audit quality, competency, Public expenditure management, deterrent and mediation*

1. INTRODUCTION

The audit role has long been seen as an important aspect of government financial management, and it is increasingly being seen as a tool for enhancing government performance. Auditing is a broad term that encompasses a variety of tasks with varying goals (Diamond, 2002). The public-sector audit environment is one in which governments and other public-sector entities are accountable for the use of resources acquired through taxation and other sources in providing services to people and other beneficiaries (ISSAI, 2019). These organizations are responsible for their management, performance, and resource consumption, both for those who supply the resources and for those who rely on the services, including citizens. Public-sector auditing contributes to the creation of favorable conditions and reinforces the expectation that public-sector entities and servants will carry out their duties effectively, efficiently, ethically, and in line with existing laws and regulations. In general, public-sector auditing is the systematic process of objectively gathering and assessing data to determine if information or

actual situations meet predetermined standards. Public-sector auditing is critical because it offers information and independent and objective judgments about the stewardship and performance of public policies, programs, and operations to legislative and regulatory bodies, individuals in charge of governance, and the general public.

2. LITERATURE

2.1. Public Sector Audit

According to (Bourn, 2018), in many countries, public sector audits are a long-standing and essential component of the accountability process. It is a democratically important activity that aids in the improvement of government functioning. A public sector audit investigates the government's economy, efficiency, and effectiveness. Audit institutions are increasingly being required to defend their own operations and demonstrate their outcomes and successes, particularly after substantial programs of public administration reform have been implemented around the world. Public Sector auditing should be designed as a capable scheme that can be used for checks and balances as well as fraud detection. Such schemes should assist government auditors in uncovering corrupt activities and avoiding significant potential economic shortfalls (Assakaf, 2018). The International Standards of Supreme Audit Institutions represent the function of public sector auditing (ISSAIs). According to the ISSAI's Basic Principles of Public Sector Auditing, all audits in the public sector have the same goals, but the precise aims and outputs may vary depending on the kind of audit. However, there are four principles that govern all audits in the public sector. First, public sector auditing delivers objective, unbiased, and trustworthy information based on adequate and appropriate evidence about public institutions to all prospective consumers. Second, it promotes accountability and transparency, resulting in continual improvement and continued trust in the proper use of public funds and assets, as well as public administration performance. Third, it enhances the constitutional arrangement's efficacy of those entities. Finally, by offering knowledge, extensive analysis, and well-founded recommendations for improvement, it generates incentives for change. Public sector auditing is a key institutional structure in modern government governance, with the primary goal of monitoring, ensuring, and assessing government accountability. Public sector auditing may improve accountability and decrease abuse of authority and resources by monitoring the functioning of government power, particularly how government funds are used. Public sector auditing, according to many nations' governance standards, may play a unique role in preventing corruption. Auditors, on the one hand, are adept at spotting falsified financial reporting, making them useful in uncovering the underlying wrongdoing. On the other hand, the deterrent impact of Public sector auditing may be amplified by making audit results public and holding individual officials accountable (Lin, 2012). The value of Supreme Audit Institutions in improving public financial management and governance is well acknowledged. Supreme Audit Institutions are an important aspect of a country's financial oversight and accountability systems. They are independent state agencies that conduct external audits of public sector organizations and are thus one of the most important tasks in the formal system of financial accountability and public sector governance. (Africa Development Bank and World Bank, 2010) As a result, strengthening Supreme Audit Institutions can significantly boost government effectiveness.

2.2. Auditors' Competency

Competency refers to an individual's ability to do a job or activity correctly based on their educational level, professional experience, and the staff's commitment to continued professional development. The competence of auditors influences the effectiveness of auditing in a company. It improves the auditors' capacity to use a systematic and disciplined audit methodology to increase the efficacy of IA.

The IA office has a continual problem with poor technical staff expertise and significant employee turnover, which limits its ability to deliver effective support to management (Yismaw Dessalegn, et al. 2007).

2.3. Public sector auditors Independence

The audit role in organizations emerged from a need to seek further assurance from the executive board and senior management on the efficacy and control of operations. Designing appropriate risk management, control, and governance mechanisms is essentially the responsibility of management. Auditing arose from an executive's desire for additional assurance on the quality of these operations from a neutral and objective source. Auditing contributes to the achievement of the organization's objectives in this way, and it has subsequently been incorporated into many businesses' governance models (M.J.W. van Twist, M. van der Steen, R.W.A. de Korte and A. Nuijten, 2015). The necessity for organizational independence and impartiality, which can enable the audit activity to do work without interference from any party for the audit assignment, is another component that may contribute to a successful government audit activity. (Zulkifli.etal. 2014) internal audit independence and objectivity apply to both assurance and consulting services provided to the company. Independence and objectivity are strongly linked when the audit service is delivered free of constraints that might jeopardize objectivity and with no major quality compromises.

2.4. Public expenditure

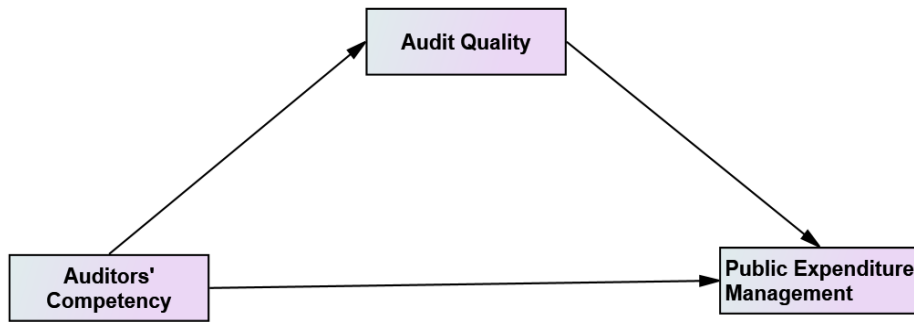
Governments, development agencies, and the general public have shown a significant increase in interest in public expenditure concerns in recent years. Governments are becoming more aware of the value of public spending as a vehicle for attaining their goals, notably in the area of poverty reduction. Over the last three decades, countries with equal revenues and growth have had quite varied effects on poverty. These disparities are due in part to inequalities in governments' abilities to allocate resources to poor-supporting initiatives. This is exacerbated by inconsistencies in the delivery of public services to the poor, particularly fundamental social services. The answer does not always rest with spending allocations; the policy and institutional framework for spending management and service delivery is frequently as important as, if not more important than, spending allocations (DFID, 2001).

2.5. Public Expenditure Management

PEM has a tendency to promote three outcomes: aggregate fiscal discipline, allocative efficiency, and operational efficiency. Aggregate fiscal discipline refers to the alignment of government spending with total receipts (domestic revenues plus a sustainable level of foreign borrowing); in other words, it implies maintaining government spending within reasonable bounds. To put it another way, don't spend more than you can afford. Allocative efficiency, on the other hand, relates to the alignment of budgetary allocations with strategic priorities: are budgetary resources going to programs and activities that advance the country's strategic goals? Is the government spending money on the "right" things, to put it another way? Finally, operational efficiency relates to the delivery of public services at a fair cost and of acceptable quality. The question is whether the country is receiving the best value for its money. The attainment of these goals is hampered by a slew of underlying issues (Campos, 2001).

Figure following on the next page

Figure 1: Simple Mediation Model



3. DATA ANALYSIS

Model: 4

Y: Public Expenditure Management

X: Auditors' competency

M: Audit Quality

Sample Size: 136

OUTCOME VARIABLE:

Audit Quality

Table 1: Model Summary

R	R-sq	MSE	F	df1	df2	p
.2596	.0674	.0795	9.6817	1	134	.0023

Table 2: Model

	coeff	se	t	p	LLCI	ULCI
Constant	2.9841	.2702	11.0440	.0000	2.4497	3.5185
Auditors' competency	.2202	.0708	3.1115	.0023	.0802	.3601

Standardized coefficients

Auditors competency .2596

OUTCOME VARIABLE:

PEM

Table 3: Model Summary

R	R-sq	MSE	F	df1	df2	p
.7743	.5996	.0171	99.5707	2	133	.0000

Table following on the next page

Table 4: Model

	coeff	se	t	p	LLCI	ULCI
Constant	1.3475	.1734	7.7719	.0000	1.0045	1.6904
Auditors' competency	.3502	.0340	10.2956	.0000	.2829	.4175
Audit Quality	.2666	.0401	6.6476	.0000	.1873	.3459

Table 5: Standardized coefficients

	coeff
Auditors' competency	.5850
Audit Quality	.3777

TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y

Table 6: Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
.4089	.0378	10.8250	.0000	.3342	.4836

Table 7: Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.3502	.0340	10.2956	.0000	.2829	.4175

Table 8: Indirect effect(s) of X on Y

Aud_Qua	Effect	BootSE	BootLLCI	BootULCI
	.0587	.0236	.0149	.1067

ANALYSIS NOTES AND ERRORS

Level of confidence for all confidence intervals in output: 95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

4. MEDIATION ANALYSIS

The study assessed the mediating role of Audit quality on the relationships between Auditors' competency and Public expenditure management. The result revealed a significant indirect effect of auditors' competency on public expenditure management (0.0587, $t=10.2956$), Supporting H1. Furthermore, the direct effect of Auditors' competency on public expenditure management in the presence of the mediator was also found significant ($b=0.3502$, $p<0.001$). Hence, Audit quality partially mediated the relationship between auditors' competency and public expenditure management. It is a complementary mediation rather than a competitive mediation since both direct and indirect effects have the same positive coefficients.

Table 9: Mediation analysis summary table

Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence Interval		t-Statistics	Conclusion
				Lower Bound	Upper Bound		
Auditor competency->Audit quality->Public expenditure management	0.4089 (0.000)	0.502 (0.000)	0.0587	.0149	0.1067	10.2956	Partial Mediation

5. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

The study established that the better the audit quality of a government organization, the better its public expenditure management. Even if there are different factors that affect the efficiency and effectiveness of government expenditure management, auditors' competency has a significant influence on the parties who are involved in the public expenditure management aspects of government activities by creating a deterrent effect to work in line with legal frameworks.

5.2. Recommendation

The Organizations should work hard to strengthen the competency of auditors through on-the-job and off-the-job training so that they can improve their public expenditure management. According to the international audit standards, auditors should get at least 40 hours of training annually so that they can perform their duties without any difficulties. The organizations should work with stakeholders to create an opportunity for the auditors to upgrade their knowledge and skills through training and development programs.

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HOW TO MEASURE THE MARKET VALUE OF A BRAND ON THE EXAMPLE OF LUXURY FASHION PRODUCTS?

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ABSTRACT

The company may consider that it has the best products on the market, with the best and fastest performance, the highest quality and the best price, but this does not necessarily mean that this product will also be the first choice of customers. What this product represents through the brand must be reflected in the minds of customers. It is the customer whose opinion determines the value of the product, and at the same time the value of the brand itself. Luxury fashion products and luxury brands are the subject of desire of many customers and their possession gives a sense of prestige, exclusivity and uniqueness. In addition to the financial value of the brand, increasing importance is attached to the market value of the brand. This paper presents Aaker's approach to measuring the market value of a brand in the segment of luxury fashion products, namely handbags. The paper sought to prove the link between the market value of selected brands and the ranking of brands on Interbrand's list of the most successful brands. The primary research was conducted using an on-line questionnaire. The research was conducted on a sample of 160 respondents who are fans of fashion, luxury products and specifically luxury handbags. The research results proved the positive connection between the market value of the observed brands and their position on the scale of the globally most successful brands.

Keywords: *Aaker's model, Brand equity, Luxury fashion brands, Market value*

1. INTRODUCTION

Luxury products are defined as goods that, in addition to their functional use, bring the owner a high position in society. They represent a status symbol and wealth, which is further emphasized by the high price. If everyone owned a certain luxury product, then it would not be luxurious, it would lose its perceived unique value (Husić, 2018). The fashion industry in the broadest sense is dedicated to the creation, production and promotion of clothing. Fashion is defined as a style of clothing with all the accessories, accepted by a group of people, in a certain period of time. It expresses individualism, image, emotions and is a combination of aesthetics, technology, art and business (McNeill and Venter, 2019; Workman and Caldwell, 2007). The global luxury goods industry has been on the rise for years, and the value of the global luxury market in 2020 was estimated at 217 billion euros (Statista, 2021). A brand represents a set of ideas, associations, perceptions and experiences that exist in customer perceptions. Marketing professionals create brand identity and promise for their customers.

This process of creating an image in the human brain is called branding, which begins with an idea derived from an actively built identity, which is actually a promise - behind which the brand stands, through signals (packaging, colors, advertising, performances, etc.) perception is created in the brain (Aaker, 2012). For a successful brand the most important thing is the perception of potential customers and how customer ranks the product of a particular brand in relation to competing products. Previous theories in marketing have focused on product characteristics such as price, quality, distribution, promotion, but although these aspects are very important, what plays a crucial role in product success today is the consumer and his perception. This paper presents different approaches to measuring market value of a brand (brand equity) as an important intangible asset of the company. In the research part of this paper Aaker's model of measuring market value of a brand is used in the segment of luxury fashion products, namely women's handbags. This paper sought to prove the link between the market value of selected luxury brands and the ranking of brands on Interbrand's list of the most successful brands.

2. DEFINITIONS OF BRAND AND BRAND EQUITY

The American Marketing Association defines a brand as "a name, term, design, symbol, or any other feature that contributes to distinguishing a sale of goods or services from different sellers" (AMA, 2021). A brand is a promise to the customer that the product is of a certain quality and value and will meet his expectations. For the provider of a product or service, the brand is a promise to provide something unique to the customer compared to what competitors provide. For the consumer, the brand means fulfilling promises and, over time, reducing risk. The brand is a guarantee that you will get exactly what you want and expect. The brand not only gives a competitive advantage, but also represents financial asset. Strengthening the brand also contributes to strengthening consumer loyalty, which leads to an increase in the value of the company. Investing in brand strengthening is necessary for the growth of every business (Aaker, 1991, p 25). There are many definitions of market value of a brand (also called brand equity). Aaker (1991, p 28) believes that a term can be defined as a: "Set of assets and liabilities related to it, along with its name and symbol, that add to or reduce the value that a product or service provides to a company and / or consumers." "Brand equity is a value based on the degree of consumer loyalty, level of awareness, perceived value, associations evoked by the brand, and other assets such as patents, trademarks and channel relationships" (Kotler et al., 2006, p 556). Advantages of higher market value of the brand include: popularity among the general population, trust/reputation, reduce advertising investment costs, presence in stores because it is desirable (penetration into distribution channels), it can easily be extended to other company products, provides protection and a way of differentiation from competitors (Aaker, 2012). A successful brand is an asset that can be sold, bought, strengthens customer loyalty and encourages customers to pay a premium price. To be successful, it must be properly positioned and occupy a certain niche in the minds of consumers (Vranešević and Marušić, 2001). Since a brand is considered an asset, it is necessary to measure its value. Measuring the value of a brand provides insight into its current and future profitability as well as market acceptance (Previšić and Došen, 2007). Business results that result from value measurement processes help companies make important decisions about investing, selling, buying, or managing human resources. Apart from the fact that this information is necessary for owners and managers, other groups such as employees, shareholders and the general public are also interested. A brand does not necessarily always have to be in full direct connection with products or services in order to achieve market value, but achieves it separately as an independent element.

3. DIFFERENT MODELS OF MEASURING BRAND MARKET VALUE (BRAND EQUITY)

There are different approaches to measure brand value, and they are most often classified into two categories. The first category is focused on the disclosure of financial indicators. In this case, we are talking about the financial value of the brand. The second evaluates the perceptions, preferences and behaviors of consumers and is called the market value of the brand (Aaker, Kumar and Day, 2008). The higher the value of the brand, the less sensitive the brand is to market changes, stronger consumer loyalty, improved public perception of brand product performance, easier acceptance of price changes, higher revenue potential, increased efficiency and marketing communication. It also gives the possibility of licensing the brand (Aaker, Kumar and Day, 2008).

The most common approaches to measuring financial value relate to the detection of:

- how much a higher price can be set for a product or service due to the brand itself,
- how much would it cost to replace an existing brand with a new one on the market,
- the estimated financial value of the brand in market shares and
- what is the possibility of future earnings from the brand.

Interbrand agency is one of the leading agencies engaged in the field of brand value research since 1988. Their approach to measuring brand value includes the analysis of the financial results of branded products, analysis of the role the brand plays in the purchase decision, and the competitive strength of the brand. Financial analysis measures the total financial return to investors or the company's profit. Profit represents the brand's operating profit after tax less the fee for capital used to generate revenue. In analyzing the role that the brand has in the decision to buy, attributes such as price, practicality or product features connected to brand are measured. Brand strength measures a brand's ability to create loyalty and thus sustainable demand and profit. The analysis of brand strength is based on an assessment of factors that Interbrand believes to represent a strong brand. The results are presented in relation to other brands in the industry and in relation to other global brands (Interbrand, 2021). On the other hand market value of a brand refers to the importance and the acceptance of brand's name. This means that a company with a brand that is accepted and can achieve higher business results than those companies with lesser-known brands. Consumers are considered to react more positively to products of well-known brands. Companies with a high market value of the brand achieve a competitive advantage and better business success (Kumar, Leone, Aaker and Day, 2018). The brand is at the heart of the business-consumer relationship and is a reflection of consumer feelings and perceptions. A successful brand has a high market value which is positive in case the consumer prefers the branded product, as opposed to the generic version of the same product. According to Keller, it is defined according to the consumer's point of view. It represents the differential effect of brand knowledge that results from consumer responses to brand marketing. This differential effect is the result of the knowledge, feelings, experiences, beliefs and thoughts (Kotler and Keller, 2011). There are different approaches to measuring market value of the brand. Each of them will be shortly explained below (Feldwick, 1996; Vranešević and Marušić, 2003).

Models of measuring the market value of the brand:

- Brand Asset Valuator
- Wunderman Brand Experience Scorecard
- Milward Brown BrandDynamics
- Aaker's model

3.1. Brand Asset Valuator (BAV)

BAV is a method of the Young & Rubicam agency with the help of which it builds brands and manages them. It is based on the largest global database of perceptions that consumers have about brands and is one of the most comprehensive research in the field. It is based on a survey of nearly 800,000 consumers in 51 countries. BAV compares brand value of over 1000 brands in more than 100 different categories.

In their research, they are guided by four key components:

- Differentiation measures the degree of diversity in which a brand differs from other brands and it is perceived as leading brand.
- Relevance measures the degree of suitability of a product or service for the consumers.
- Reliability refers to perceptions of quality and loyalty.
- Knowledge measures the familiarity of the consumers with a brand.

Brands are first measured in the above separate categories, and then all data from all categories are compared to give a complete picture of the value of the brand. The components of differentiation and importance relate to “strength of the brand”, while the other two components relate to the “reputation of the brand”.

3.2. Wunderman Brand Experience Scorecard

Wunderman developed his research as an extension to BAV measurement. The Wunderman Brand Experience Scorecard is based only on data from users of certain brands, assuming it relates to the sum of their experiences to date. Users rate their experiences through 12 different benchmarks. The research is based on data collected from 2000 to 2002 on a sample of 10,000 consumers in terms of their consumption. About 2,000 brands from 190 different industries were analyzed. This method gives a deeper look than perception and includes real experience in the process of creating and building a brand.

The method complements the Brand Asset Valuator model and introduces three new elements:

- 1) Function - Does the brand cover needs better than others?
- 2) Achievement - How beneficial are consumer interactions with the brand?
- 3) Community - To what extent do consumers identify with other users of the same brand?

The result of the research is an aggregate assessment that reflects the state of the brand in relation to all three of these criteria compared to all other researched brands, and is expressed as a percentage.

3.3. Millward Brown Brand Dynamics

Millward Brown launched Brand Dynamics TM in 1996 and soon became the leading model for measuring brand value.

An analysis of the Millward Brown database showed that the most successful brands share the following features:

- consumers feel inclined towards these brands,
- consider that these brands meet their needs,
- they are seen as unique,
- are dynamic and set trends and
- are in the first place in the minds of consumers.

According to this model, brand value is measured through the following five groups:

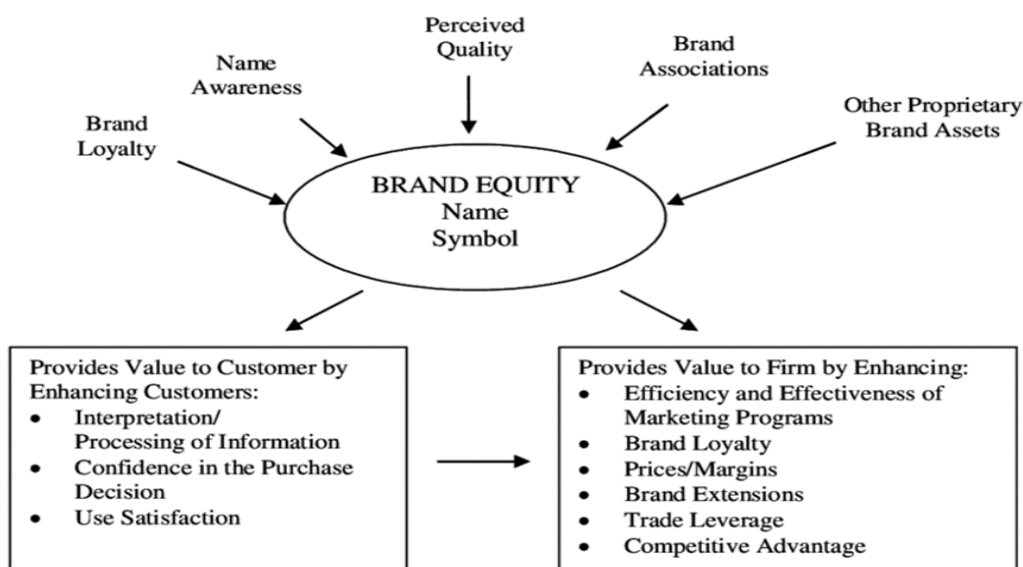
- 1) appearance - refers to knowledge based on previous experiences with the brand,
- 2) relevance - answers the question whether the product or service meets the needs of consumers,
- 3) performance - the belief that the product or service of the brand delivers the expected performance and is in the shortlist of consumers,
- 4) advantage - the belief that a brand has a rational or emotional advantage over other brands and
- 5) connectivity - represents the emotional and rational connection of the brand with consumers.

Consumers with a high degree of connectivity are more loyal to brands and more willing to spend more. The goal of marketing professionals is to bring consumers to a level of connectivity.

3.4. Aaker's model

According to Aaker (1991) market value is the set of assets and liabilities of a brand that adds or subtracts the value that a product or service gives to a company and its customers. Assets and liabilities are associated with the name and / or symbol of the brand and if they are changed, certain or all assets and liabilities could be changed or even lost, and some could be moved to a new name. This set of assets and liabilities on which value is based can be divided into five categories: (Aaker, 1991, p. 28)

- 1) brand loyalty,
- 2) brand awareness,
- 3) perceived quality,
- 4) brand-related associations in addition to expected quality and
- 5) other assets of the trademark - patents, trademarks, relationships with channels, etc.



Picture 1: Aaker's model for measuring brand equity

(Source: Aaker, A. (1991) *Managing Brand Equity*, New York: THE FREE PRESS ,p. 28, retrived 21.07.2021, from https://www.academia.edu/38495140/Managing_Brand_Equity-David_A.Aakerstr)

4. RESEARCH METHODOLOGY

The topic of the research is related to luxury fashion brands, specifically women’s designer handbags. The research compares the opinions and perceptions of customers about the following 5 luxury fashion brands of women’s handbags: Louis Vuitton, Chanel, Gucci, Dior and Yves Saint Laurent (YSL). The research goal was to measure market value (brand equity) of top five luxury brands of women’s handbags using the Aaker’s model based on four dimensions of brand equity: loyalty, awareness, perceived quality and brand-related associations. Also, this study seeks to compare the market value of chosen luxury brands to the rank order of these brands on the Interbrand’s scale. The primary research was conducted with a survey questionnaire consisting of 19 questions. The survey was conducted online (Google Forms). Convenient, judgmental sample was used targeting the population of women who love fashion and luxury handbags. The survey questionnaire was distributed through Facebook groups, whose members were lovers of fashion, luxury products and especially luxury bags. The survey was conducted on 160 respondents.

5. RESEARCH RESULTS

First analysis compare secondary data from Interbrand's web page about financial value of top luxury brands in 2018, 2019 and 2020. The second analysis (subchapter 5.2.) uses Aaker's model to measure market value of top five luxury brands of women's handbags.

5.1. Luxury brands and their value according to Interbrand

In 2018, Louis Vuitton and Gucci were among the fastest growing brands in this category. Louis Vuitton achieved an increase of 23% and Gucci 30%. Chanel entered the Interbrand rankings for the first time. Dior achieved a 14% increase in 2018.

Brand	Value in \$m			Global ranking order			Industry ranking order			Growth according to previous year		
	2020.	2019.	2018.	2020.	2019.	2018.	2020.	2019.	2018.	2020.	2019.	2018.
Louis Vuitton	31,720	32,223	28,152	17	17	18	1	1	1	-2%	+14%	+23%
Chanel	21,203	22,134	20,005	21	22	23	2	2	2	-4%	+11%	
Gucci	15,675	15,949	12,942	32	33	39	4	4	4	-2%	+23%	+30%
Dior	5,988	6,045	5,223	83	82	91	6	6	7	-1%	+16%	+14%

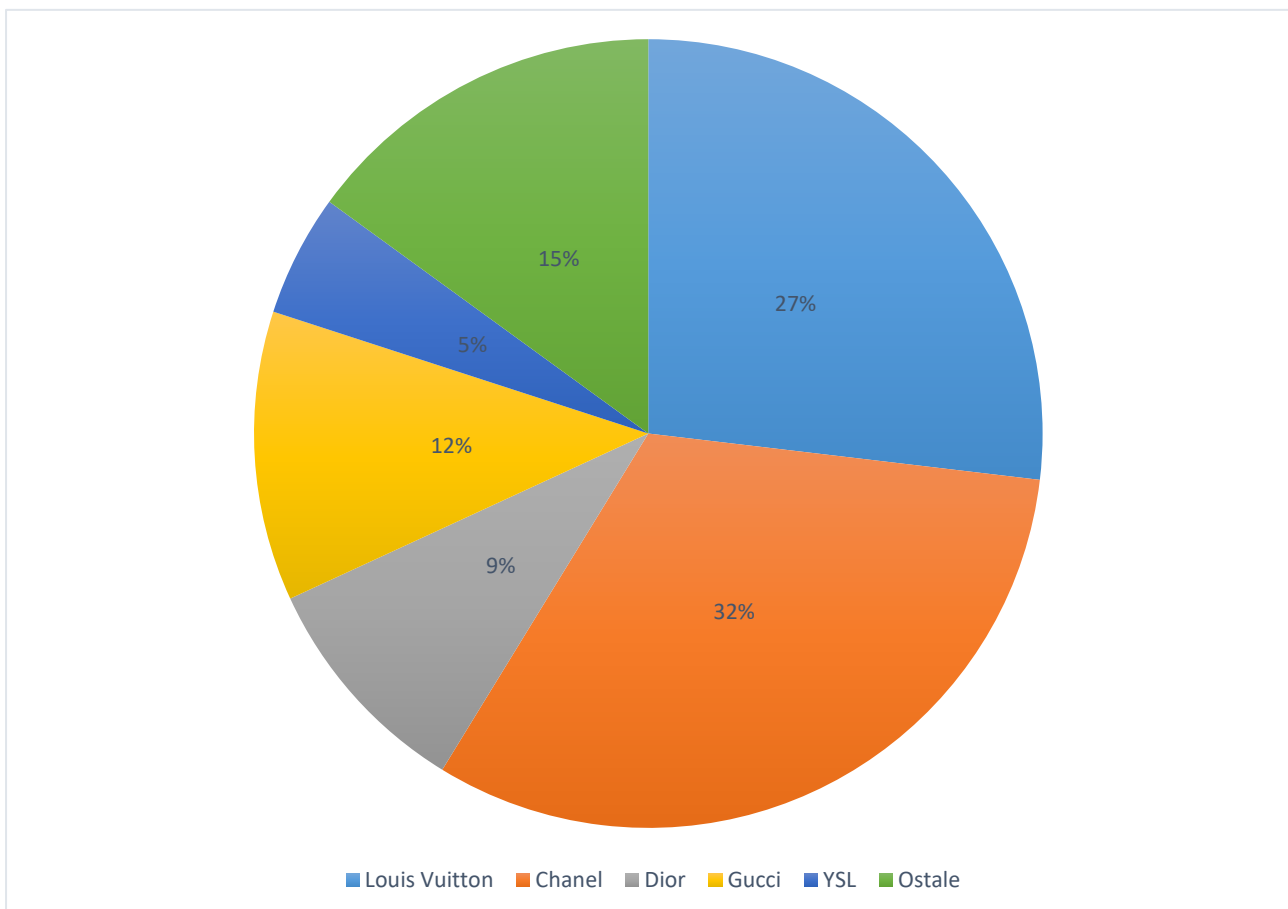
*Table 1: Financial value of top luxury brands according to Interbrand
 (Source: Interbrand’s web page. Retrieved 02.08.2021 from https://learn.interbrand.com/hubfs/INTERBRAND/Interbrand_Best_Global_Brands%202020.pdf)*

In 2019, Gucci continues to maintain its position in the category of the fastest growing brands with a growth rate of 23%. Other brands are also experiencing growth, as well as a better position in the rankings globally. In 2020, luxury brands experienced a decline in value from -1 to -4%. Louis Vuitton achieved a decline of 2%, but still maintains its position globally as well as the leading position in the ranking of its industry. The Chanel brand, despite a 4% drop, is growing by one place in the rankings globally from 22nd to 21st, while remaining in the same position in its category. Gucci, despite falling by 2%, also climbs one place in the rankings globally and ranks 32nd. On a global scale, the Louis Vuitton brand climbs in 2019 from No. 18 to No. 17, where it remains. Chanel has been climbing one place every year since 2018. Gucci moves 6 places in 2019 and continues the trend of climbing in 2020.

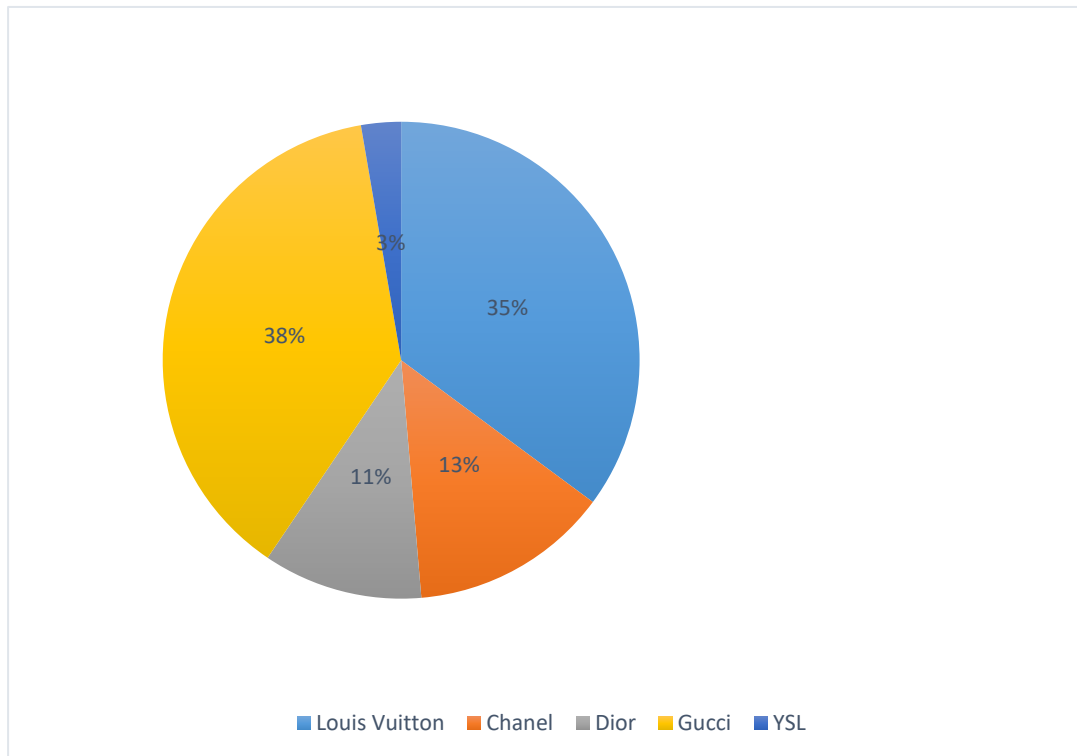
A significant increase in the ranking is achieved by the Dior brand, which in 2019 moved by as much as 9 places and in 2020 grows by another place. The rankings in the industry remain relatively unchanged with the exception of the Dior brand, which moved one place in 2019. The year 2020 was marked by the emergence of a global pandemic, which greatly affected the decline in sales. However, leading brands in this sector have almost overcome the economic crisis and are slowly finding new ways to increase their values. With technology giants such as Amazon, Instagram, and Netflix imposing themselves as the fastest growing brands, luxury fashion brands are turning to digital technology to attract customers. They invest in digital fashion shows, online stores and social networks which gives high potential for the re-growth of fashion luxury brands.

5.2. Results of primary research

The main goal of primary research was to measure the market value (brand equity) of top five luxury brands of women's handbags using Aaker's model which includes dimensions like brand awareness, brand loyalty, perceived quality and brand-related associations. The results are discussed below. Brand awareness was measured by the following questions: "Write down a few names of designer handbags you can think of." Respondents listed all brands of luxury bags they can think of, as shown in figure number one. Figure number two shows how many times a certain brand was mentioned in the first place of the respondents' recollection. If a brand appears in the first place, then we can consider that the brand has a higher level of awareness.

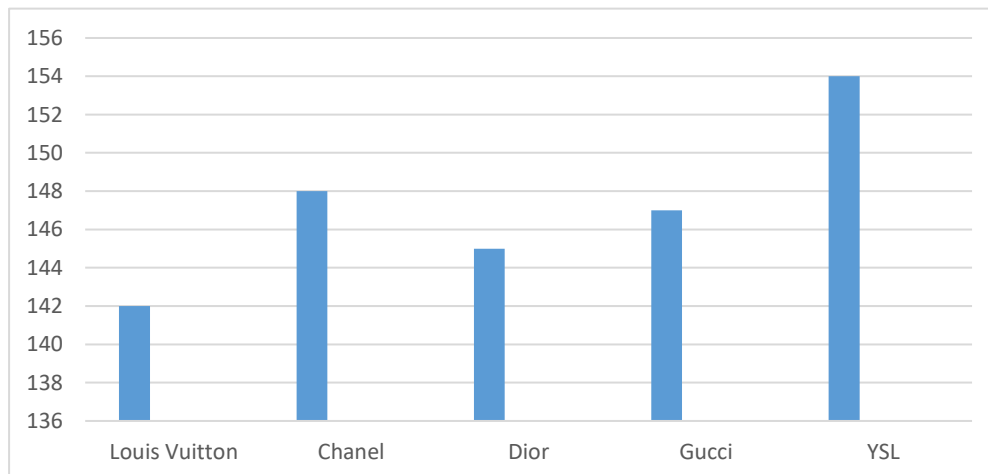


*Figure 1: Brand awareness
(Source: author)*



*Figure 2: First mentioned
(Source: author)*

Questions 5 through 9 relate to brand recognition. Pictures of bags of all the mentioned brands were shown to respondents, and they had to state the name of the brand if they recognize it.



*Figure 3: Recognition according to the image of the bag
(Source: author)*

The best results in this group of questions were achieved by the Yves Saint Laurent (YSL) brand, probably considering that the logo of the same name was also on the picture. The least recognized brand in this case was Louis Vuitton. Question number 10 referred to the situation of consumption. Respondents had to answer which brand they would choose as their first choice when going to a social event. The results show which brand is the most desirable among the respondents. The most desirable brands in this case were Chanel and YSL. Question number 11 referred to the associations that respondents associate with certain brands. Associations were described in a personalized way by giving adjectives.

The Louis Vuitton had a lot of associations with high quality, exclusivity, popularity and is considered as expensive. Chanel is also considered quality, most exclusive, but also a refined and expensive brand. Dior is characterized by quality and exclusivity, expensiveness, but unlike the previous two brands it is considered very modern. Gucci is considered the least quality but still an exclusive and modern brand. YSL is considered a quality, exclusive and modern brand. Negative associations of overestimation and arrogance were assigned to Louis Vuitton and Gucci. Question number 12 deals with the loyalty dimension. Respondents marked the brand of last purchase. The Louis Vuitton brand leads in this dimension with a result of 40.6%, while the Gucci brand is in second place with 21.9%. The YSL brand is in third place with 15.6%, while the Dior and Chanel brands share the last place with a score of 10.9%. Question number 13 refers to the degree of satisfaction that respondents have after using the products of these brands. Louis Vuitton has the highest levels of complete satisfaction. Most of the answers "I am neither satisfied nor dissatisfied" belong to the Dior brand. The unsatisfactory answers occur in the brands Louis Vuitton, Gucci, Chanel and YSL, and absolute dissatisfaction is mentioned in the brands Chanel, Dior and YSL. The next question also relates to the loyalty dimension. Respondents marked brands they avoid. Of the 160 respondents, 59 responded. The brands that are most avoided are Louis Vuitton and Gucci. Question number 15 refers to the previous one, where respondents were asked to state their reasons for avoiding these brands.

Respondents answered the following:

- 24.4% - disproportion between quality and price,
- 11.1% - defective goods,
- 8.9% - disagreement with company policy,
- 6.7% - no guarantee and
- 4.4% - dissatisfaction with customer service, overestimation of the brand.

Other reasons mentioned were: poor availability, too high price, disagreement with the style and the fact that too many people buy products of the same brand. Question number 16 directly leads users to declare the degree of their loyalty to these brands. The brand with the greatest complete loyalty is Louis Vuitton. Questions 17 to 19 are about quality. In question no. 17 respondents were asked to indicate the features they take into account when thinking about product quality.

Respondents chose the following:

- 78.8% - quality of the material
- 72.5% - durability,
- 64.4% - quality of workmanship,
- 59.4% - fashion style and
- 23.8% - brand awareness.

Other answers relate to price, design and aesthetics. Question number 18 required respondents to rate the quality of bags of the following brands. First place for high quality product was assigned to Chanel, followed by Louis Vuitton, Dior, YSL and Gucci. Gucci also had the most responses for low quality and very low quality products. The last question was: "Do you think that the prices of bags of these brands are in line with the quality?" The quality-price ratio is examined. Most respondents believe that prices are not in line with quality. Chanel has the most answers "Yes" and the least "No", so it can be concluded that it is the best ranked brand in this matter. When we look at the analyzed data, the leading brands in the brand awareness dimension are: Chanel, Louis Vuitton and Gucci. Respondents expressed the greatest loyalty to the Chanel, Louis Vuitton and YSL brands.

The best ranked brands in terms of quality are Chanel, Louis Vuitton and YSL. Dior is mostly located in the middle or at the back. Chanel and Louis Vuitton have the highest values in all dimensions studied. Given that these two brands are also at the very top of the Interbrand's financial brand value scale, it can be concluded that brand awareness, brand loyalty, perceived quality and brand associations as dimensions of brand market value have significant influence on the financial value of the observed luxury fashion brands.

6. LIMITATIONS

Since the survey was conducted online, there are some limitations concerning sampling method. In order to conduct better research, it would be desirable to provide a more representative sample in a wider geographical area. The subject of this research were luxury brands and since the Croatian market is very small for this kind of research, it would be desirable to conduct research in larger markets. The research was conducted in a two - week period and a longer period of time with a larger sample would contribute to greater reliability of the research results.

7. CONCLUSION

The company may consider that it has the best products on the market, with the best and fastest performance, the highest quality and the best price, but this does not necessarily mean that this product will also be the first choice of customers. What this product represents through the brand must be reflected in the minds of customers. It is the customer whose opinion determines the value of the product, and at the same time the value of the brand itself. Although this research has certain limitations, given that the Croatian market is very small compared to China or the United States, which are the two largest markets for luxury products, still valuable insights and conclusions can be drawn. The research conducted in this paper showed that the market value of the brand is influenced by various aspects such as brand loyalty, brand awareness, perceived quality and brand associations, which are the result of many years of research and marketing activities of these companies. Since these companies are extremely successful, it can be seen that the market value of the brand directly affects the financial value of studied brands. Company needs to know how to manage the brand and its value, in order to ensure competitiveness and a long-term success. Today, brand and brand equity are key concepts in the company's business and are an extremely important marketing tools for survival in modern market conditions.

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ROAD TRAFFIC ACCIDENTS RISK DRIVERS' ANALYSIS – MULTIVARIATE MODELLING BASED ON LATVIAN MOTOR THIRD PARTY LIABILITY INSURANCE DATA

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ABSTRACT

The objective of this study is twofold: (1) to identify the factors associated with individual driver's risk and (2) to predict high-risk drivers using demographic, personality, and driving characteristic data. The topicality of the research is related to the large number of road traffic accidents in Europe, and especially to the relatively large number of people involved and injured in road traffic accidents in Latvia. The topicality of the study is proved by the situation in the largest insurance market portfolio - a negative technical result of transport insurance for several years. On the other hand, it can be concluded that the insurance industry has not succeeded in performing successful segmentation of motorists, which should ensure both appropriate tariffs and facilitate the correction of driving behavior. A logistic regression model was adopted to identify significant risk factors. To ensure the stability of the parameters of the regression models, the factor values were grouped based on the results of previous studies and data analysis methods. The simulation results were extensively tested using AIC, BIC, ANOVA, likelihood ratio, etc. tests. The three best models were subjected to within and out of sample validation using 5- and 10-fold cross validation, evaluating misclassification rates and AUROC. Such assessment is essential to adequately cover motor third party liability insurance (MTPLI) policies and ensure the sustainable development of insurance companies. The data obtained in this study can also be used in the development of road safety policy, identifying the range of drivers to which increased attention should be paid. The research is based on the analysis of more than 966 thousand Latvian MTPLI policies which were signed in 2019 and related to 19,8 thousand road traffic accidents data analysis. Risk driver selection was performed based on existing scientific studies and correlation analysis of the sample set. The obtained results confirm that the driver's behaviour (bonus malus and penalties) as well as age and experience have a significant impact on the probability of road traffic incidents and demonstrates the critical importance of accurate data grouping which is critical for the insurance industry to perform correct risk selection.

Keywords: *Road traffic accidents, Multivariate modelling, Risk drivers, MTPL insurance*

1. INTRODUCTION

In the past two decades, significant progress has been made in all aspects of vehicle safety systems, and experts from both academia and industry have conducted extensive research on

vehicle safety (Wang, et al., 2015) on the other hand we have still a lot of issues with road safety. Recent study performed by Hsu, Chou and Shiu reported that in 1990, road traffic injuries (RTIs) were ranked the ninth leading cause of the 'global disease burden (Hsu, et al., 2016), and, the World Health Organization prove that Road traffic injuries are the leading cause of death (World Health Organization, 2021). Road safety is a public health issue. More than 13 million have lost their lives on the roads around the world over the the past ten years and 18,844 people have died in road traffic in the EU in 2020 alone (European Transport Safety Council, 2021). Motor vehicle crashes is the leading cause of death and disability among the adult population (Simons-Morton, et al., 2011), (Ouimet et al., 2015). European Union has set a target to reduce the number of deaths on EU roads by 50% between years 2010 and 2020. Despite the fact that The EU 27 has collectively reduced the number of road deaths by 23% over the last five years, the set target is still not being met, see Figure 1.

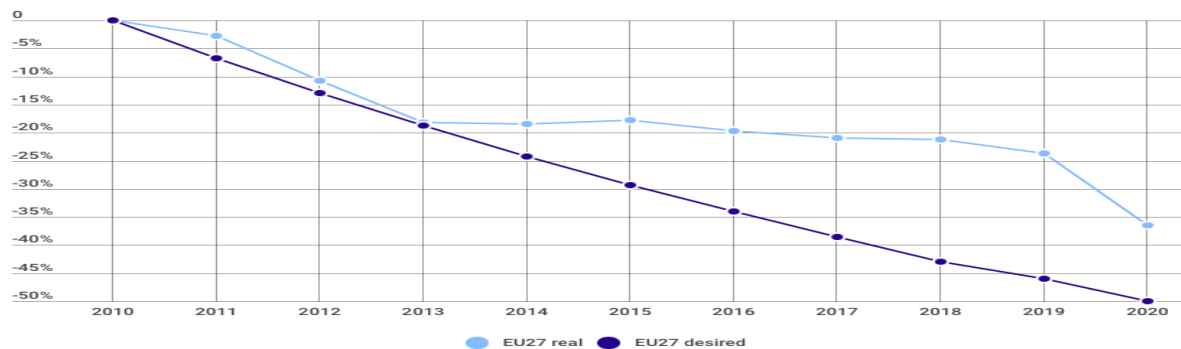


Figure 1: Number of road deaths in the EU27 from 2010 till 2020 and against the EU target (Source: European Transport Safety Council, 2021)

The situation in Latvia with road accidents and fatalities is particularly critical - the highest road mortality in the EU27 countries is in Romania and Latvia with 85 and 73 road deaths per million inhabitants respectively (European Transport Safety Council, 2021). As the responsibility for traffic accidents involves the vehicles, drivers, and roadways, we must not only improve the safety performance of vehicles, but also better understand the factors that influence driving risk and identify the factors that result in accidents to make road transportation much safer.

2. RISK DRIVERS IN MTPL INSURANCE

Risk driver's analysis in MTPL insurance is a principal factor in determining a fair price for MTPL insurance policy. The history of trying to predict individual accident records from other variables is rather long. The first attempts were made already in the early twentieth century (Greenwood and Woods, 1919). Many different viewpoints and variables have been proposed and tested as crash predictors, and various weak associations have been found, mirroring the multiple causes of traffic accidents. Some broad classes of predictors such as medical, cognitive, behavioral, and psychiatric have been used to predict the probability of getting into a traffic accident for various and different groups of drivers (Wahlberg, 2018). Risk of getting into a traffic accident varies substantially between different groups of drivers. Predicting driver's individual on road behavior and identifying high-risk drivers will greatly benefit to the development of fair MTPL pricing polity in the insurance market and the development of proactive driver education programs and safety countermeasures. Previous research has generally associated socio-demographic characteristics to the risk of being involved in a road traffic accident (Bond de Sousa, et al., 2016). Floris Goerlandt (2016) has assessed various other influencing factors that lead to driving risks, which can be divided into objective risk factors, subjective risk factors, and combined ones (Goerlandt, 2016).

Many studies have attempted to better understand the factors that affect the probability and injury severity of crashes (Dominique Lord, 2010). Guo and Fang (2013) have concluded that crash and near-crash risk for individual drivers is associated with critical incident rate, demographic, and personality characteristics. Furthermore, the critical incident rate is an effective predictor of high-risk drivers for the interested parties, that will help to intervene in driver-behavior and take safety countermeasures to reduce the crash likelihood in high-risk groups and to improve safety on public roads (Guo and Fang, 2013). From a methodological standpoint, logit-based models are some of the most practical tools used for analysis of accident severity (Al-Ghamdi, 2002). Recently, non-parametric methods and data-mining techniques have been widely used to identify the factors associated with accident severity (Montella, et al., 2011) (Harb, et al., 2009). Chang and Wang (2006) have proposed a classification and regression tree (CART) model to establish the relationship among injury severity, driver/vehicle characteristics, and accident variables, indicating that vehicle type is a very important variable associated with cash severity (Chang and Wang, 2006). Li, Lord, Zhang and Xie (2008) evaluated the application of a support vector machine (SVM) model for predicting motor vehicle crashes and showed that SVM models performed better than traditional negative binomial models (Li, et al., 2008). Montella, Aria and Mauriello employed a decision tree and association rules to analyze accidents involving powered two-wheelers. (Montella, et al., 2012) CART can be employed for exploring the relationship among driving risk, driver/vehicle characteristics, and road environments. Identification of the the factors that are associated with driving risk and further prediction of high-risk drivers' typology will enable implementation of more precise safety countermeasures on the roads and reduce potentially hazardous situations in high-risk drivers' groups thus improving overall safety on public roads (Guo and Fang, 2013). Wang, Zheng, Xiaofei and Chenfei (2015) analyzed driver and vehicle characteristics, road conditions by using near-crash database, thus getting new insights in the drivers' risks. The results of their study indicate that the velocity when braking (V BRA), triggering factors (T FAC), potential object type (O TYP), and potential crash type (P CRA) had the greatest influence on the driving-risk level involved in near-crashes. These results can improve our understanding of the factors that affect driving risk and help create polices and countermeasures to improve driving safety and comfort (Wang, et al., 2015). According to a study by Teresa Bon de Sousa (2016), male drivers have been more exposed to a road traffic accidents compared to female drivers (OR = 1.575), widowed car drivers have a higher risk of being involved in a road traffic accident compared to single drivers (OR = 3.437) and drivers, whose place of residence is a large city or a suburban area were involved in road traffic accidents 2.189 and 2.150 times more often compared to the drivers living in rural areas respectively. Car driver's age does not show statistically significant data to associate this factor with the risk of driver being involved in a road traffic accident (OR = 1.8 to older drivers compared with younger). The same conclusion can be made regarding such factors as education, occupation, having or not having children, driving experience and number of kilometers driven per year. Factors that leave the most significant influence on the risk of the driver being involved in a road traffic accident are the living area and family situation of the driver, consumption of alcohol before driving in the last three years and associated behaviors: consumption of coffee/energy drinks while driving and driving feeling tired (Bon de Sousa, et al., 2016). According to Hsu, Chou and Shiu (2016) age, gender of the insured person and the age of the vehicle leave an impact on the likelihood of traffic accidents and potential losses (Hsu, et al., 2016). According to the results of the study of Teresa Bon de Sousa (2016), the typical driver involved in a road traffic accident from 2013 till 2016 is male, over 65 years of age, has no education or primary education, is widowed, unemployed and lives in an urban area (Bon de Sousa, et al., 2016). Although several studies have shown that younger (until 24 years old) drivers and single drivers more often report being involved in road traffic accidents (Antov, 2012), here, young adults (18-24) have more

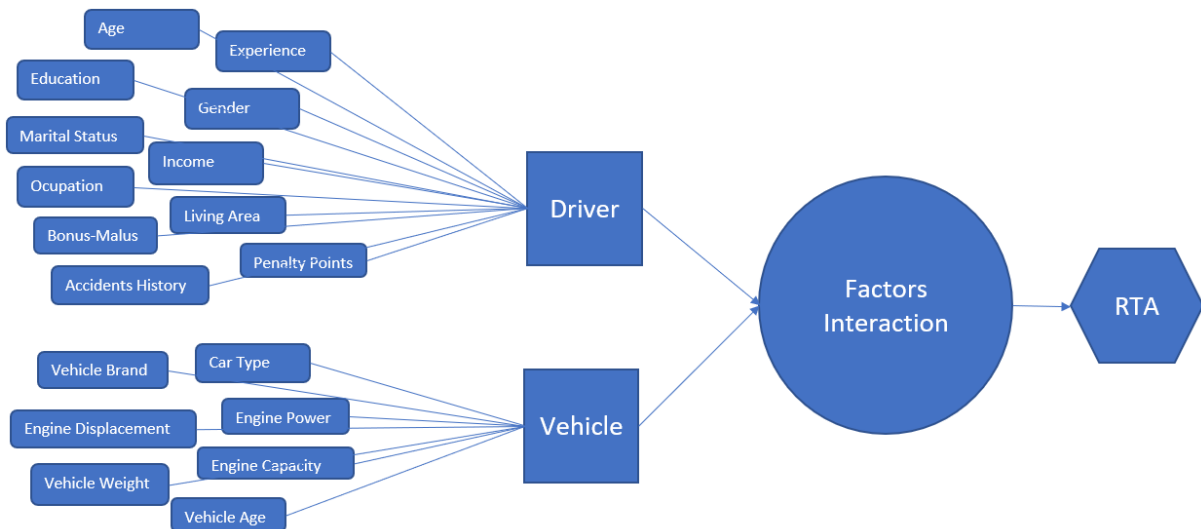
probability of being involved in an accident than middle-aged adults (between 34–54) but less probability than drivers over the age of 55. Research of Vardaki and Yannis (2013) showed associations between gender and age with the risk of being involved in a road traffic accident (Vardaki and Yannis, 2013). Crash risk for young drivers is the highest early during the period following the acquisition of the driving licence, declining rapidly for approximately 6 months and then slowly for years before reaching rates of experienced drivers. Although the rates of crashes and near crashes for young drivers have declined over time, they remain much higher throughout the first 18 months of driving than those for experienced drivers (Simons-Morton, et al., 2011). There are concerns about crash involvement of older drivers and the effect of age-related declining visual and cognitive function on driving performance. Chevaliera, et al., (2017) examined the relationship between Rapid deceleration events (RDEs) and older driver's vision, cognitive function and driving confidence, using naturalistic driving measures. Drivers aged between 75 and 94 years had their vehicles monitored for the period of 12 months. The rate of RDEs per distance covered increased with age. The study found that older drivers who experienced a decline in contrast sensitivity over the 12 months and those with lower driving confidence were at increased risk of involvement in RDEs adjusted for distance driven (Chevaliera et al., 2017). Anstey et al. (2012) expressed concerns about crash risk for older drivers and explained it with poor or declining visual, cognitive and physical function (Anstey et al., 2012). During the first few years of driving, accident risk decreases rapidly, and thereafter the reduction becomes smaller and smaller. This effect has usually been interpreted as a change in behavior, due to increased knowledge about driving risks, hazard perception and several other distal factors. However, it would seem like this assumed behavior change has rarely been monitored, although, for example, increases in headway with experience have been noted (Wahlberg, 2012). Using a probit regression, Hsu identified a positive relationship between coverage and claims and that an insured party with a poor claims history has a higher probability of being involved in road traffic accidents (RTA). Although findings provide support for adverse selection theory, when considering the moderating effect of vehicle age, the positive relationship between coverage and claims becomes insignificant; indeed, vehicle age weakens the positive influence of coverage on claims. Results suggest that drivers with a poor driving record purchasing higher insurance coverage for their new vehicle tend to be involved in more RTAs and submit more insurance claims (Hsu, et al., 2016). Hsu, Chou and Shiu (2016) have found that insured drivers with a poor driving history are more likely to be involved in RTAs. The general implication of the results of the study is that drivers with a poor history of driving who are also found to purchase higher levels of insurance coverage for their new vehicles are likely to be involved in RTAs and are also likely to submit more insurance claims (Hsu, et al., 2016). Concerning the living area, Teresa Bon de Sousa (2016) found a correlation between the occurrences of road traffic accidents with the area of residence of car driver (Bon de Sousa, et al., 2016). Holz-Rau and Scheiner (2013) showed that rural areas consistently have a higher risk of fatal accidents and traffic fatalities (Scheiner and Holz-Rau, 2013). The present study of Wahlberg (2012) indicates that daily experience of driving situations is one of the strongest factors for changes in driving behavior (Wahlberg, 2012). Table No.1 summarizes the factors influencing road traffic accidents that can be identified with them and thus influencing the risk of MTPL insurance.

Table following on the next page

Factors	Literature Review	Simulation Results	Insurance Experts Opinion
Age	Often	Yes	Yes
Experience	Often	Yes	Yes
Gender	Often	Yes	No
Education	Occasionnaly	No	No
Income	Occasionnaly	No	No
Marital Status	Occasionnaly	No	No
Living Area	Occasionnaly	Yes	Yes
Occupation	Occasionnaly	No	No
Accidents History	Occasionnaly	Yes	Yes
Penalty Points	Not mentioned	Yes	Yes
Vehicle Age	Occasionnaly	Yes	Yes
Car Type	Occasionnaly	Yes	Yes
Vehicle Brand	Not mentioned	Yes	Yes
Vehicle Weight	Not mentioned	Yes	Yes
Engine Displacement	Not mentioned	Yes	Yes
Engine Power	Not mentioned	Yes	Yes
Engine Capacity	Not mentioned	Yes	Yes

*Table 1: Factors that influence risk of MTPL insurance
 (Source: Created by authors)*

As a result of literature research done by the authors, more than 20 scientific articles were identified, of which the most studied factors affecting the risk of compulsory motor third party liability insurance were identified and summarized. Of the 17 factors identified, age was the most widely used factor (95%), followed by gender (71%) and third driving experience (52%). This list of factors is only a small part of the factors potentially used and actually used, but it gives an idea of them. Traffic system is a complex dynamic system composing dynamic road users (including drivers, vehicles, pedestrians, cyclists etc.) and static traffic elements (including roads, traffic lights, static obstacles, etc.). Accidents can take place when a problem occurs during the coordination of the traffic system composing of drivers, vehicles. Traditionally, analysis of individual differences in road traffic crash risk has relied on after the fact crash data. The analysis addresses attributes that are related to accidents. To study the relation between accident probability and contributing factors, macro accident data analysis involves extracting and analyzing traffic accident data to study the relation between accident probability and influence factors. Most road crashes are the result of human errors (Mallia, et al., 2015). Individual differences in driving style have been shown to be associated with crashes (Dorn and Wahlberg, 2019). Statistics show that drivers are the direct object of risk perception in the driving process and their impairments or errors may provoke 94 % of motor accidents (Kinner, 2015) (Wang, 2014). The accurate identification of driving risk needs not only objective risk identification but also combining subjective risk. Risk can be described as the combination of the probabilities and the severity of events (Aven, 2011). Al-Ghamdi (2002) has developed the logistic regression model to effectively combine the accident factors with the possible influence characteristic variables, designing the characterization scale to analyze the factors influencing the accidents (Al-Ghamdi, 2002). Figure No 2 illustrates the entire framework of driving risk assessment. Herein, we classify driving risks into subjective (driver) risks, objective (vehicle) risks and others.



*Figure 2: Road traffic accidents risk driver factors interaction
(Source: Created by authors)*

To analyze the subjective risks, different drivers display different perceptions of current driving risks when facing the same traffic incidents. Drivers' physiological and psychological factors, such as their driving skills, personalities, attitudes, emotions, and states, may affect their information reception and processing processes. The authors examine different factors such as age, seniority, experience, and bonus-malus factor for the driver and their impact on the frequency and severity of road accidents. All these factors may lead to the difference in the subjective measurement of the degree of risk. When identifying the objective risks, the vehicle characteristics are extracted by taking each road user in the system as the source of the objective factors, which include the vehicle performance, vehicle age, make, model weight and others. Considering the mechanism influencing driver's risk, the physical characteristics of the vehicle and driving risk has been excavated. Then, the risk measurement values of objective risk attributes were established. The driver's behaviors in the driving process were disturbed by several external factors, such as the road environment and dynamic characteristics of the vehicle. Finally, a driving risk coupling model is established to evaluate and quantify the driving risk. Therefore, the combination of subjective and objective risks can more accurately realize the comprehensive situation assessment under complex scenarios. In the conclusion, the subjective risk was defined as the risk brought by the individual attributes of the driver; objective risk has been defined as the objective of the potential impact brought by vehicle. The comprehensive risk perception has been described as the psychological projection of drivers' risk perception from the driver's perspective by various factors in the dynamic traffic environment. Crash occurrence is the primary risk measure for infrastructure-related safety impact evaluation, with Poisson and negative binomial (NB) models being the state-of-practice analysis tools (Guo and Fang, 2013). Estimation of the occurrence of claims based on the driver's age and other relevant variables was used as it is a standard practice in actuarial research (Segovia-Gonzalez, et al., 2009).

3. DATA AND METHODOLOGY

3.1. Data

The data on motor third party liability insurance (MTPLI) used in this research is obtained from Motor Insurers' Bureau of Latvia (MIB). Our study sample comprises of a total more than 966 thousand observations, with the MTPLI policies, concluded from 1 January 2019 in Latvia in relation to passenger cars and effective for the following 3–12-month period, according to policies maturity.

Based on the policy parameters available in the MIB database and the model shown in Figure 2, parameters were selected for further research. Policies which had missing values or values out of expected range were excluded from the analysis. No further elimination of outliers was undertaken, since we argue that their effect on the results of logistic regression analysis is negligible due to the large sample size. A more detailed description of the parameters of MTPLI policies included in the study with descriptive statistics is provided in the following table.

Variable group	Variable	Observ.	Min	Max	Median	Mean	1 st Quntile	3 rd Quntile	
Car holder	Age	966 366	17	96	41	43.2	32	53	
	Experience	966 366	0	73	18	19.79	10	28	
	Gender	966 366							Categorical
Driver behavior	Penalties	966 366	0	24	0	0.449	0	0	
	BM class	966 366	1	17	12	12.24	9	16	
Vehicle	Brand	966 366							Categorical
	Age	966 366	0	93	14	14.45	12	18	
	Enginecapacity	966 366	496	8 285	1984	2084	1790	2401	
	Power	966 366	51	625	100	107.5	85	120	
	Weight	966 366	840	6 577	2020	2057	1820	2210	
MTPL policy	Maturity	966 366	3 m	12 m					Categorical
Accident	Count of RTA	19 795	0	4	0	0.0205	0	0	

Table 2: Descriptive statistics of the initial MTPLI policies sample
 (Source: Created by authors based on MIB data)

Due to the large data set selected (> 966 k policies) and to ensure a comprehensive validation of the calibrated models, it was divided into two parts, i.e. training sample of policies (70%) for modeling and 30% for out of sample model validation. We used stratified sampling to achieve an even distribution of accident events.

3.2. Research Methodology

A logistic regression model has been used in this study to assess the impact of selected independent factors on the RTA. As study by Al-Ghamdi (2002) has shown that this approach allows to assess the likelihood that a particular policyholder may be in an RTA situation (logistic regression model can be used to estimate the probability that a claim would be made) and therefore is an essential tool for insurers to manage risks and price policies accordingly (Al-Ghamdi, 2002). In addition, logistic regression is a well-known and widely used approach to solving classification problems. One of its advantages is also the interpretability of the results in comparison with, for example, nonlinear models, as it provides information on the magnitude and direction of the effect on the outcome trait (information about the size and direction of the effects of the independent variables). From the regulator's point of view, interpretability is also an essential requirement. To assess the likelihood of a RTA claim in relation to a particular policy, the following relationship will be used (Agresti, 2013):

$$P(Y_i|X_i) = \frac{\exp(\beta_0 + \beta_1 x_1 + \dots + \beta_n x_n)}{1 + \exp(\beta_0 + \beta_1 x_1 + \dots + \beta_n x_n)} \quad (1)$$

where,

$P(Y_i|X_i)$ – probability of a claim by i th MTPL policy holder,

β_0 – intercept or constant of model,

β_1, \dots, β_n – vector of regression coefficients,

x_1, \dots, x_n – vector of values of factors included in logistic regression model specific for particular MTPL policy holder.

3.3. Simulations and model evaluation

Training sample and R version 4.0.5 was used for simulations (R Core Team, 2021). During the first stage of study, univariate linear-logit and univariate polynomial-logit models were first calibrated using ungrouped factor values. Calibrated model's performance was evaluated by using traditional statistics such as Akaike information criterion (AIC) (Akaike, 1974), Bayesian information criterion (BIC) (Schwarz, 1978) and residual deviance was used for evaluation of selected models (Hosmer et al, 2016). These statistics are relative measures that evaluates model fit and penalizes overfit. Lower residual, AIC and BIC values indicate better model fit to the data.

Model type	AIC	BIC	Residual deviance
Univariate, linear logit	120 743	120 766	120 739
Univariate, polynomial-logit	119 899	119 934	119 893
Multivariate, linear logit	117 420	117 523	117 402
Multivariate, polynomial-logit	116 176	116 336	116 148

*Table 3: Statistics of initial models
 (Source: Created by authors based on simulation results)*

From univariate models, as one can see from Table 3, the best fit was polynomial-logit model with Bonus malus as variable. Among the multivariate models, the best fit was also shown by polynomial-logit model. In the next step, in order to ensure a better fit of the model, the grouping of independent variables was performed, taking into account the results of previous research, the experience of industry experts, and the correlations shown by real RTA statistics.

Table following on the next page

Variable	Group average	n	RTA, %
Age group (years)	43.2		
- 27	22	120 354	2.6730
28 - 37	32	273 623	1.8140
38 - 47	42	223 479	1.9060
48 - 57	52	179 516	1.8762
58 - 67	62	113 988	2.2794
68 - 77	72	44 341	2.9939
78 +	82	11 064	4.2304
Experience (years)	19.8		
- 9	4	229 711	2.1764
10 - 19	14	292 311	1.8323
20 - 29	24	241 679	2.0402
30 - 39	34	114 494	1.8962
40 - 49	44	64 719	2.4067
50 - 59	54	19 170	2.9092
60 +	64	4 282	3.3023
Penalties (points)	0.45		
0	0	795 490	1.8248
1	1	76 948	2.3559
2	2	50 734	3.0239
3	3	16 414	3.0829
4	4	15 926	4.7249
5+	5	10 856	3.8551
Bonus Malus			
1 - 5	3	9 430	30.5995
6	6	21 703	11.8753
7 - 11	9	386 335	2.4419
12 - 14	13	241 853	1.6899
15 - 17	16	307 045	0.2675
Vehicle age (years)	14.5		
0 - 4	2	47 160	3.0134
5 - 9	7	101 752	2.5075
10 - 14	12	347 160	1.9946
15 - 19	17	304 483	1.8100
20 - 24	22	135 362	1.8996
25 +	27	30 449	2.4105
Vehicle brand			
1	1	114 683	1.7715
2	2	236 792	1.8875
3	3	226 246	1.9469
4	4	221 465	2.1405
5	5	167 180	2.4328
Vehicle weight (kgs)	2057.5		
- 1599	1450	63 392	1.9700
1600 - 1899	1750	264 874	2.0563
1900 - 2199	2050	383 176	1.9781
2200 - 2499	2350	177 122	2.0174
2500 +	2650	77 802	2.3975
Engine displacement (CC)	2084		
- 1599	1450	194 787	2.1934
1600 - 1899	1750	203 171	1.8543
1900 - 2199	2050	264 029	2.0410
2200 - 2499	2350	166 955	1.9470
2500 +	2650	137 425	2.2081
Power (KW)	107.6		
- 75	65	109 665	1.9933
76 - 95	85	264 385	1.9606
96 - 115	105	287 959	2.0585
116 - 135	125	156 754	1.9854
135 +	145	147 603	2.2387

*Table 4: Statistics of selected models
 (Source: Created by authors based on simulation results)*

The ANOVA test was used to evaluate the grouping results and it showed the difference of RTA values in the groups as statistically significant (p -values <0.05). Using the values of the grouped variables, the fit of the models improved, as can be seen in the following table, where chi-squared test results for comparable model's is summarized.

Model	Residual df	Residual deviance	Changes in df	Changes in Deviance	Pr(>Chi ssq)
Univariate, linear-logit	676 462	120 739			
Univariate, polynomial-logit	676 461	119 893	1	845.8	$<2e-16$
Multivariate, linear-logit	676 455	117 402	6	2 491.4	$<2e-16$
Multivariate, polynomial-logit	676 450	116 148	5	1 253.7	$<2e-16$
Multiv.-grouped, categ.-logit1	676 418	108 620	32	7 528.6	$<2e-16$
Multiv.-grouped, categ.-logit2	676 420	108 620	-2	-0.8	0.6736
Multiv.-grouped, categ.-logit3	676 424	108 630	-4	-9.3	0.0534

*Table 5: Chi-squared test results of comparable logistic regression models.
 (Source: Created by authors based on simulation results)*

As can be seen from Table 5, the grouping of variables provides an opportunity to significantly improve the degree of RTA determination compared to ungrouped variables. According to the chi-squared test results there is a statistically significant difference in performance of models with grouped variables values and ungrouped. Although the differences between the three best fit models with grouped variable values are not statistically significant, the order of models 1, 2 & 3 is preferred. Three best fit models were subject to in-depth evaluation. The following table summarizes the traditionally used evaluation indicators: AIC, BIC and AUROC.

Model	AIC	BIC	AUROC
Multivariate-grouped, categorical-logit1	108 712	109 237	0.8325
Multivariate-grouped, categorical-logit2	108 708	109 211	0.8320
Multivariate-grouped, categorical-logit3	108 710	109 167	0.8317

*Table 6: Statistics of best fit models
 (Source: Created by authors based on simulation results)*

According to the statistics summarized in Table 6, it can be seen that all three selected models fit relatively equal: AIC prefers the sequence of models 2, 3 & 1; BIC - sequence 3, 2 & 1; according AUROC – sequence same as from chi-squared test results. Likelihood ratio test (LRT) was used to estimate factor's, included in models, statistical significance. The LRT test statistics summarized in Table 6 show that estimates of all independent variables included in the tree best fit models are statistically significant at least at $\alpha = 0.05$ level, except for one - "Power", the significance of which is confirmed at $\alpha = 0.1$ level. Table in Annex summarizes the coefficient estimates on each variable sub-group level, the standard error, and the Wald test result for the three selected models. As can be seen, the absolute majority of variable coefficient estimates are statistically significant at least at $\alpha = 0.05$ level.

Table following on the next page

Factor	Model 1			Model 2			Model 3		
	df	Deviance	p-value	df	Deviance	p-value	df	Deviance	p-value
POL_M	1	2549.5	***	1	2549.5	***	1	2549.5	***
CD_Ge	2	100.0	***	na			na		
CD_Age	6	429.4	***	6	408.6	***	6	408.6	***
CD_Exp	6	129.5	***	6	165.8	***	6	165.8	***
CD_Pen	5	1173.5	***	5	1050.7	***	5	1050.7	***
CD_BMC	4	22244.1	***	4	22451.4	***	4	22451.4	***
VE_Age	5	64.6	***	5	64.5	***	5	64.5	***
VE_Bra	4	62.7	***	4	62.7	***	4	62.7	***
VE_We	4	29.7	***	4	29.1	***	4	29.1	***
VE_Eng	4	10.3	*	4	10.3	*	4	10.3	*
VE_Pow	4	9.3	.	4	9.3	.	na		

Table 7: LRT statistics of selected models
 (Source: Created by authors based on simulation results)

The multicollinearity test of the variables included in the model was performed using variance inflation factor (VIF) statistics $GVIF^{(1/(2 * df))}$. As can be seen from Table 8, the test result does not show multicollinearity at the level of independent variable subgroups.

Factor	Model 1			Model 2			Model 3		
	GVIF	df	$GVIF^{(1/2df)}$	GVIF	df	$GVIF^{(1/2df)}$	GVIF	df	$GVIF^{(1/2df)}$
POL_M	1.3391	1	1.1572	1.3391	1	1.1572	1.3388	1	1.1571
CD_GE	1.1540	2	1.0365	na			na		
CD_Age	16.2007	6	1.2612	15.7208	6	1.2581	15.6871	6	1.2578
CD_Exp	15.8645	6	1.2590	15.2439	6	1.2548	15.2247	6	1.0064
CD_Pen	1.1109	5	1.0106	1.0664	5	1.0065	1.0659	5	1.0064
CD_BMC	1.3164	4	1.0350	1.3062	4	1.0340	1.3058	4	1.0339
VE_Age	1.9373	5	1.0684	1.9211	5	1.0675	1.7260	5	1.0561
VE_Bra	1.9489	4	1.0870	1.9468	4	1.0868	1.8708	4	1.0814
VE_We	4.0316	4	1.1904	4.0085	4	1.1895	3.5195	4	1.1703
VE_Eng	17.4733	4	1.4299	17.4674	4	1.4298	5.0705	4	1.22450
VE_Pow	11.0510	4	1.3503	11.0489	4	1.3503	na		

Table 8: VIF multicollinearity test results
 (Source: Created by authors based on simulation results)

3.4. Model's validation

Validation of selected models where performed based on a:

- 1) *k*-fold cross validation approach (Refaeilzadeh, 2016). Usually, *k* equals five or/and ten. This technique splits the data into *k* different folds of a similar size, where the training sample consists of *k* – 1 folds and the validation sample of the remaining one;
- 2) misclassification rates (Liu, 2017);
- 3) AUROC (Robin, 2011).

Model	5-fold cross-validation	10- fold cross-validation
Model 1	0.0182947	0.0182953
Model 2	0.0182967	0.0182962
Model 3	0.0182951	0.0182949

Table 9: 5- & 10-fold cross validation results
 (Source: Created by authors based on simulation results)

According to the obtained results, the stability of all three models is high and there are no significant differences between the analyzed models and the 5- vs 10-fold cross validation results.

Model	Within-sample	Out-of-sample
Model 1	0.02018289	0.01935358
Model 2	0.02018437	0.01935506
Model 3	0.02019324	0.01935506

Table 10: Misclassification rates
 (Source: Created by authors based on simulation results)

The misclassification rates also indicate the high quality of all three models, and they are even slightly better in the test sample in comparison to the training sample.

Model	Within-sample	Out-of-sample
Model 1	0.839363	0.832452
Model 2	0.839372	0.832400
Model 3	0.839334	0.831913

Table 11: AUROC
 (Source: Created by authors based on simulation results)

The AUROC's exceeded 0.8393 for all tree models on training sample and was only slightly lower on test sample. This result indicates a sufficiently high quality and stability of the models.

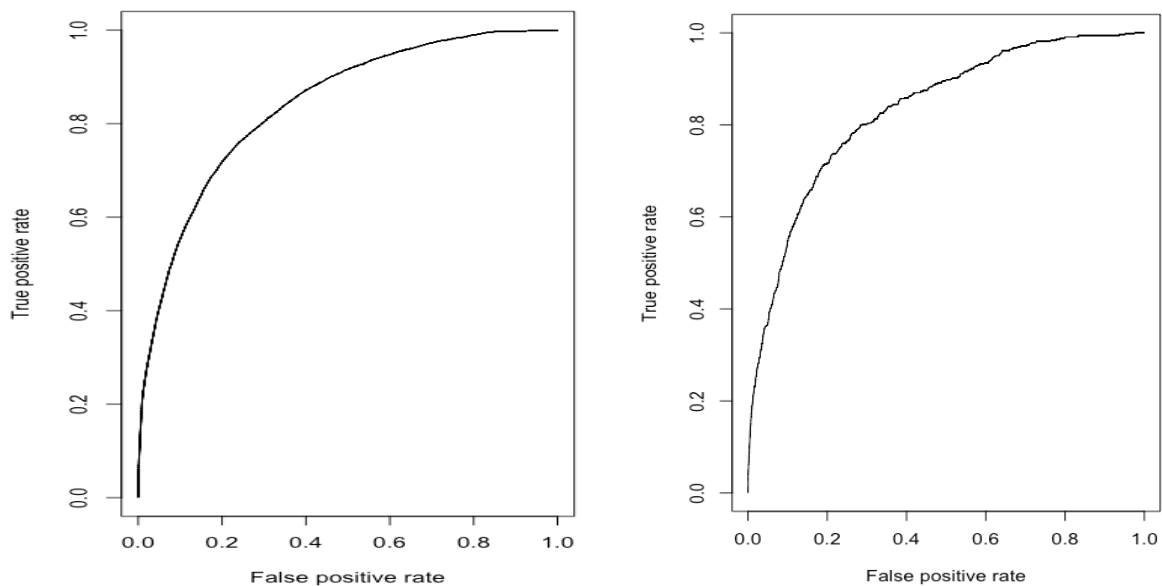


Figure 3: ROC for sample data (left) and test data (right) model
 (Source: Created by authors based on simulation results)

4. DISCUSSION

We applied multivariate simulations based on aggregated variable values to improve the accuracy of predictions of the risk of RTA. The discrimination of all tree best fit models was very good, with AUROC exceeding 0.83. Concerning demographic characteristics, the results of this study indicate that the typical Latvian car driver is 43 years old with a driving experience of 20 years, and despite having 0,45 penalty points for inappropriate behavior in traffic, he/she

has a positive Bonus Malus – 12th class from 17th (that is maximum). Concerning vehicle characteristics, the study indicate that the average vehicle exploited in Latvia is old - 14,5 years, heavy - 2057,5 kg and powerful – 107,6 kW. The average probability of road traffic accident occurrence in Latvia in 2019 was 2.05%. The authors of the study offer to look at the various factors influencing the risk of RTA by making a comparison between them, thus assessing their impact. In the specific study, the authors have chosen 11 factors (drivers age (years), experience (years), penalties (points), Bonus-Malus (points), vehicle age (years), vehicle brand (brand name), engine (cm³), power (kWh) and vehicle weight (kg). Virtually all these factors are both identifiable in the scientific literature and confirmed by industry experts. The study used expert interviews to test the results of the statistical analysis obtained by the researchers. The topic of the research is critical for the functioning of the insurance business, even more so: properly assessed risk factors essentially form the basis of a profitable insurance business. In total, three product managers of Latvia's leading transport insurance companies were involved.

4.1. Age of the Driver

The age of the driver is one of the traditionally used factors used by insurers when assessing the possibility of the occurrence of RTA risk. Although several studies have shown that younger (until 24 years old) drivers and single drivers more often report being involved in road traffic accidents (Antov, 2012), here, young adults (18-24) have more probability of being involved in an accident than middle-aged adults (between 34–54) but less probability than drivers over the age of 55. This study showed, the risk of younger drivers is high. This is especially true for the under-22 age group, where the risk of an RTA incident is 43.9% higher than average. The risk in the age group over 70 is also increases - it is 27% higher than the average. According to the authors, it is precisely the increase in the share of the older group in the future that may contribute to the positioning of research in this segment. According to Holz-Rau and Scheiner the impact of older drivers can be more relevant with urban and small accidents (with no injuries), related with a different societal dynamic related with aging, with more active behaviors, driving more and until more advanced ages (Scheiner and Holz-Rau, 2013). The authors of the study had an opinion on the need for a more detailed division of “high-risk” groups (eg young people aged 18-27) in order to conduct a more fragmented study. However, the experts' recommendations were not to do so, as this would significantly reduce the exposure of individual groups, which could have a negative impact on representativeness. By default, the physiological processes of aging (eg visual, auditory, impaired response) adversely affect the ability to control the vehicle, increasing the likelihood of RTA entry. According to the experts, the negative result of this group (seniors) is also influenced by the observed tendencies regarding the transfer of the vehicle for use to persons (children, grandchildren) who have just acquired a driving license. The purpose of such actions is to avoid the application of an increased tariff.

4.2. Driver Experience

According to the research the driver experience has an even more significant impact - in the group up to 2 years of driver experience the risk of an RTA incident is 60.5% higher than the average. Some studies (Bon de Sausa et al., 2017) will also delve into the time period (age of the person) during which the driver's license was acquired and the impact of this factor on the RTA: the relatively small numbers of crashes reported in the six months between licensing and our on-road testing mean that these correlations must be interpreted cautiously, but some novices had experienced multiple crashes in their first six months of driving. Moreover, the authors of the study determined that the influence of driving experience is observed not only among young drivers, but the factor of driving experience is also effective in all age groups!

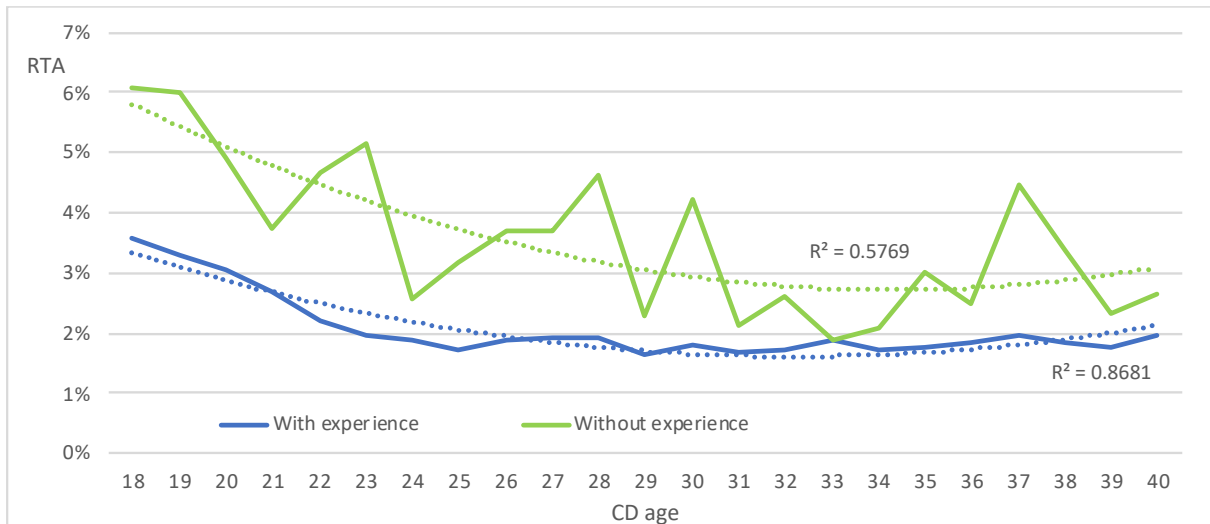


Figure 4: RTA incident dynamic by car driver's age: experienced vs unexperienced
 (Source: Created by authors based on simulation results)

4.3. Bonus – Malus

BM is the predominant risk factor. Bonus Malus identifies very significant differences between drivers' groups. If we take class 6 as the basic level (which is the level that is assigned as a starting class for "newcomers"), then we can see that motorists who are in the group from 7-11 BM are 5 times less likely to enter the RTA! Similar findings from the study emerge when we look at groups of motorists with negative driving history: comparing motorists within Malus category (1-5 BM classes) with the "newcomers" class, then we can see the difference for getting in the RTA almost three times! According to the experts, the paradoxical situation identified by the researchers, when a person with no experience develops the history of Bonus Malus, is related to the situation when a person participating in road traffic is registered to a person who does not have a driving license and the vehicle is driven by another person. Another reason is the situation when a person with an accumulated previous driving history is deprived of a driving license.

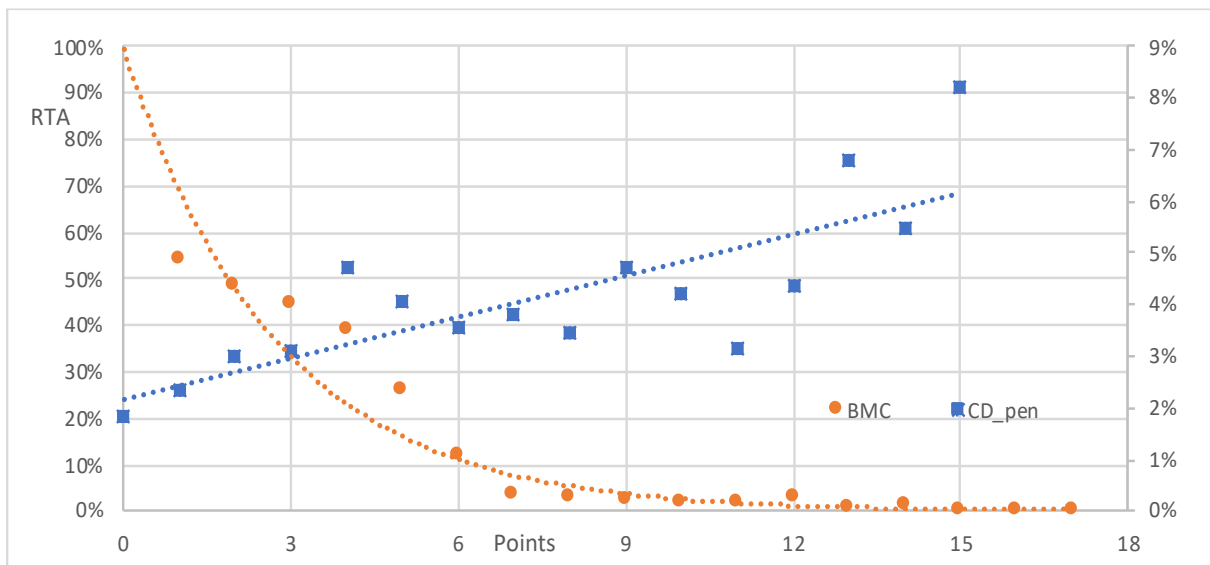


Figure 5: RTA incident dynamic by car drivers Bonus Malus and penalties
 (Source: Created by authors based on simulation results)

4.4. Vehicle Age

The influence of the age of cars on the occurrence of RTA risk was one of the biggest surprises for the authors of the study. For vehicles in the age group up to 4 years to enter the RTA compared to the average of 2.05% is higher than 46%. According to the authors of the study, additional expert opinion is definitely needed here. Both the statistical analysis data and the experts' opinion on the increased risk of new vehicles (age category up to 10 years) were partly a surprise to the experts.

4.5. Vehicle Brand

The authors of the study also conducted a study on the impact of vehicle brands on the probability of occurrence of RTA risk. In several grouping attempts, the authors of the study came up to 5 groups, in which vehicle brands were summarized according to their ability to get the RTA. According to the results of the study, the group of vehicle brands with the lowest risk - No. 1 (DAEWOO, DAIHATSHU, GAZ, LADA, LINCOLN, MCC, MOSKVICH, OPEL, PLYMOUTH, ROVER, SSANG YONG) has a 1.77% probability, while the group with the highest risk level - No.5 (CADILLIAC, DACIA, HONDA, HYUNDAI, INFINITI, KIA, LAND ROVER, LEXUS, MITSUBISHI, PORSCHE, SKODA, SMART, SUBARU, TOYOTA) has 2.43% probability, therefore the difference between the certain groups is 37%. The impact of car brands on the risk of RTA caused great discussions with experts regarding the specific grouping (the authors of this study created 5 risk groups, which were based on the analysis of statistical data).

4.6. Vehicle weight, Vehicle engine displacement (cm³), Vehicle Power

Although no significant difference in the impact on the probability of RTA risk was found between the 3 parameters of the vehicle (weight, engine displacement, power), there is a partial tendency that as these parameters increase, the probability of RTA risk also increases (positive correlation). As it should be emphasized that cars with an engine power of more than 200 kW, the risk of an RTA incident is 31.7% higher than average.

The authors would like to point out that a large primary data sample was analyzed and that should be considered as an advantage of the study (see Table 2). The deliberate grouping of variables was designed to avoid a small number of observations in any group. Accordingly, the results of the study can be considered to be relevant and significant and have a high practical potential for both road safety and, for example, insurance price policy. Our sample of drivers was very large, and so the comments here and non-specific to the present sample and can be necessarily generalized. Additionally, the majority of results are consistent with that described in literature about car drivers' road traffic accident risk factors (Bon de Sousa, 2016). Despite these limitations, this study brings useful information about drivers and vehicle characteristics that have an impact to probability of traffic accidents among Latvian car drivers that can be used in the near future to provide new strategies as well for traffic security authorities, as well insurance business. Future trends in RTA risk assessment could be related not so much to the analysis of past historical data as to the analysis of the current data flow online, as demonstrated by Khorram, Wahlberg and Tavakoli (Khorram et al., 2019).

5. CONCLUSION

Although Bonus malus is the most important factor in the RTA risk assessment model, others, such as policy term, car driver penalties, car driver age and experience, etc. also are important, because both the quality of the data can affect the classification result and the behavior of inexperienced drivers is difficult to assess and "becomes visible" within 2-3 years. Therefore, the multifactor model is considered to be the most appropriate and this was also confirmed by

the results of interviews with industry experts. The authors of the study conclude that the grouping of risk factors is one of the most important aspects to ensure both the correct selection of insurance risks and the exact impact of the common road traffic policy on the target audience. The results of the study confirm that the groups of factors are different for risk elements (eg the composition of vehicle brand groups differs in the probability of occurrence of risk and the amount of loss). In order to achieve a significant improvement in the fit of the models, it is necessary to group the values of the variables using both expert experience and statistical considerations. All variables included in the multifactor model, incl. car drive age, gender and behavior and car parameters are statistically significant, except one - "Power", which is less stable predictor. The issue with this factor should be further investigated. The results of the current study confirm the need to pay more attention to both motorists (both insurers and road policy makers), but the authors found that "new motorist" should be defined more broadly than age - this status should be maintained for motorists of all ages, who acquired the rights of a motorist in the last 2 years. In the near future, the focus of insurers and traffic policy makers could be more intensive on the senior driver segment. The study demonstrates a U-shaped curve for the probability of an accident depending on the age of the driver, which confirms the presence of both young drivers and seniors in high-risk categories. As the RTA are affected by many variables, such as the age and experience structure of car drivers, the characteristics of the car fleet, the intensity of transport, as demonstrated by the COVID-19 period, etc. risk factors and classification models need to be regularly validated and, if necessary, recalibrated based on the most up-to-date information available.

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APPENDIX

Factor	Model 1				Model 2				Model 3			
	Coeff. estimate	SE	Wald (z-stat)	p-val	Coeff. estimate	SE	Wald (z-stat)	p-val	Coeff. estimate	SE	Wald (z-stat)	p-val
Intercept	-0.2416	0.0923	-2,617	**	-0.2262	0.0680	-3.325	***	-0.1995	0.0661	-3.016	**
POL_M3	-1.6180	0.0209	-77.58	***	-1.6178	0.0209	-77.570	***	-1.6179	0.0209	-77.585	***
CD_GeS	0.0216	0.0653	0.331					na				na
CD_Age32	0.1027	0.0371	2.766	**	0.1041	0.0371	2.807	**	0.1037	0.0371	2.794	**
CD_Age42	0.2807	0.0432	6.498	***	0.2849	0.0429	6.637	***	0.2835	0.0429	6.608	***
CD_Age52	0.3369	0.0475	7.090	***	0.3426	0.0471	7.280	***	0.3411	0.0470	7.253	***
CD_Age62	0.5247	0.0527	9.949	***	0.5306	0.0523	10.149	***	0.5288	0.0522	10.121	***
CD_Age72	0.9387	0.0646	14.531	***	0.9432	0.0644	14.655	***	0.9412	0.0643	14.629	***
CD_Age82	1.5209	0.0924	16.454	***	1.5227	0.0924	16.482	***	1.5199	0.0924	16.457	***
CD_Exp2	0.2848	0.0316	9.021	***	0.2839	0.0316	8.997	***	0.2842	0.0316	9.010	***
CD_Exp3	0.3232	0.0385	8.389	***	0.3188	0.0382	8.346	***	0.3296	0.0382	8.369	***
CD_Exp4	0.1745	0.0474	3.679	**	0.1675	0.0468	3.581	**	0.1681	0.0468	3.595	**
CD_Exp5	0.2287	0.0553	4.133	***	0.2219	0.0548	4.050	***	0.2228	0.0548	4.066	***
CD_Exp6	0.0665	0.0791	0.840		0.0613	0.0789	0.777		0.0614	0.0789	0.778	
CD_Exp7	-0.2774	0.1402	-1.979	*	-0.2786	0.1402	-1.987	*	-0.2779	0.1402	-1.983	*
CD_Pen1	0.3590	0.0316	11.365	***	0.3561	0.0314	11.341	***	0.3563	0.0314	11.350	***
CD_Pen2	0.4185	0.0360	11.634	***	0.4153	0.0358	11.609	***	0.4152	0.0358	11.606	***
CD_Pen3	0.4597	0.0588	7.824	***	0.4551	0.0585	7.779	***	0.4549	0.0585	7.777	***
CD_Pen4	0.7672	0.0513	14.945	***	0.7638	0.0512	14.925	***	0.7638	0.0512	14.923	***
CD_Pen5	0.5864	0.0490	11.961	***	0.5811	0.0486	11.946	***	0.5815	0.0486	11.955	***
CD_BMC6	-1.2631	0.0383	-32.974	***	-1.2633	0.0383	-32.979	***	-1.2631	0.0383	-32.977	***
CD_BMC9	-3.2999	0.0322	-102.43	***	-3.3004	0.0322	-102.48	***	-3.3004	0.0322	-102.48	***
CD_BMC13	-4.0868	0.0369	-110.72	***	-4.0884	0.0368	-110.96	***	-4.0881	0.0368	-110.96	***
CD_BMC16	-6.2827	0.0533	-117.97	***	-6.2851	0.0532	-118.24	***	-6.2849	0.0532	-118.24	***
VE_Age7	0.0903	0.0433	2.085	*	0.0904	0.0433	2.088	*	0.0782	0.0431	1.816	.
VE_Age12	0.1096	0.0399	2.744	**	0.1092	0.0399	2.735	**	0.0932	0.0391	2.383	*
VE_Age17	0.1343	0.0428	3.137	**	0.1331	0.0428	3.110	**	0.1151	0.0417	2.760	**
VE_Age22	0.2484	0.0484	5.130	***	0.2463	0.0483	5.096	***	0.2312	0.0471	4.914	***
VE_Age27	0.5573	0.0653	8.537	***	0.5540	0.0652	8.503	***	0.5502	0.0645	8.537	***
VE_Bra2	0.0093	0.0373	0.250		0.0094	0.0373	0.251		0.0195	0.0369	0.528	
VE_Bra3	0.0594	0.0346	1.716	.	0.0591	0.0346	1.706	.	0.0682	0.0344	1.980	*
VE_Bra4	0.1158	0.0363	3.193	**	0.1162	0.0362	3.205	**	0.1238	0.0360	3.437	***
VE_Bra5	0.1958	0.0355	5.510	***	0.1957	0.0355	5.506	***	0.2088	0.0352	5.932	***
VE_We2	0.1007	0.0399	2.523	*	0.0996	0.0399	2.498	*	0.1227	0.0382	3.208	**
VE_We3	0.1229	0.0455	2.703	**	0.1207	0.0454	2.658	**	0.1506	0.0433	3.480	***
VE_We4	0.0785	0.0518	1.515		0.0755	0.0517	1.460		0.1034	0.0499	2.073	*
VE_We5	0.1826	0.0537	3.402	***	0.1796	0.0536	3.352	***	0.2062	0.0519	3.971	***
VE_Eng2	-0.1125	0.0372	-3.024	**	-0.1129	0.0372	-3.035	**	-0.0736	0.0335	-2.194	*
VE_Eng3	-0.0897	0.0410	-2.190	*	-0.0902	0.0410	-2.203	*	-0.0346	0.0343	-1.008	
VE_Eng4	-0.0223	0.0545	-0.410		0.0232	0.0545	-0.426		0.0223	0.0444	0.502	
VE_Eng5	-0.0669	0.0649	-1.031		-0.0678	0.0649	-1.046		-0.0136	0.0476	-0.286	
VE_Pow2	0.0670	0.0394	1.701	.	0.0669	0.0394	1.698	.	na			
VE_Pow3	0.1236	0.0465	2.657	**	0.1235	0.0465	2.655	**	na			
VE_Pow4	0.0718	0.0553	1.298		0.0716	0.0553	1.296		na			
VE_Pow5	0.1080	0.0635	1.701	.	0.1077	0.0635	1.696	.	na			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table: LRT statistics of selected model's coefficients estimates SE and Wald tests results
 (Source: Created by authors based on simulation results)

EXAMINING ENVIRONMENTAL FACTORS OF NEGOTIATION FAILURE

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ABSTRACT

The best lessons are those learned from the failure of a person or an organization. In the context of business negotiations, previous work has focused primarily on successful negotiations, while the causes of negotiation failure have been insufficiently explored. Therefore, the first aim of this paper is to identify the main causes of negotiation failure. The second aim is to determine the influence of negotiators' personal characteristics on the perceived causes of negotiation failure. For this purpose, a survey was conducted among 157 companies in Croatia. The results reveal three causes of negotiation failure: language barriers, cultural barriers and the legal environment. In terms of personal characteristics, female negotiators perceive language barriers as a failure more often than their male counterparts. In addition, cultural barriers are perceived as a critical issue by younger negotiators, by negotiators with shorter tenure, and by negotiators who negotiate more frequently. Finally, the age of negotiators has been shown to be negatively related to the legal environment. The overall conclusion is that negotiators perceive cultural barriers as a major cause of negotiation failure. Organizations should make more efforts to better train and prepare younger and less experienced negotiators for cultural challenges in order to overcome imposed differences and achieve negotiation goals.

Keywords: *Cultural barriers, Language barriers, Legal environment, Negotiation failure*

1. INTRODUCTION

Negotiation skills are increasingly important in the global marketplace, as is an understanding of how to negotiate in different cultures. Negotiations are among the most consequential social interactions, as their outcomes have a significant impact on an individual's career and financial outcomes (Rua et al., 2021). The dynamic process of business negotiations is not only an important tool for managing interdependencies, but also requires systematic management of the relationships within which the negotiations take place (Lewthwaite, 2006; Luomala et al., 2015). Therefore, the negotiation process requires adaptation and commitment from the negotiator (Oliver, 2011), but also his responsibility (Lempereur, 2012). In this sense, learning to negotiate is also a kind of self-awareness exercise that allows negotiators to deal with pressure, doubts, and stress during the negotiation process (Gates, 2012). Effective negotiators develop a set of tools and skills to use in the negotiation process because they know that negotiation skills make the difference between success and failure (Dumitrascu, 2020). To be a successful international negotiator, one must be psychologically comfortable in situations involving uncertainty, unexpected behaviour, risk, and making decisions based on incomplete information in order to solve problems and create opportunities with people who think and behave differently (Karsaklian, 2014).

As Jeong (2016) noted, international negotiations are a divergent phenomenon because numerous factors influence negotiators' understanding of their own interests, each other's motives, and the environment of their interactions. Experienced and effective negotiators are aware that conflicting goals and interdependencies often arise in negotiations. It is therefore not surprising that experienced and skilful negotiators are seen as important assets contributing to a company's financial performance (ElShenawy, 2010). Consequently, their skills are tested in cross-cultural negotiations, as negotiators in different cultures use different negotiation strategies and techniques and do not share their cultural background. As Hofstede (2015) noted, strategic management today almost invariably involves cross-cultural elements, suggesting that cross-cultural understanding is of strategic importance. The outcome of the negotiation process affects the likelihood of future encounters with the same party, i.e., the individual's desire to negotiate again with the same counterpart. As Fleck et al. (2017) found, reaching an agreement is significantly related to the desire to negotiate again. In the context of business negotiations, previous work has focused primarily on successful negotiations, while the causes of negotiation failure have been insufficiently explored (Rudd and Hughes, 2020). Studies on negotiation in Croatian companies are rather limited. In this context, previous research has focused mainly on negotiation as a value-adding business process (Tomasevic Lisanin, 2004), the role of business negotiation in gaining competitive advantage (Krizman Pavlovic and Kalanj, 2008), the role of negotiation skills and negotiation behaviour (Tomasevic Lisanin, Razum and Maric, 2015), and business negotiation as a crucial component of sales (Perkov, Primorac and Kozina, 2016). The issue of negotiation failure and its causes is still an under-researched topic, which was another motivation for conducting this research. Therefore, the first aim of this paper is to identify the main causes of negotiation failure. The second aim is to determine the influence of negotiators' personal characteristics on the perceived causes of negotiation failure. This paper is divided into five sections. After the introduction, the second section provides insight into selected factors of negotiation failure. The third section explains the research methodology, while the fourth section presents the research findings. Finally, the last section draws some conclusions, discusses the limitations of the research, future research directions and managerial implications.

2. LITERATURE REVIEW

Negotiation is a special form of interpersonal interaction and an essential part of the communication process. As such, it is of paramount importance in an intercultural setting. Success in negotiations is often no coincidence, but the result of good planning and trained skills (Saner, 2008). Examining negotiations from the perspective of failure is another angle of negotiation analysis. This perspective broadens the negotiation horizon and contributes to a better understanding of the challenges in international negotiations. As Sitkin (1992) noted, on the one hand, success promotes reliability, while on the other hand, failure promotes resilience. In addition, failed negotiations are often quickly evaluated without the necessary investigation that allows negotiators to learn from the experience and succeed. However, to understand success, one must understand failure. This means that the parties are able to maintain a relationship that allows them to participate amicably in new negotiations in the future, and that there can be renegotiations and adjustments without complete failure (Baber and Fletcher-Chen, 2020). Failed negotiations can be detrimental to the current and likely future interests of the organisation (Ali, 2009). Moreover, failure should not be a taboo. Only organisations that encourage dialogue about failed negotiations will grow and improve future success (Rudd and Hughes, 2020). The experience of failure allows the negotiator to challenge his or her perspective. Failure can move the negotiator away from the stagnant way of negotiating and allow for new ways of thinking. This can lead to a new, better worldview for reaching agreement in international business negotiations (Rudd and Hughes, 2020). Baber and Fletcher-Chen (2020) identify various failures in negotiations, i.e., failure modes such as damaged

relationships, intransigence, breakdown of trust, major changes in the environment, and link them to various causes, e.g., miscommunication, unresolved issues, lies or misinterpretations, slow overall decision-making, or speed of interaction. In this context, Zhu and Gao (2013) investigated Chinese negotiators' views on the causes of cross-cultural negotiation failure. The results showed that the most common causes of failure were Chinese negotiators' poor communication skills, especially inadequate English proficiency, lack of cultural awareness, use of inappropriate business behaviours and protocols, and failure to compromise on price, delivery dates, or payment terms. Negotiators who have reached an impasse in a previous negotiation are at higher risk of failing again because their experiences can influence how negotiators assess their capabilities, set their goals, and formulate their strategies (Liu and Chai, 2011). In addition, emotional intelligence is of growing interest to those concerned with negotiation failure. Emotional intelligence is likely to improve negotiation performance, i.e., trust levels, satisfaction, and desire to collaborate again in the future (Kim, Cundiff, and Choi, 2014; Kim, Cundiff, and Choi, 2015) and lead to a more positive negotiation experience (Der Foo et al., 2004). It is common knowledge that cultural differences can lead to the failure of international negotiations. As Salacuse (1999) argues, cultural differences between negotiating parties are a constant in international business negotiations. Consequently, many failures in international business are attributed to a lack of cross-cultural competence on the part of business people (Johnson, Lenartowicz and Apud, 2006). Research by Tinsley, Taylor and Adair (2012) emphasizes that the reasons for negotiation failure lie in negotiators' inability to recognize the evolution of their counterpart's schema from an intracultural to an intercultural negotiation situation, as well as negotiators' stereotypes about their counterpart's culture. Similarly, Groves, Feyerherm and Gu (2015) argue that the failure of international negotiations is often due to deficiencies in negotiators' cross-cultural skills. These include limited understanding of the cultures involved in the transaction, inability to communicate with individuals from other cultural backgrounds, and limited behavioural flexibility to adapt to culturally unfamiliar contexts. Regarding the influence of culture on negotiation processes and outcomes, individualism/collectivism are linked to negotiation goals; egalitarianism/hierarchy are linked to negotiation power, while high/low context communication is linked to information exchange in the negotiation (Brett, 2000). A better understanding of cross-cultural differences can help negotiators avoid feelings of anger and distrust toward their counterparts, and thus avoid tactics that might provoke even more anger and hatred in the other party (Xiao and Ma, 2015). Brett and Mitchell (2020) also confirm that knowing what is culturally normative enables negotiators to anticipate, interpret, and respect their counterpart's behaviour and facilitates the development of trust. Moreover, Kong and Yao (2019) emphasise that culture adds complexity to the meaning, functions, and dynamics of trust in negotiations. Throughout the various phases of negotiation, negotiators generally do not confine themselves to a single negotiating style. They vary their style and may adopt phase-specific negotiation style patterns to improve their performance (Preuss and van der Wijst, 2017). In this context, Stefanidis et al. (2021) show that cultures at the national, societal, and individual levels differentially influence negotiators' propensity to support questionable negotiation tactics. In multinational organizations and among people who regularly work with people from other cultures, cross-cultural dynamics are common (Adler and Aycan, 2021). Liu et al. (2018) emphasize that understanding cross-cultural dynamics in competition and collaboration can help individuals and managers in multinational corporations and global organizations manage cultural complexity and foster collaboration. During the negotiation process, negotiators are often under stress, which can be beneficial or detrimental to the negotiation outcome. The study by Ramirez-Marin, Barragan Diaz and Acar-Burkay (2021) suggests that stress has a positive impact on integrative offers and joint outcomes. Language is the most important means of communication and plays an important role in social interaction.

In addition, language is an important negotiation tool that helps implement negotiation strategies and techniques in both traditional face-to-face negotiations and electronic negotiations. Negotiators can use language to request information, exchange offers, persuade, threaten, compromise, or find potential partners. In addition, linguistic cues help predict negotiation outcomes (Sokolova and Szpakowicz, 2007). Collaboration in multinational teams requires the use of a common language, usually English, which often leads to significant differences in members' language skills. The use of a foreign language in the negotiation process can lead to communication difficulties and affect the performance of negotiators. In this sense, Li et al. (2019) found that at the individual level, members with higher language proficiency were more likely to express themselves, leading to more positive perceptions of their competence. On the other hand, at the team level, greater dispersion of language proficiency among members was associated with less accurate competence recognition, which in turn led to lower overall team performance. Fleischmann, Folter and Aritz (2020) argue that the level of perceived language proficiency of multicultural team members influences the construction of a hybrid culture; consequently, adequate language proficiency not only leads to efficient task solution but is also an important factor in creating interpersonal relationships and building a shared culture. Furthermore, the problem of language barriers can affect perceived trustworthiness and intention to trust, which in turn affects trust building (Tenzer, Pudelko and Harzing, 2014). Moreover, ÓhÉigeartaigh et al. (2020) emphasise that misunderstandings between cultures and regions play a more important role in undermining cross-cultural trust than fundamental disagreements. On the other hand, if nonverbal cues are not understood, communication can fail. Nonverbal messages are referred to as a silent language that existed before language was invented (Calero, 2005). In cross-cultural communication, negotiators must pay special attention to nonverbal cues in order to be appropriate to the culture being negotiated (Hurn and Tomalin, 2013). Although failures can occur for a variety of reasons, cultural differences are not the only ones responsible for the failure of cross-cultural negotiations. It is often emphasized that the changing environment (e.g., political, economic, institutional-legal, and cultural) has an impact on the success and failure of international business negotiations (Fang, Worm and Tung, 2008). The legal environment makes business negotiations difficult and complex because international negotiators must be familiar with the laws of each country in which they do business and how they are interpreted (Rudd & Lawson, 2007). Prior research has found that each culture and gender influences negotiation strategies and outcomes. Regarding gender differences in negotiation performance across cultures, Shan, Keller and Joseph (2019) found that in cultures with lower individualism, higher in-group collectivism, lower assertiveness, and higher harmony, women tend to perform better than men in negotiations. Regarding the negotiation context and the decision to negotiate, Reif et al. (2019) show that the negotiation context shapes gender differences, such that women tend to have an even higher initiation intention than men in certain social contexts.

3. METHODOLOGY

For this study, an empirical survey was conducted on a random sample of managers in Croatian companies from April to June 2021. Before conducting the main survey, a preliminary survey was conducted to ensure that all questions and measurements were structured correctly. Since the aim of this paper is to determine the existence of a relationship between the causes of negotiation failure and the proposed predictors, the proposed model consists of six variables (Table 1). The model in this paper consists of six variables. The first three are causes of negotiation failure and are analysed as dependent variables. Respondents were asked to indicate the extent to which they (dis)agreed with the statement that language barriers, cultural differences, and legal environment prevent the success of negotiations with international partners. The five-point Likert scale was used.

The remaining three variables represent personal characteristics of the negotiators: gender, age, and length of employment. It is generally accepted that men and women do not necessarily have the same negotiation style (Karakowsky and Miller, 2006). Age is divided into six groups (up to 24, 25-30, 31-40, 41-50, 51-60, and 61 and older). Length of employment in the current position is an important indicator of experience in the field of negotiation. In some cases, greater age does not equal greater experience. Length of employment is measured as follows: up to five years, 6 - 10, 11 - 20, 21 - 30, and 31 and over.

Variables	Measurements
Language barriers	1 – 5 1: strongly disagree; 5: strongly agree
Cultural differences	1 – 5 1: strongly disagree; 5: strongly agree
Legal environment	1 – 5 1: strongly disagree; 5: strongly agree
Gender	Male Female
Age	Up to 24 25 – 30 31 – 40 41 – 50 51 – 60 61 and over
Length of employment	Up to 5 6 – 10 11 – 20 21 – 30 31 and over

*Table 1: Variables and measurements
 (Source: Authors' analysis)*

The sample was formed from the population of companies registered in the Register of the Croatian Chamber of Commerce. The questionnaires were sent to the managers by e-mail. Of the total 530 questionnaires sent out, 157 valid questionnaires were received, which corresponds to a response rate of 29.6%.

4. RESULTS

Data obtained from the questionnaires were analysed using the Statistical Package for the Social Sciences (SPSS) version 20.0. Table 2 shows the descriptive statistics of the variables. The minimum, maximum, mean, and standard deviation were calculated.

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Language barriers	157	1	5	2.38	1.298
Cultural differences	157	1	5	2.64	1.311
Legal environment	157	1	5	3.24	1.251
Gender	157	0	1	0.45	0.499
Age	157	1	6	3.78	1.113
Length of employment	157	1	5	3.39	1.091
Valid N (listwise)	157				

*Table 2: Descriptive statistics
 (Source: Authors' analysis)*

Table 3 summarizes the frequencies of the sample. More than half of the managers (53%) disagree or strongly disagree with the statement that unfamiliarity with foreign languages is an important reason for negotiation failure. About 23% of them are neutral and the same number agree or strongly agree with the statement. Cultural differences are seen as a problem for negotiation success by more than 30% of respondents. Almost 47% do not consider cultural differences to be a failure factor. The largest proportion of managers (43%) agree or strongly agree that the legal environment is the main reason for negotiation failure. A quarter disagree or strongly disagree with the statement, and almost a third are neutral.

Variable	Frequency	Percent
Language barriers	157	100
1	59	37.6
2	25	15.9
3	37	23.6
4	27	17.2
5	9	5.7
Cultural differences	157	100
1	42	26.8
2	33	21.0
3	34	21.7
4	35	22.3
5	13	8.3
Legal environment	157	100
1	20	12.7
2	19	12.1
3	51	32.5
4	38	24.2
5	29	18.5
Gender	157	100
Male	86	54.8
Female	71	45.2
Age	157	100
Up to 24	4	2.5
25 – 30	15	9.6
31 – 40	41	26.1
41 – 50	57	36.3
51 – 60	32	20.4
61 and over	8	5.1
Length of employment	157	100
Up to 5	8	5.1
6 – 10	22	14.0
11 – 20	55	35.0
21 – 30	44	28.0
31 and over	28	17.8

*Table 3: Sample frequencies
 (Source: Authors' analysis)*

Our sample consists of 54.8% men and 45.2% women. As expected, the negotiation arena in Croatian companies is dominated by men. The average negotiator in the sample is middle-aged, with 36.3% of respondents between 41 and 50 years old. About 26% are between 31 and 40 years old. One fifth of them are between 51 and 60 years old. The youngest group up to 24 years old is represented by only 2.5% of the respondents.

The largest part of the respondents (35%) is employed between 11 and 20 years. A smaller number of them (28%) have been employed for a longer period of 21 to 30 years. Newly hired employees are modestly represented at 5.1%. Before proceeding to a more complex analysis, the correlations between dependent and independent variables should be evaluated (Table 4).

Independent variables	Dependent variables		
	Language barriers	Cultural differences	Legal environment
Gender	0.241**	0.121	0.126
Age	-0.110	-0.217**	-0.174*
Length of employment	-0,128	0.250**	-0.148

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

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

*Table 4: Correlation matrix
 (Source: Authors' analysis)*

It can be observed that the dependent variable is positively correlated with gender. There is no significant correlation with age and length of employment. On the other hand, cultural differences are negatively correlated with age and positively correlated with length of employment. Finally, the legal environment is negatively correlated with age. The next step of the statistical analysis is the multiple linear regression (Table 5). It must be outlined that only variables that are significantly correlated at the 0.01 or 0.05 level are included in the analysis.

Dependent variable	R	R ²	F change	Sig. F change
Language barriers	0.249	0.062	10.099	0.002
Cultural differences	0.231	0.054	4.355	0.014
Legal environment	0.179	0.032	5.099	0.025

*Table 5: Multiple linear regression summary
 (Source: Authors' analysis)*

As mentioned earlier, only the gender variable is significantly correlated with language barriers, explaining 6.2% of the dependent variable. The second regression model shows that the predictors age and length of employment explain 5.4% of the dependent variable cultural differences. The last regression model shows that the predictor age explains 3.2% of the dependent variable legal environment.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Dependent: Language barriers					
Constant	2.071	0.138		15.035	0.000
Gender	0.647	0.204	0.249	3.178	0.002
Dependent: Cultural differences					
Constant	3.644	0.365		9.984	0.000
Age	-0.091	0.188	-0.078	-0.487	0.027
Length of employment	-0.193	0.192	-0.161	-1.008	0.015
Dependent: Length of employment					
Constant	3.992	0.351		11.366	0.000
Age	-0.202	0.089	-0.179	-2.258	0.025

*Table 6: Multiple linear regression model
 (Source: Authors' analysis)*

Table 6 shows the coefficients of the regression models. As it can be seen, all regression coefficients are significant and have the same sign as the correlation coefficients.

5. CONCLUSION

In an intercultural negotiation context, numerous factors influence the negotiation process, the behaviour of the negotiating partners, and the outcome of the negotiations. Detailed knowledge of the phases of the negotiation process, tactics and strategies, and factors that influence the overall negotiation process will help negotiators interact effectively with the other negotiating party and achieve desired negotiation objectives. Every negotiation is a challenge, but negotiating with an international partner requires extra effort, knowledge and skills. Different dimensions of culture influence the outcomes of negotiations, and cultural awareness of negotiators contributes to a comprehensive understanding of the other negotiating party's behaviour, interests, preferences, tactics, and strategies, and gives the negotiator some advantage at the negotiating table. It is well known that international negotiations face many obstacles, such as unfamiliarity with foreign languages, cultural and legal differences, which often jeopardize the outcome of the negotiations. The aim of this paper was to investigate the differences in the perception of these potential failure factors as a function of personal characteristics of negotiators. This research found that female negotiators consider lack of foreign language skills to be an important reason for negotiation failure. This finding is not surprising, as women are more sensitive to communication and communication skills. This is in line with previous findings in the literature suggesting that female negotiators have a high interpersonal orientation and tend to interact and communicate more frequently with the other party (Sirgy, 2014). In addition, younger managers perceive cultural differences as a cause of negotiation failure. The results are consistent with previous findings (Johnson, Lenartowicz, and Apud, 2006; Tinsley, Taylor, and Adair, 2012; Groves, Feyerherm, and Gu, 2015) suggesting that the cultural factor plays an important role in negotiation failure. They are aware that they do not have the opportunity to familiarise themselves with foreign cultures. This result is consistent with another variable that correlates with cultural differences, namely the length of employment. Managers who conduct negotiations over a longer period have more experience in communicating with foreign partners. This gives them a sense of confidence in their performance. Managers who have been with the company for only a short time do not have this sense of security and therefore perceive cultural differences as a cause of failure. Younger managers also perceive the legal environment as a reason for failure in negotiations, but with a weaker correlation. Indeed, laws, roles, and regulations are much easier to learn than cultural heritage, customs, and values. The findings of this study have implications for managers who should make more efforts to develop soft skills in young negotiators to improve their confidence and success rate in negotiations. Therefore, it is essential to develop negotiation skills and cultural awareness to enable successful cross-cultural interaction and turn a failed negotiation into a success. Like other studies, this study has its limitations. First, the study sample is from Croatia, which requires careful consideration of the generalizability of the results. Second, the research described in the study can be extended in many ways. Variables such as market position, ownership, industry competition, or geographic location were not examined in the study. Future research could be extended by including these variables. In addition, other characteristics of managers should be considered, such as educational level, personal style, communication style, negotiation behaviour, and risk taking. Thus, more research is needed to better identify the determinants of negotiation failure. Despite its limitations, the study contributes to the existing literature by providing new insights into Croatian managers' negotiation behaviour and a better understanding of the complexity of negotiations and, in particular, negotiation failure. It can be of great value to both scholars and practitioners and serve as a stepping-stone for further research, especially in the Croatian negotiation context.

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THE IMPACT OF BOARD CHARACTERISTICS ON ESG DISCLOSURE: AN EMPIRICAL STUDY ON US COMPANIES

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ABSTRACT

In recent times, the demand of transparency and accountability is enhancing in the all sector. The pressures of stakeholders are ever-increasing, especially about information on environmental, social and governance (ESG) aspects. In this perspective, the aim of this paper is to investigate the impact of board characteristics on environmental, social and governance (ESG) disclosure. Specifically, this study examines whether and how board characteristics impact on the ESG disclosure by the use of agency theory. The ESG disclosure score collected on Bloomberg represents a measure to expand the application field of corporate social responsibility (CSR). The empirical analysis is based on a sample of 335 US companies, specifically belonging to S&P 500 Index. The study is based on the analysis of the relationships between board features, in particular size, diversity, independence, meeting frequency and average age of the board, and the ESG disclosure. The present study uses a multiple linear regression model, in particular, it implements a cross-sectional analysis. This study contributes to enhancing literature in this field in several ways. Firstly, it extends the application scope of agency theory, and, secondly identifies further internal determinants of ESG disclosure.

Keywords: *Agency theory, Corporate Social Responsibility, ESG Disclosure, Transparency, US context*

1. INTRODUCTION

This study aims to explore the impact of board characteristics on environmental, social and governance (ESG) disclosure. In the last decades the relevance of sustainable and environmental issues has made possible the implementation of innovative and transparent business strategies (García Martín & Herrero, 2019; García-Sánchez et al., 2020; Vitolla et al., 2019a; 2021; Rella et al., 2022). Starting from the assumption that the behaviors of present generation must be without compromising the future generation, in terms of natural resources, new business strategies and policies are required. But most of all, companies must increase the level of dissemination of information related to ESG aspects to improve their good image towards stakeholder and to achieve a competitive advantage (Tamimi & Sebastianelli, 2017; Nicolò et al., 2021; Raimo, 2021; Raimo et al., 2021a; 2021b). Non-financial disclosure is an essential element in corporate life, and companies through reporting documents, such as sustainability report, environmental report, and integrated report reveal themselves more transparent and provide information to all stakeholders in a simple and accessible way (Salvi et al., 2020; 2021). In order to improve the dissemination of ESG information is more important to underline the role of board of directors that appears fundamental and impactful. Board of directors, in fact, has the function of controlling and monitoring business activity, and therefore it plays a key role in a choice of communication of information (Healy, 2002; Kostant, 1999; Perrini, 2006; Vitolla et al., 2020a); in a satisfaction of stakeholders' interests, in terms of

transparency and accountability towards them (Hill & Jones, 1992; Shankman, 1999; Solomon, 1999; Vitolla et al., 2020a; García-Sánchez et al., 2021a; 2021b). In light of these remarks, this work tends to explore the impact of some characteristics of board on the level of ESG disclosure of US firms belonging to S&P 500 Index. More in detail, the present analysis examines the impact of board characteristics, such as size, independence, diversity, meeting frequency and average age of members on the level of ESG disclosure. Previous academic studies show different methods to analyze the impact of determinants on non-financial disclosure, in particular corporate social responsibility (CSR) disclosure (Raimo et al., 2019; Marrone & Raimo, 2021; Vitolla et al., 2019b; 2019c). These studies analyzed the impact of board characteristics on different types of disclosure, such as intellectual capital disclosure (e.g. Cerbioni & Parbonetti, 2007; White et al., 2007; Abeysekera, 2010; Vitolla et al., 2020b; Harli et al., 2021), environmental disclosure (e.g. Halme & Huse, 1997; Adams & Ferreira, 2009; Fernandes et al., 2018; Giannarakis et al., 2020; Khaireddine et al. 2020; Raimo et al. 2021a), sustainability disclosure (e.g. Post et al., 2011; Michelon & Parbonetti, 2012; Rao et al., 2012; Shwairef et al., 2021), CSR disclosure (e.g. Barako & Brown, 2008; Helfaya & Moussa, 2017; Ju Ahmad et al., 2017; Hu & Loh, 2018; Ong & Djajadikerta, 2018; Shwairef et al., 2021) and ESG disclosure (e.g. Giannarakis, 2014; Cucari et al., 2018; Faisal, 2018; Manita et al., 2018; Husted & De Sousa-Filho 2019; Farooque et al., 2022), in different sector, such as banking sector (Birindelli et al., 2018) and in different country (Husted & de Sousa-Filho, 2019; Khoiriawati & Nuswantara, 2021), but there are not studies that analyze the impact of board characteristics on the level of ESG disclosure related to US firms belonging to S&P 500. In addition, there are not studies that explore the impact of average age of members on ESG disclosure. Therefore, this study aims to bridge this gap, investigating the relationships between board characteristics (size, independence, diversity, meeting frequency and average age of the members) and the level of ESG disclosure. To this end, the remainder of this work is organized as follow: Section 2 presents the literature review, while Section 3 presents the theoretical background and the hypotheses development. Section 4 shows the research methodology. Section 5 shows the results, while Section 6 presents the discussion. Finally, Section 7 draws the conclusions.

2. LITERATURE REVIEW

In keeping with the aim of this work, previous academic studies place the emphasis on the relationship between board characteristics and voluntary disclosure. Specifically, in order to carry out this analysis, we will focus the attention on size, independence, diversity, meeting frequency and average age of the board, and their impact on the different types of disclosure. Several academic studies dealing with the impact of board characteristics on the level of intellectual capital disclosure. Hidalgo et al. (2011), through the analysis of annual reports released by 100 companies traded on Mexican Stock Exchange in the period between 2005-2007, have demonstrated the positive impact of board size on the level of intellectual capital disclosure. Likewise, the same result has been reached by Abeysekera (2010), through the annual reports of 26 companies ranked by market capitalization on Nairobi Securities Exchange in the period 2002-2003, and Dalwai and Mohammadi (2020), through the analysis of 31 annual reports of financial companies located in Oman. Furthermore, Haji and Ghazali (2013) have underlined the positive impact of size and independence of the board on the quality and level of intellectual capital disclosure, through the analysis of annual reports published by the first 60 larger companies ranked on Malaysia Stock Exchange in the period between 2008-2010. Conversely, Cerbioni and Parbonetti (2007), using a sample of 54 annual reports released by European biotech companies in the period 2002-2004, have demonstrated the negative relationship between board size and the level of intellectual capital disclosure. Also, the results have confirmed the positive impact of independence of board on the amount of the information

disclosed. Additionally, White et al. (2007) have demonstrated the positive impact of the independence of board on the level of intellectual capital disclosure, through the analysis of 96 biotech companies listed on Australian Securities Exchange. Similarly, Vitolla et al. (2020b) have conducted a study on a sample of 130 companies belonging to different sectors, and demonstrated the positive impact of size, independence, diversity and activity of the board on the quality of intellectual capital disclosure. Lastly, Herli et al. (2021), through a sample of 30 small companies listed on Indonesia Stock Exchange (IDX) in the period between 2012-2017, have proved the positive impact of gender diversity on the level of intellectual capital disclosure. On the contrary, regard to larger companies, the results have shown the negative impact of the gender diversity on the level of intellectual capital disclosure. Other studies have placed the emphasis on the relationship between board characteristics and environmental disclosure. Halme and Huse (1997), through the analysis of the annual reports released by 140 Finnish, Swedish, Norway and Spanish companies, have underlined the absence of a significative relationship between the board size and the level of environmental disclosure, and the same results are obtained by Sartawi et al. (2014) and Fernandes et al. (2018). Conversely, other researches have highlighted the significative and positive relationship between board size and the level of environmental disclosure (Akbas, 2016; Trireksani & Djajadikerta, 2016; Raimo et al. 2021a). In particular, Rao et al. (2012), through a sample of 96 annual reports of Australian companies listed on the Australian Stock Exchange, have demonstrated the positive impact of size, independence and gender diversity of board on the level of environmental disclosure. Conversely, Raimo et al. (2021a), through a sample of 129 integrated reports released by international companies, have found a non-significant relationship between board independence and the level of environmental disclosure. Instead, the results of the study above-mentioned have shown the positive impact of the gender diversity of the board on the environmental disclosure. Likewise, Rupley et al. (2012) confirmed the positive impact of gender diversity of the board, by analyzing a sample of 127 companies in the period between 2000-2005. On the other hand, Akbas (2016), through the annual reports of 62 companies listed on BIST-100 in 2011, has demonstrated the absence of the relationship between gender diversity of the board and the level of environmental disclosure. Also, Fernandes et al. (2018), through a sample of 152 companies listed on São Paulo Stock Exchange, have proved that gender diversity of the board does not affect the environmental disclosure. However, the results have confirmed the positive relationship between independence of the board and the level of environmental disclosure. Furthermore, the authors have underlined the positive impact of the board age on the environmental disclosure, and the same results has been reached by Sai et al. (2012), by examining a sample of 120 annual reports release by companies listed on Malaysia Stock Exchange, and Sartawi et al. (2014), through a sample of 103 companies listed on Amman Stock Exchange. Khaireddine et al. (2020), through an analysis on 82 companies listed on SBF120 in the period between 2012-2017, have demonstrated the significative and positive impact of size, independence and gender diversity of the board on the level of environmental disclosure. In addition, the researchers have found the positive relationship between the activity of the board and the level of environmental disclosure. This result has been obtained by Giannarakis et al. (2020), through a sample of 278 US listed companies belonging to S&P 500 Index. Conversely, Ofoegbu et al. (2018), through a sample of 303 South African and Nigerian companies, have demonstrated the non-significant relationship between the board activity and the level of environmental disclosure. Often, the relationship between board characteristics and the environmental disclosure has been explored in the broader context of the sustainability, CSR or ESG disclosure. In connection with sustainability disclosure, Michelon and Parbonetti (2012) through a sample of 57 companies and control group of companies belonging respectively to Dow Jones Sustainability Index (DJSI) and Dow Jones Global Index, have demonstrated the absence of a significative relationship between the board independence and

the level of sustainability disclosure. Conversely, Mahmood et al. (2018), through an analysis of 100 companies listed on Pakistan Stock Exchange, have found a positive relationship between board independence and the level of sustainability disclosure. In addition, the results have shown the significant and positive relationship between board size and the level of sustainability disclosure. This result, has been reached by Shamil et al. (2014), through a sample of 148 companies listed on Colombo Stock Exchange. Furthermore, the authors have proved that the presence of women within the board affects negatively the sustainability disclosure. On the other hand, Ong e Djajadikerta (2020), through an analysis conducted on 131 companies listed on Australian Stock Exchange (ASX), have demonstrated the significant and positive impact of the board gender diversity on the level of sustainability disclosure. Moreover, the results have shown that the board independence and the multiple directorships have a significant and positive impact on the level of sustainability disclosure. Other researchers have focused the attention on the relationship between the board characteristics and the quality of sustainability disclosure. Actually, Hu and Loh (2018), through a sample of 462 companies listed on Singapore Exchange (SGX), have demonstrated the significant impact of size, independence, and the activity of the board on the quality of sustainability disclosure. Accordingly, Shwairef et al. (2021), by analyzing a sample of 204 companies listed on Indonesia, Singapore, Malaysia, and Thailand Stock Exchange in the period between 2015-2019, have confirmed the positive impact of size and independence of the board on the level of quality of sustainability disclosure. With respect to CSR disclosure, Barako and Brown (2008), through an analysis of 40 Kenyan banks, have demonstrated the positive impact of independence and gender diversity of the board on the level of CSR disclosure. In contrast, Khan (2010), through a sample of annual reports of all private commercial banks listed on Bangladesh Stock Market (DSE) in the period between 2007-2008, has found the absence of a significant relationship between the gender diversity of the board and the level of CSR disclosure. The author has underlined the positive relationship between the board independence and the level of CSR disclosure of Bangladeshi banks. Instead, Kilic et al. (2015), through a sample of 26 Turkish banks in the period between 2008-2012, have confirmed the significant and positive impact of independence and gender diversity of the board on the level of CSR disclosure. In add, the results have shown the non-significant impact of board size on CSR disclosure. Said et al. (2009), by a sample of 150 companies listed on Malaysia Stock Exchange in 2006, have found that the board size has no a negative impact on CSR disclosure. Siregar and Bachtiar (2010), through an analysis on 87 companies listed on Indonesia Stock Exchange in 2003, have demonstrated the positive impact of board size on the level of CSR disclosure. Also, Pucheta-Martínez e Gallego-Álvarez (2019), through a sample of 13.178 companies of 39 different countries, have confirmed the positive impact of board size on the level of CSR disclosure. Additionally, the results reached by the authors, have shown the positive impact of gender diversity of the board on the level of CSR disclosure, but the negative impact of the board independence on this type of information. In connection with activity of the board, Ju Ahmad et al. (2017), by a sample of 450 companies listed on the Main Market of Bursa Malaysia, have demonstrated the absence of the relationship between the meeting frequency of the board and the level of CSR disclosure. This result has been reached by Fuente et al. (2017), through an analysis of 98 companies listed on Madrid Stock Exchange (MAD) in the period between 2004-2010. Furthermore, the results have shown the positive impact of independence and gender diversity of the board on the level of CSR disclosure. Finally, other studies have placed the emphasis on the relationship between the board characteristics and the level of ESG disclosure. Faisal (2018), through an analysis of 73 companies listed on Indonesia Stock Exchange, has demonstrated the negative impact of board size on ESG disclosure. Conversely, Giannarakis (2014), through a sample of 366 companies belonging to Fortune 500 in 2011, has found the significant and positive impact of board size on the level of ESG disclosure.

The results obtained by the authors have shown the absence of the impact of gender diversity, activity and age of the board on the level of ESG disclosure. On the other hand, Khoiriawati and Nuswantara (2021), through an analysis of Philippines, Indonesia, and Thailand companies, have demonstrated a positive relationship between size, independence, and gender diversity of the board and the level of ESG disclosure. Also, Lavin and Montecinos-Pearce (2021), through a sample of the leading companies belonging to General Price Index (IGPA) of the Santiago Stock Exchange (SSE) in the period of 2015-2019, have demonstrated the positive impact of independence and the gender diversity of the board on the level of ESG disclosure. Moreover, Wasiuzzaman and Wan Mohammad (2020), by a sample of 78 companies listed on Malaysia Stock Exchange, have demonstrated a positive relationship between gender diversity of the board and the level of ESG disclosure. Husted and de Sousa-Filho (2019) have confirmed the positive impact of size and independence of the board, through a sample of 176 companies located in Latin America (Brazil, Mexico, Colombia and Chile). However, the results have demonstrated the negative relationship between the gender diversity of the board and the level of ESG disclosure of the companies operating in Latin America. The same result has been reached by Cucari et al. (2018), by a sample of 54 Italian listed companies in the period between 2011-2014. Furthermore, the results have demonstrated the positive impact of board independence on the level of ESG disclosure, and the absence of effects of board average age on the amount of information disclosed. Conversely, Farooque et al. (2022), through an analysis of 259 companies listed on Egyptian Stock Exchange (EGX) in the period between 2007-2014, have found the absence of the relationship between board gender diversity and the level of ESG disclosure of Egyptian companies, before and after the revolution. Likewise, the results have shown that in the pre-revolutionary period the board national diversity affects positively the level of ESG disclosure. Also, Giannarakis et al. (2014) through a sample of 100 companies belonging to S&P 500 Index in the period between 2010-2015, have demonstrated the board gender diversity does not affect the level of ESG disclosure. However, in academic literature there is a lack of studies about all the board characteristics above-mentioned, specifically size, independence, diversity, meeting frequency and average age on the level of ESG disclosure of US companies belonging to S&P 500 in 2021, that offers a holistic view of the role of the board in the ESG disclosure policies.

3. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

According to previous literature concerning the impact of board characteristics on disclosure (Barako et al., 2006; Donnelly & Mulcahy, 2008; Al-Shammari & Al-Sultan, 2010; Frias-Aceituno et al., 2013; Vitolla et al., 2020a; 2020b) this study develops the hypotheses on the base of agency theory. In fact, agency theory, in its classical scope, explains the conflict between the principal and the agent, i.e., shareholders and managers. It results in a deep agency problem when the agent avoids acting always in the principal's best interests. In this perspective, agency theory outlines the grounds on which managers disclose in a voluntary way information relating to companies (Chow & Wong-Boren, 1987; Cooke, 1989, 1992; Firth, 1980; Hossain et al., 1995). Aimed at aligning the interest of managers and shareholders, agency theory seeks to reduce the information asymmetry, by means of some methods and tools, such as formal contract that sometimes are unenforceable for companies due to the incompleteness of such contracts. Another method is the disclosure of information to fulfill the asymmetry of information between the managers and shareholders. In this circumstance, the study fits the analysis of the ESG disclosure taking into account the characteristics of board. Indeed, board has a crucial role in a monitoring and controlling the management activity in order to allow the alignment of managers and shareholder's interests and the reduction of agency costs (Fama & Jensen, 1983; Jensen & Meckling, 1976). These functions of board allow a higher level of disclosure of non-financial information, in this specific instance of ESG aspects.

The board should present certain characteristics in order to perform the above-mentioned functions. In the lens of agency theory, this study relies on in-depth research aimed at exploring the impact of board characteristics on ESG Disclosure. In particular, it analyzes the impact of the following elements: board size, board independence, board diversity, board meeting frequency and average age of the board. Noteworthy are the controlling and monitoring actions of board towards management (Fama & Jensen, 1983). In relation to board size, Gandía (2008) have stated that these above-mentioned activities are more effective and efficient when board is composed by a larger number of members, and as a result, it is noted an improving of the disclosure of information and of the level of transparency of firms. Adam et al. (2005) have affirmed that the presence of a greater number of members involves a high level of experiences and ideas which enhances the disclosure policies of companies, and consequently the level of transparency. In this line, Domínguez and Gamez (2014) have underline the relevance of different experiences within the board, in particular related to the dissemination of information. According to de Villiers et al. (2011), the different knowledge, backgrounds and experiences promote the dissemination of a high level of information. Furthermore, some researchers have found the positive association between board size and disclosure procedures (Akhtaruddin et al., 2009; Madhani, 2015). Companies with large board size embedding different skills and ideas, and consequently they are more likely to provide information and to appear transparent. Accordingly, we formulate the following hypothesis:

- H1: *ESG disclosure is positively affected by board size.*

With regard to board independence, Donnelly and Mulchay (2008) have highlighted the positive association between the presence of a greater number of non-executive directors and the dissemination of information. In this perspective, Lopes and Rodrigues (2007) have affirmed that the non-executive directors have greater interest in a firm's transparency because they want to protect their personal reputation. In line with this, some researchers have stated the relevance of a greater presence of a non-executive directors related to the improvement of vigilance within the company (Dunn & Sainty, 2009); the relationship between company and its environment (Garegnani et al., 2015); the stakeholder's request (Johnson & Greening, 1999; Michelon & Parbonetti, 2012; Torchia & Calabrò, 2015) and, specifically in relation with CSR disclosure (Biswas et al., 2018). In connection with ESG disclosure, Cucari et al. (2018) have shown the positive association between the number of non-executive directors and the level of ESG disclosure. Companies with a greater percentage of non-executive directors provided more information about ESG aspects, and consequently appear more transparent. Accordingly, we formulate the following hypothesis:

- H2: *ESG disclosure is positively affected by board independence.*

In relation to board diversity, some researchers have identified different types, referring to value, informational, or social category (Jehn et al, 1999), and the relevance of diversity in a decision-making process (Post et al., 2011). Gender diversity is the main aspect of diversity and represents a pillar in academic debate (Frias-Aceituno et al., 2013; Alfiero et al., 2017). This aspect above-mentioned is comes from the historical debate on disparity between women and men (Liao et al., 2015). Some researchers have emphasized the role of women within the board, in terms of experiences, skills and education (Feingold, 1994; Buss, 2005), values (Hofstede, 2010), and effort and care in board activity to improve a good working atmosphere (Huse & Solberg, 2006). In addition, other researchers have highlighted the willingness of women on human, education, environmental and social aspects (Williams, 2003; Galbreath, 2011). In this line, Bernardi (2006) has stated the attention of women about ethical and moral issues than men, and Bear et al. (2010) have shown the positive association between the presence of women within board and CSR.

The main aspect is highlighted by a greater number of researchers (Webb, 2003; Barako & Brown, 2008; Bear et al., 2010) that have demonstrated the positive influence of gender diversity on disclosure practices. More in detail, these studies above-cited empower the idea that a greater number of women within the board is positively associated with the disclosure of ESG aspects, and consequently their presence improve the transparency of the firms. Accordingly, we formulate the following hypothesis:

- H3: *ESG disclosure is positively affected by board diversity.*

With regard to board meeting frequency, Frias-Aceituno et al. (2013) have affirmed that the activity of board is strongly linked to a high number of meetings that allows a better dissemination of information to brief stakeholders and shareholders (Lipton & Lorsch, 1992). According to Xie et al. (2003) a high number of board meetings implies a greater control and oversight of firm, and in particular Kanagaretnam et al. (2007) and Dominguez and Gamez (2014) have highlighted the decrease of information asymmetry linked to the enhancement of annual meeting of board. In line with this, Banghøj and Plenborg (2008) have underlined the positive association between the board activity, in terms of annual meetings, and the level of information disclosure. Brick and Chidambaran (2010) have affirmed that a greater number of annual meetings of board encourages the provision of further information to be shared with managers. More in detail, these studies above-cited empower the idea that a greater number of annual meetings of board is positively related to disclosure of ESG aspects, and consequently their organization improves the transparency of the firms. Accordingly, we formulate the following hypothesis:

- H4: *ESG disclosure is positively affected by board meeting frequency.*

In relation to the average age of the board, Anderson et al. (2004) and Giannarakis (2014) have highlighted the relevance of board age as a proxy of board experience. Some researchers have identified the experience as a characteristic of older managers (Bantel and Jackson, 1989; Bilimoria and Piderit, 1994), while other researchers have underlined the education level as a key parameter to measure the relevance of board age in the relationship with the experience. Hafsi and Turgut (2013) have stated that the age of members of board is negatively associated with CSR performance, and Post et al. (2011) have shown the negative relationship between board age and CSR disclosure. More in detail, these studies above-cited empower the idea that a high average age of the board is negatively associated with the disclosure of ESG aspects, and consequently the presence of older members gets worse the transparency of the firms. Accordingly, we formulate the following hypothesis:

- H5: *ESG disclosure is negatively affected by board average age.*

4. METHODOLOGY

4.1. Sample

The sample of this study is composed by all firms belonging to S&P 500 in 2021. S&P index is a broad cross-section of the US equity market including stocked traded on the New York Stock Exchange (NYSE) and Nasdaq (Manita et al. 2018). This study is based on the US firms that provide the ESG Disclosure score and all information about board characteristics used for the analysis. The final sample consisted of 335 US firms. The companies operate in 8 different sectors. Table 1 indicates the activity by sector of the companies analyzed. By sector, the activities with greater weight correspond to the Consumer and Financial sectors.

Table following on the next page

Table 1: Distribution of the sample by region of belonging

Sector	Frequencies	
	Absolute	Relative (%)
Basic Materials	15	4.48
Communications	27	8.06
Consumer	102	30.45
Energy	14	4.18
Financial	76	22.69
Industrial	47	14.03
Technology	33	9.85
Utilities	21	6.27

4.2. Dependent variable

Dependent variable of this study is represented by the ESG Disclosure score (ESGD) provided by Bloomberg, that built this score on the basis of the Global Reporting Initiatives (GRI) recommendations. The ESGD score is composed by three dimensions, specifically environmental, social, and governance (Eccles et al., 2011; Raimo et al., 2021c). In connection with the above-mentioned dimension, Bloomberg' analysts measure the ESGD index of each firm, and then Bloomberg provides this score in a range between 0.1 if the firm don't disclose ESG information and 100 if the firms disclose a highest level of ESG information. The ESGD variable is collected for the year 2021.

4.3. Independent and control variables

The independent variables of this study are: board size (BSIZE), board independent (BIND), board diversity (BDIV), board meeting frequency (BMEET), and board average age (BAGE). BSIZE variable is measured by the number of directors on the board (Frias-Aceituno et al., 2013; Alfiero et al., 2017; Vitolla et al., 2020a). BIND variable is calculated as the percentage of nonexecutive directors within the board (De Andres, Azofra, & Lopez, 2005; Frias-Aceituno et al., 2013a; Raimo et al., 2020; Vitolla et al., 2020a). BDIV variable is measured as the percentage of women within the board (Frias-Aceituno et al., 2013a; Liao et al., 2015; Alfiero et al., 2017; Vitolla et al., 2020a). BMEET variable is calculated as the number of annual meetings of board of directors (Frias-Aceituno et al., 2013; Vitolla et al., 2020a). BAGE variable is measured as the average age of directors within the board (Bueno et al., 2018; Martikainen et al., 2019; AI Nour et al., 2020). To increase the goodness of the regression model, the analysis considers some control variables. Specifically, firm size (FSIZE) and financial leverage (FL). FSIZE variable represents the firm size and it is measure as the natural logarithm of firms' total assets, and FL variable is calculated as the ratio between of total debt scaled by total assets.

4.4. Model specification

To test the relationships between board characteristics and ESG Disclosure, this study uses a multiple linear regression model. The analysis model proposed by this study is reflected in the following equation:

$$ESGD = \beta_0 + \beta_1 BSIZE + \beta_2 BIND + \beta_3 BDIV + \beta_4 BMEET + \beta_5 BAGE + \beta_6 FSIZE + \beta_8 FL + \varepsilon.$$

5. RESULTS

5.1. Descriptive statistics

The first part of Table 2 presents the descriptive statistics. An interesting result is represented by the mean of the dependent variable. It has an average value of 43.358, which demonstrate a low-medium level of disclosure of ESG information. As for the independent variables, the BSIZE variable has an average of about 12 members. The BIND variable has an average value of 87.682 % non-executive members within the board and the BDIV variable has an average value of about 25 of women within the board. The BMEET variable has an average value of almost 9 annual board meetings, and BAGE variable has an average value of about 64. As for the control variables, the FSIZE presents an average value of 10.050, and the FL presents an average value of 4.467. The second part of Table 2 shows the results of the correlation analysis. This analysis allows excluding multicollinearity problems. In fact, the highest correlation coefficient takes place between BSIZE and FSIZE and, it's equal to .553. In connection with this, as pointed out by Farrar and Glauber (1967), problems of multicollinearity are recorded only in the presence of values that exceed ± 0.8 or ± 0.9 . Therefore, in light of this, it is possible to affirm the absence of multicollinearity problems in the interpretation of the results. To confirm this, the variance inflation factor (VIF) was also calculated. In this regard, the highest value is 1.674, thus confirming the absence of multicollinearity problems. In fact, according to Myers (1990), there are no problems of multicollinearity in the presence of VIF less than 10.

Table 2: Mean, standard deviation, VIF and correlation

Variables	Mean	S.D.	VIF	ESGD	BSIZE	BIND	BDIV	BMEET	BAGE	FSIZE	FL
ESGD	43.358	12.809		1							
BSIZE	11.057	2.169	1.516	0.380	1						
BIND	87.682	6.914	1.162	0.240	0.250	1					
BDIV	24.108	9.038	1.136	0.225	0.091	0.265	1				
BMEET	9.030	4.175	1.209	0.368	0.264	0.195	0.091	1			
BAGE	63.292	3.823	1.077	-0.162	0.081	-0.050	-0.164	-0.123	1		
FSIZE	10.050	1.439	1.674	0.367	0.553	0.154	0.174	0.356	0.091	1	
FL	4.467	7.062	1.078	0.032	0.131	0.091	0.091	0.095	0.052	0.257	1

Note: n = 335. S.D. = Standard Deviation.

5.2. Multivariate analysis

To test the research hypotheses, this study used a multiple linear regression model. Table 3 presents the findings of the regression model. It allows explaining 28% of the variance of the dependent variable (R² Adjusted equal to 0.275). The results support all the hypotheses of this study. In particular, the findings verify Hypothesis 1 (H1). Board size (BSIZE) has a positive and significant association with the level of ESG Disclosure (ESGD) at $p = .0003$. This result suggests that firms with larger boards provide a higher level of ESG Disclosure. The findings support Hypothesis 2 (H2). In fact, they show a positive and significant relationship between board independence (BIND) and level of ESG Disclosure (ESGD) at $p = .0967$. This result shows that the presence of a greater number of nonexecutive members on the board of directors ensures a higher level of ESG Disclosure. The findings verify Hypothesis 3 (H3). Board diversity (BDIV) has a positive and significant relationship with the level of ESG Disclosure (ESGD) at $p = .0261$. This result suggests that a higher presence of women within the board ensures a higher level of ESG Disclosure. Additionally, board meeting frequency (BMEET) is also positively and significantly associated with higher level of ESG Disclosure at $p = .0001$.

This result supports Hypothesis 4 (H4) and highlights that a greater frequency of board meeting results in an increase in the level of ESG Disclosure provided by firms. Finally, the results support Hypothesis 5 (H5), showing that the average age of the board directors (BAGE) is negatively and significantly associated with higher level of ESG Disclosure at $p = .0125$. This indicates that a high average age of the board directors provides a low level of ESG Disclosure. With reference to the control variables, the results show a positive and significant association between the firm size (FSIZE) and level of ESG Disclosure at $p = .003$. This result indicate that larger firms present a higher level of ESG Disclosure.

Table 3: Regression model results

<i>Variables</i>	<i>Coefficient</i>	<i>Standard error</i>	<i>p-value</i>	<i>Sign.</i>
const	20.7319	15.1546	0.1722	
BFSIZE	1.2939	0.3515	0.0003	***
BIND	0.1600	0.0961	0.0967	*
BDIV	0.1653	0.0740	0.0261	**
BMEET	0.6503	0.1694	0.0001	***
BAGE	-0.4744	0.1889	0.0125	**
FSIZE	1.4951	0.5140	0.0039	***
FL	-0.1283	0.1008	0.2039	
N°	335			
Adj R ²	0.275			

*** = significant at the 1% level; ** = significant at the 5% level; * = significant at the 10% level

6. DISCUSSION

The study confirms all expectations regarding the impact of some board characteristics on ESG Disclosure. In particular, the findings show that largest board, most participative and proactive, and board with a greater number of non-executive members and women provide a higher level of disclosure of ESG information. Agency theory plays a fundamental role in the interpretation of results. In connection with this, the dissemination of ESG information is able to reduce agency costs, because it leads to a reduction of information asymmetry and an alignment of managers and shareholders' interests (Healy & Palepu, 2001; Watson et al., 2002; Bozzolan, 2005). Firstly, the results highlight a positive impact of board size on the level of ESG disclosure. This result could be explained by the fact that number of members of board is an important characteristic from different points of view. In this perspective, a larger board is enabled to manage and monitor the company as a whole. In fact, a larger board presents a greater number of members that have different skills and experiences. The combination of different skills and experiences makes it possible solutions when problems and conflicts about decision-making process arise. Furthermore, these elements allowed the creation of new perspectives and ideas to make companies' activities, including disclosure of financial and non-financial information, in this specific case of ESG information. In this sense, the impact of board size extends the concept of transparency stressed by previous literature (Godos-Dìez, 2018; Lagasio & Cucari, 2019; Velte, 2021) and play a key role in a dissemination of ESG information. Secondly, the results show a positive association between board independence and the level of ESG disclosure.

The presence of non-executive members entails a greater control of companies' activities due to the fact that they are independent and don't have the same interests of managers and executive members. In this perspective, non-executive members play a key role within companies because they are more inclined to satisfy stakeholders' requests (Birindelli et al., 2018; Elmagrhi et al., 2019; Chintrakarn et al., 2020), and in the meantime to safeguard the minority shareholders' interests (Fama & Jensen, 1983). Our results extend the previous literature on the positive impact of board independence on ESG disclosure (Oliveira et al., 2011; De Villiers & Hsiao, 2018; Chijoke-Mgbame et al. 2020), in terms to explain that when the percentage of non-executive members increase, companies are more prone to disclose their information about ESG, and due to this fact companies appear more transparent. Thirdly, the results highlight a positive impact of board diversity on the level of ESG disclosure. This result could be explained due to the fact that women play a fundamental role in terms of strengthened sense of social responsibility and improved decision-making (Liao et al., 2015). In addition, due to the less self-interested and economically orientation than men (Ibrahim & Angelidis, 1991; Hofstede et al., 2010;), they are more committed, diligent, and engaged in their activities, and women are more prone to create a positive working atmosphere within the board. The presence of women takes to follow best practices and ethical behaviors. Our results extend the previous literature on the positive relationships between board diversity, in terms of presence of women, and social disclosure (García-Sánchez et al., 2014; Verbeeten et al., 2016; Hussain et al., 2018). In connection for women tendency companies are more likely to disclose their information about ESG, and due to this companies appear more transparent. Fourthly, the results show a positive association between board meeting frequency and the level of ESG disclosure. In particular, the results display that the high frequency of annual meeting affects the ESG disclosure. This result could be explained by the fact that a high number of annual meetings increase the level of management and control of companies' activities, and consequently this involves a greater control of data and information. This control is made to allows a greater dissemination of information, and therefore a high level of transparency. In the context of dissemination of non-financial information, companies with a high number of annual meetings are more likely to disclose ESG information. Finally, the results highlight the negative association between board average age and the level of ESG disclosure. Specifically, the results show that a high average age of members of board affects negatively the ESG disclosure. This result could be explained by the fact that younger members are more likely to increase new ideas and innovative strategies to control and manage the activity of company (Guthrie e Olian, 1991). Notwithstanding older managers are likely to have more experience to manage insidious scenarios, it does not reflect on ESG disclosure. Being more energetic and resolute than older managers, younger managers are prone to the implementation of new tools that favors a higher level of information disclosure. With regard to new tools, younger managers are more likely to adopt reporting documents in order to increase the dissemination of financial and non-financial information, and consequentially enhance transparency.

7. CONCLUSIONS

This study has examined the impact of board characteristics on ESG disclosure. Specifically, this research tested the effect of size, independence, diversity, meeting frequency, and average age of board on the level of ESG disclosure. This study is made through the use of agency theory, and it has contributed to the extension of its application in academic studies related to the disclosure of non-financial information. The analysis conducted on a sample of 335 US firms revealed the positive impact of size, independence, diversity, and meeting frequency, and the negative influence of the average age of the board as assumed in the hypotheses. This study demonstrated how these characteristics play a key role in the dissemination of ESG information, and therefore in the increase of transparency.

The findings of this study have important implications for practitioners and policy-makers. Firstly, practitioners, in the role of corporate executives and high-level corporate governance bodies, are suggested to put companies in the best position possible to favor ethical behavior, by for instance redesigning the board of directors. The presence of non-executive members and women has a great relevance in this sense, due to the fact that they are more likely to adopt ethical behaviors, and to disclose the information concerning ESG aspects. In addition, enhancing the presence of young members within the board leads to innovative paths, in terms of new tools to increase the level of transparency, in a simple and accessible way. Redesigning the board of directors involves also working on enhancing board activity. Meetings imply dialogue, discussion, and share of ideas amongst members. The integration of these above-stressed aspects aimed at redefine the board of directors represents the closest way to reach high level of transparency. Secondly, policy-makers play a fundamental role, due to their real essence. Policy-makers should adopt new legal measures and industry regulations to encourage firms to be more transparent. Through the allocation of funds, the adoption of standardized actions, and the implementation of sustainable practices, firms are more motivated than before to disclose ESG information. It results in more transparency and competitive advantage. However, this study has a few limitations. A first limitation is related to the methodology. In this sense, the analysis is based on a cross-section and not on a panel. The second limitation is connected to the use of just a few board characteristics. Notwithstanding, these limitations may represent an important basis for future research. In fact, future research will try to explore this phenomenon over several years. Finally, future developments may concern the analysis of the impact of other factors related and unrelated to governance aspects.

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TECNOLOGICAL CHANGE, INOVATIONS AND ECONOMIC GROWTH

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ABSTRACT

Economic growth is one of the most intriguing areas of economics. The foundations of the theory of growth go back to the very beginnings of economic science, but they experienced their significant development only in the second half of the 20th century. While scientists agree on basic growth factors, many questions remain unanswered. This paper provides an overview of the literature on economic growth models in which technological progress plays a key role. Technological progress as the basis of economic growth is a significant part of theoretical and empirical work in this area. In the numerous literature, Schumpeter's model of creative destruction and Romer's model of growth stand out. These models are described in this paper. Also, an overview of empirical research based on these models is made. Romer's growth model belongs to the category of endogenous models in which long-term growth based on endogenous variables is possible. With his work, Romer launched an avalanche of works on the topic of endogenous growth. Such models reached the peak of their popularity at the end of the last century. At the same time, Schumpeter's model of creative destruction is developing, in which innovation plays a major role. Although at the beginning of this century, thanks to the development of information communication technology, complex macroeconomic models were developed, most notably DSGE (Dynamic stochastic general equilibrium) models, Romer and Schumpeter models are indispensable tools in the analysis of growth factors.

Keywords: *technological progress, economic growth, endogenous growth, creative destruction, models*

1. INTRODUCTION

One of the first theorists of growth was Thomas Malthus (1798), who said that economic growth could only be sporadic: it refuted itself, as it created population growth that in turn swallowed all the gains. This theory has long been refuted by empirical evidence. Some felt that this hypothesis could be applied to developing countries, but even this was discredited by real events. Economic growth has not been eliminated by rapid population growth in these countries. Moreover, patterns of population change associated with demographic transition in the West are recurring around the world. Growth theories have advanced significantly since Malthus' "black" forecasts. Although early works (e.g. Ramsey, 1928; Ricardo, 1817; Schumpeter, 1934; Smith, 1776; Uzawa, 1965) are the foundation of theoretical and empirical research in the field of economic growth, any analysis of economic growth, its determinants and consequences begins with Solow's growth model. (Solow, 1956). What interests growth theorists is what are the key determinants of growth. Solow's model identifies two possible causes of variation in output per worker, differences in capital per worker (K / L) and differences in effective labor (A). According to the model, changes in capital per worker have only a temporary effect on productivity growth. The constant growth of output per worker can only be explained by variations in effective work. Effective work (A) means technological change. Models of economic growth involving research and development (Romer, 1987; Romer, 1990; Aghion and Howitt, 1992; Grossman and Helpman, 1991; Barro and Sala-i-Martin, 2004; Jones, 2002) developed more significantly in the second half of the last century. The aim of this paper is to explain the role and importance of technological progress for economic growth and to give an

overview of the most important models and literature. The following chapters discuss in more detail the theoretical foundations of the impact of technological progress on economic growth with an overview of empirical research. The emphasis is on two models that are fundamental to understanding the impact of technological progress on economic growth, Schumpeter's model of creative destruction and Romero's model of endogenous growth.

2. CREATIVE DESTRUCTION MODEL

One of the first economic models to consider the role of innovation on economic growth is Schumpeter's model of creative destruction. The model of creative destruction based on Schumpeterian theory of growth goes a step further than endogenous theories by explicitly distinguishing physical from intellectual capital and savings, which cause growth of physical capital and innovation, which causes growth of intellectual capital. It assumes that technological progress comes from innovations whose business owners are motivated by profit, and includes what Schumpeter called "creative destruction." That is, every innovation creates a new process or product that gives its creator a comparative advantage over competitors, which makes it a squeeze of an earlier innovation, and at the same time it is doomed to squeeze out a future innovation. Schumpeterian theory was further developed by Philippe Aghion and Peter Howitt (1992). It differs from neoclassical theory in the assumption that technological progress is endogenous and can vary from country to country. But it also differs from the first generation of endogenous theories of growth because it takes into account the process of international technology transfer, which makes the rate of technological progress in each country dependent on both global and local conditions. Newer versions of Schumpeterian theory assume that the rate of technological progress in one country depends not only on innovation in that country but also on technological spillovers resulting from innovation in other countries. In this way, it takes into account the international diffusion of technologies, or what is known as "technology transfer". Recognizes the "advantage of backwardness". A country that lags behind world technology leaders has the advantage of being able to thrive using inventions made elsewhere. (Howit, 2005) The advantage of backwardness is the strong force behind the convergence of growth rates. It makes a country's rate of technological progress greater the larger the gap in relation to the global technological frontier, striving to stabilize the gap. However, the fact that the gap between rich and poor countries has continued to grow throughout the 21st century as it has been growing since the early 19th century shows that there are contradictory forces on the evolution of the gap. In Schumpeterian theory, contradictory forces come from two additional factors. The first of these additional factors is the need to invest in technology if one wants to take advantage of technology transfer. Technologies developed in one country are typically not available in a way that can be taken off the shelf and used without additional modifications in another country. So adopters must spend time and resources learning and experimenting before mastering what is mastered elsewhere. This is, due to differences in climate, available raw materials, skills, customs, preferences, regulations, etc., what works in one country often does not work in another. (Howit, 2005) Another additional factor is increased complexity. As technology evolves, the amount of investment required to transfer to any country grows as it becomes more difficult to master and modify. For example, new technologies are often embodied in physical capital. As capital becomes more advanced it involves more complex interdependencies, so changing one component in response to local conditions can mean a long and unpredictable series of further changes before the technology works properly again. These two additional factors create an obstacle to lagging behind, because as the country lags behind the technological frontier, its income declines relative to the size of investments that must be made to take up foreign technology at the same rate. Shortage constantly beats Gerschenkron's advantage, and Schumpeterian theory helps us understand why advantage prevails in some countries, finally allowing the country to grow at the same rate as

technology leaders, with a stable income gap, while in other countries the disadvantage prevails than a technological leader, with an increase in the proportional gap. Two observations relevant to Schumpeterian theory are related to the situation of very poor countries. First, unlike neoclassical theory, the theory attributes differences in growth rates between poor and rich countries to differences in productivity growth rates rather than differences in factor accumulation rates. This is consistent with a large body of recent empirical research. For example, Easterly and Levine (2002) estimate that about 60% of variations in per-capita GDP growth rates among countries are attributable to differences in productivity growth, while Klenow and Rodriguez-Clare (1997) estimate that about 90% of their sample variation countable differences in productivity growth. Second, investment in technology, in the form of R&D costs, is an essential ingredient in the technology transfer process, at least among developed countries. Although developing countries do not conduct formal R&D at a significant level, the investments they make by adapting and applying foreign technologies share many of the analytical characteristics of R&D in the economic model. Specifically, like R&D, these investments in implementation are expensive, using ideas developed elsewhere through the spillover of technology that Griliches (1979) and others have shown to be very important, and becoming more expensive as the technological frontier shifts.

3. ROMER GROWTH MODEL

A significant contribution to understanding the role of innovation and research and development in economic growth has been made by endogenous theories of growth, especially Romer's model according to which a well-educated population helps society increase skills and use relevant knowledge. Human capital, for example, in the form of the level of education, has a significant impact on TFP due to its role as a determinant of the capacity of an economy for technological innovation and especially for developing countries to adopt foreign technologies. In this sense, we can distinguish between primary and higher education. Primary education is essential because it provides the capacity to learn and use information, and is highly necessary for technological innovation (Romer, 1989). At about the same time, Mincer (1989) emphasizes the importance of education for technology transfer and innovation. Human capital activities include not only the transfer and embodiment of available knowledge into people, but also the production of new knowledge that is a source of innovation and technological change. Without new knowledge, larger amounts of existing physical capital, broader education, and health care are unlikely to create continued productivity growth globally. Modern economic growth is the result of a scientific revolution, ie the growth of systematized scientific knowledge. The geographical origin and breadth of the industrial revolution since the 18th century support this view and the major role of human capital in the very emergence and acceleration of the industrial revolution. The Industrial Revolution began with the scientific revolution in Northwest Europe and quickly spread to areas where education allowed for the easy transfer of technology. Human capital as a source of new knowledge shifts the production function upwards and creates economic growth worldwide. Although knowledge has no limits, its use requires local adaptation, which is more expensive the more diverse the economies and societies to which it is transferred. Moreover, as technological progress continues, the slower the diffusion and the greater the technological gap between initiators and imitators. As a result of the adoption of new technologies, the demand for an increasingly specialized and sophisticated workforce supported by a broadly educated population is growing. Earlier works such as Nelson and Phelps (1965) also find that education becomes more valuable in periods of rapid technological change and that more education is needed to tackle emerging challenges and to understand what is right to do. Empirical work on this topic is not so convincing, primarily because it is difficult to obtain an independent and relevant measure of technological change.

In the absence of a more definite explanation, this phenomenon has been attributed in the literature to the rising cost of “skills” as a result of increased demand due to technology. Romer (1989) offers theory and evidence for the link between human capital and growth only if both "theory" and "evidence" are widely interpreted. "The theory is nothing more than a conceptual framework for thinking about growth, which is intended to be useful in data analysis. It does not create a set of equations that can be solved to find a balance, nor clear quantitative predictions." (Romer, 1989). Accordingly, the empirical analysis presented in the paper is nothing more than a preliminary attempt to explain the data guided by a theoretical framework. In Romero's model, there are a number of agents in a closed economy. Each has a fixed time that can be divided between two different types of educational activities and four different production activities. Each agent has a talent for three types of skills (Romer, 1989):

- physical skills as coordination of movements and forces,
- educational skills acquired in primary and secondary education and
- scientific talent acquired in post-secondary education.

Physical skills are given, but they could be explicitly modeled as a product of investment in nutrition, health care, exercise, etc. The training measure for each agent can be measured with the total years of training. To keep demographics simple, the assumption is that one new person is born every time someone dies. Scientific skills can differ from the skills acquired in primary and secondary education, and measured by years of post-secondary education. Finer ways of differentiating educational outcomes can also be chosen, such as distinguishing between graduates and scientists, engineers and technicians. But it is only important to illustrate how more types of skills can enter production technology, and that various empirical measures can be used for advanced skills. A measure of cumulative work experience can be defined, assuming that the experience is not too work-related and that mobility is not predominant. It can easily be expanded. Such input differentiation is less restrictive than the usual measurement in units of efficiency of operating hours. The inputs are separated to highlight which all the different types of inputs may be important for production. This framework emphasizes that the variables physical skills, educational skills, and scientific talent are related to the per capita base. I can't exceed the average life expectancy of people in that economy. For decoupled per capita income growth, some input should grow decoupled. Average years of education or experience are not prerequisites for these variables. It is clear that knowledge, understanding, or science has grown per capita and will continue to do so. The very fact that unbound growth is possible is an indication that this input is a different kind of intangible from cognitive skills or memory related to task performance. The characteristic that makes cognitive skills and memory inclusive in economic models is what makes them related: they are exclusively related to the individual. Intangible as scientific or engineering knowledge is not tied to the individual. This means that they can grow without borders, but this causes conceptual difficulties about the exclusivity and competitiveness of knowledge as an economic good. There are claims that X years of education today produces workers with higher productivity than X years of education 100 years ago due to the growth of knowledge and science. If the main role of primary and secondary education is the production of basic cognitive skills such as reading or solving simple equations, this seems unlikely. Schooling today is actually very similar to that of 100 years ago. If there is a positive effect of science and technology on our ability to teach basic cognitive skills, it is small and negligible. Science does not influence output through education but through the production of new goods. The production of knowledge or technological change leads to a conflict with the assumption of price acceptance. Despite the central role that knowledge or technology plays in growth models, growth theory has not dwelled too much on this issue. The neoclassical model of exogenous technological change (as presented by Solow, 1956) implicitly recognizes non-competitive aspects of knowledge - improvements in technology can benefit all companies

simultaneously, but does not consider the possibility of producing knowledge privately, but only as a random effect of other activities. The formulation in the earlier work of Romero (1986) and Lucas (1988) introduced forms of knowledge that are partly exclusive and rival, and partly non-exclusive and non-rival. As in the Arrow model, non-rival knowledge is produced only by chance as a side effect of other activities. All three models allow spillovers, ie problems related to the exclusivity of knowledge, but do not address the conflict between non-competitive and private creation of goods in competitive markets. Attempts to avoid the issue of deliberate private production of non-rival inputs such as design or inventions probably stem from technical considerations related to the construction of economic models rather than from the belief that privately produced non-competitive goods are insignificant. Direct estimates of the size in question are not easy, but we know that spending on research and development in industrialized countries ranges from 2% to 3% of GDP. Almost all the output of these activities has a non-competitive character of design or invention, and many of these activities are in the private sector (Romer, 1989). The growth rate of basic science can be taken as exogenous given by development in other countries and government policy decisions. This does not reduce the model to the neoclassical, because the basic science has no direct impact on the measured output. What is important for output growth is the growth of applied science. If applied science is constant because resources are not focused on transforming basic science into usable products, the fact that education and experience are related to per capita income means that the economy will reach a conventional equilibrium in per capita income due to declining returns on capital accumulation; i.e. due to declining marginal productivity. In other words, if there is no application of science through innovation, there is no technological progress which is the only factor of economic growth in the long run. The level of human capital variables such as education or scientific talent will be correlated with both the per capita income growth rate and the share of total output devoted to physical capital investment. It is possible that education variables are not significant in the regression for output growth which also includes the investment rate. If so, the investment rate should be significantly linked to growth, even in the long run, which means that the investment rate should be linked to the level of education. This means that even if there is no significant link between education and growth in the regression, but a significant link between growth and investment in physical capital, there should also be a significant link between education and investment. Thus, education certainly contributes to economic growth, it is only a matter of choosing a regression model whether this impact will be direct or indirect (Romer, 1989). The trend of catching up with developed countries due to faster growth of applied science should lead to a negative partial correlation between the initial level of income and the consequent growth rate. Thus, according to the convergence assumption, the lower the initial income level, the higher the consequent growth rate. The prediction that this model shares with more conventional models is that the growth rate of human capital variables should be related to the growth rate of output. This is a conventional assumption in calculating growth. As the growth rate of applied science, variation in equilibrium countries in different equilibrium growth rates may be consistent with variation in investment growth rate. So, in the context of regression, human capital growth may not be significant in regression growth rates on the list of variables that include investment. Once again, investment should explain the growth rate of output, and changes in human capital should explain investment. This model does not offer a direct test of the claim that there are increasing returns at the aggregate level. As the logic of the model dictates, existence follows from the claim that uncompetitive goods such as inventions, design, or science are important in explaining long-term growth. That this is true has also been shown by studies of industrial productivity of research and development, but comparable evidence at the aggregate level will have to wait for the construction of research and development measures that are comparable between countries (Romer, 1989).

Romero's model is the foundation for understanding the economics of ideas. Ideas improve production technology by enabling the production of more output or better output with the same amount of input. Examples of ideas and technological improvements are numerous. When we think of innovation, the first association is with ideas such as the application of new materials, better machines, etc. Innovation is possible in various fields and is by no means limited to engineering. Ideas can also refer to the concept of business such as the \$ 5 wage Henry Ford paid to his workers at a time when the usual wage was half as much. According to Romer, the main feature of the idea is non-rivalry, which allows for increasing yields on volume. The model assumes imperfect competition. Thus, ideas differ significantly from all other types of goods and services. Most goods such as smartphones are rival goods. Rival good means that it is used by a certain person at a certain time. Ideas do not have that characteristic. The same idea can be used by multiple people at the same time. Still, the ideas are, at least in part, exclusive. The creator of an idea can keep it to himself, that is, he can protect it with copyright or a patent and charge for its use (Jonas and Vollrath, 2013). The exclusivity of ideas can vary considerably. Non-rival goods that are non-exclusive are called public goods such as a park or children's playground. Non-exclusive goods have significant external benefits that the manufacturer cannot include in the market price of the product, ie externalities. Investment in research and development is an example of such a good and as such is mainly financed from public sources. On the other hand, goods with negative externalities could be overproduced. Rival goods must be produced each time they are sold, while non-rival goods must be produced only once. Non-derivative goods such as ideas often have high fixed production costs (eg product research and development costs) and low or no marginal costs. (Jones and Vollrath, 2013) Growing yields on volume suggest that setting a price equal to the marginal cost could result in losses. What emerges from the previously described characteristics of the idea economy is the necessity of state intervention in terms of market regulation to ensure the existence of an initiative to generate ideas. Legal mechanisms such as patents and copyrights give innovators monopoly power for a while. Innovators can thus at least benefit in part from their idea. Understanding the economics of ideas is quite important for understanding economic growth. Let us remember that sustainable economic growth is present only in recent economic history, more precisely, the last 250 years. The question arises, how did the first positive rates of economic growth come about? One of the theories advocated by many economic historians is that for modern economic growth, the development of intellectual property rights is crucial (Jonas and Vollrath, 2013).

4. CONCLUSION

Economic theorists often disagree about the many challenges of the modern economy, but the importance of technological progress as a source of growth is certainly one of the topics on which there is consensus among economists. Although the field of economic growth is relatively young and began to be studied more intensively only in the middle of the last century, the literature on the sources of growth is very rich. This area experienced a rise in the number of papers, especially in the middle of the second half of the 20th century, with the development of endogenous theories of growth, which were also discussed in this paper. This paper discusses both theoretical assumptions and empirical evidence of the importance of technological progress. From the described theoretical models arises the exceptional importance of technological progress for economic growth, which has implications for economic policy makers. Special emphasis is placed on two models of growth that are the basis of numerous empirical works. The basic idea of Schumpeter's model of "creative destruction" is that each new innovation supersedes the existing one. Schumpeter was one of the first to explore the role of ideas and innovation in economics. Romer's model initiated an avalanche of works of endogenous growth models that explain growth within the model, ie. long-term growth is

possible thanks to the growth of capital and human capital. Economic science has a great responsibility in finding answers to the challenges of the global economy that directly affect the well-being of society. The rise in living standards is a consequence of productivity growth, and empirical evidence in favor of the irreplaceability of technological progress as a source of growth is the answer of science to one of the fundamental questions of the progress of the world economy.

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CAN THE SUPPORT INITIATIVES COMPENSATE FOR THE OBSTACLES IDENTIFIED BY IMMIGRANT ENTREPRENEURS AND DIGITAL NOMADS? - THE CASE OF CROATIAN BUSINESS ENVIRONMENT

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ABSTRACT

Migrations are on the rise and so is remote work. Migrant entrepreneurs and digital nomads are among the key protagonists of both phenomena. Many recent global events (COVID-19 pandemic, natural disasters, armed conflicts, political instabilities) have influenced their lives in the most diverse ways. Based on the primary and secondary data this paper seeks to identify the main barriers perceived by the digital nomads and migrant entrepreneurs currently residing in Croatia. It also aims to provide an overview of the key activities implemented by support organisations in charge of these two migrant groups. Finally, it investigates whether those support initiatives are able to compensate for the obstacles faced by migrant entrepreneurs and digital nomads in the Croatian business environment.

Keywords: *Immigrant entrepreneurs, Digital nomads, Institutional support, Croatia*

1. INTRODUCTION

Migrations in the World are continuously on the rise and so is remote work. Migrant entrepreneurs and digital nomads are among the key protagonists of both phenomena. Many recent global events (COVID-19 pandemic, natural catastrophes, armed conflicts, political instabilities) have influenced their lives in the most diverse ways. Digital nomads are a type of migrant entrepreneurs (OECD/EC, 2021: 242). Yet, because of the digital nomad visa being a novelty in Croatia (and in several other countries) and their intrinsic specifics (including the fact that they are not necessarily entrepreneurs), they are separately listed and additionally analysed in the article. This paper is based on the primary and secondary sources. Primary sources include semi-structured interviews conducted with institutional representatives dealing or expected to be dealing with immigrant entrepreneurs and digital nomads in Croatia. To identify an appropriate sample, a purposive and snowball sampling procedure was employed. The sample included twelve institutional representatives (coded as IN1-12) The interviews were carried out in January - November 2019, April 2020 – June 2021 and October 2021-January 2022 and were conducted in Zagreb, partly via email, over the phone or through a video call. For the purposes of updating the information from the first and second round of interviews (due to pandemic and other recent circumstances), some interviewees were contacted again. The data on the digital nomads were mostly collected from the secondary sources, i. e. media articles. The qualitative content analysis was employed. The main topics investigated were advantages and disadvantages of doing business and living in Croatia, institutional support provided by the public authorities and non-governmental actors, access to opportunities in the Croatian market. By offering preliminary findings on the digital nomads' insights in Croatia and additional findings on migrant entrepreneurship in Croatia, this research contributes to an underrepresented, yet expectedly growing body of literature. The findings of the paper may also provide relevant policy inputs.

2. LITERATURE REVIEW

Migrant entrepreneurship has been increasingly studied globally in the last decades (Dabić et al, 2020; Egorova, 2021; Bolzani, 2021) and in Croatia it has been more intensely explored only lately (Čapo & Kelemen, 2018; Čapo, 2019; Brzozowski et al, 2021; Alpeza et al, 2022; Šimić Banović et al, 2022, forthcoming; Škokić, 2022; Vučković, 2022). That trend is not surprising as the immigrant entrepreneurs are shown to vastly contribute to their destination societies. Namely, they are 'job makers' rather than 'job takers' (Azoulay et al, 2020), they initiate important 'spillover effects' (Brzozowski & Lasek, 2019) and are more entrepreneurial than native entrepreneurs (Szarucki et al, 2016; Lofstrom & Wang, 2019). Digital nomadism is a novel phenomenon that is spreading very fast. It appeared in academic outlets only in the last two decades (Makimoto & Manners, 1997; Hannonen, 2020; Aroles et al, 2022) and in Croatia only recently (Grabovac, 2020; Barać, 2021). Digital nomads are considered to be a type of migrant entrepreneurs (OECD/EC, 2021: 242). However, they are not necessarily entrepreneurs, i.e. they can be both employed and self-employed. Digital nomadism, considered to be one of the most recent trends in lifestyle mobilities, is 'a result of the incorporation of mobile technologies in everyday life and different types of work settings' (Hannonen, 2020). Pandemic circumstances have stimulated interest in digital nomadism (Almeida et al, 2021; Ehn et al, 2022). Digital nomadism under COVID-19 circumstances is expected to further develop in three ways: corporations are putting more emphasis on the remote work and allowing more employees to be nomadic, hybrid work models are becoming more common and nomadic workers are staying closer to home (rather than travelling abroad) and finally, digital nomads are showing to have longer stays in one place (MBO Partners, 2020). In general, support initiatives for the migrant entrepreneurs play an important role in their business creation and development and overall integration in their destination society. Evidence shows that migrants find the holistic support schemes to be the most useful, i. e. the ones offering the training on entrepreneurship skills, language(s) courses, networking and various tailor-made administrative, legal and tax advice (Solano & Xhani, 2020). Because of the diversity of their backgrounds combined with different needs and opportunities, support organisations are recommended to provide a more individual approach in their measures and programmes (Harima, 2022). Moreover, supporting migrant entrepreneurship can be essential for their (re)integration and contribute to economic growth in their home and destination countries (Zhan et al, 2018). Yet, despite different support schemes for the immigrant entrepreneurs being widely offered across the EU, they are usually of smaller scale and less developed when compared to the other target groups (OECD/EC, 2021: Ch 3). To underline:

- 'Strong take-up of tailored entrepreneurship support for immigrants was reported in only a few countries but this may be partially explained by the role that non-government actors play in many EU Member States in supporting the labour market integration of immigrants. However, another factor for low take-up rates is that public schemes generally do not appear to sufficiently leverage existing infrastructures within various immigrant communities for their outreach and communications.' (OECD/EC, 2021: 106-107)

The aforementioned nuanced approach in supporting migrant entrepreneurship is even more important in times of crisis such as the COVID-19 pandemic. Even under regular circumstances, immigrant entrepreneurs are usually confronted with bigger obstacles than native entrepreneurs, have insufficient information on the support available and less access to opportunities (OECD/EC, 2021: Ch 3). As stressed by Newton (2022):

- 'Although migrants were among the hardest hit by the pandemic, paradoxically, the global health crisis also reaffirmed their extraordinary contributions. Many governments came to acknowledge that migrants bring knowledge, support, networks and skills to support development in countries of origin, transit and destination....As we emerge from the end of

the COVID-19 pandemic, working towards the inclusion of migrants, making migration safer, more orderly and more regular, promoting social cohesion and delivering integration will prevent other crises from having similar adverse effects.’

In line with that, the most recent UN (2022) report addressing the socio-economic consequences of COVID-19 on migrants and their communities prioritised the support and promotion of entrepreneurship, business development and financial inclusion of migrants as vital to enhancing economic development in origin and destination countries.

3. EMPIRICAL EVIDENCE: IMMIGRANT ENTREPRENEURS VERSUS DIGITAL NOMADS

This Section aims to compare the advantages and disadvantages of residing and doing business in Croatia as perceived by immigrant entrepreneurs and digital nomads. Considering that, compared to digital nomads, immigrant entrepreneurs have already been explored in much more detail, most of the empirical evidence is drawn from the digital nomads and then compared to already existing findings on migrant entrepreneurs.

3.1. Why Croatia?

Similar to migrant entrepreneurs, digital nomads mainly emphasise the following factors as the most important pull factors for Croatia as a (digital nomads’) destination: safety across the country, English being widely spoken (with the exception of some front office public servants), affordability (especially in less touristy places), quality of living, natural beauties, mostly good transport connections within the country and with most European countries and other major destinations. These quotes illustrate most of the aforementioned:

- ‘Three things that make Croatia a very attractive destination for digital nomads are safety, affordability, and the fact that many locals speak English.’ (Bradbury, 2020c - interview with digital nomads’ couple from the USA)
- ‘Croatia checks all the boxes – Digital nomads have a mental checklist of what they require in a live/work environment, and Croatia checks all the boxes, including: access to great health care, favourable weather, good cost of living, fast internet speeds, connections to major airports, accessible entry requirements, emerging nomad infrastructure, safety, trendy culture and community.’ (Bradbury, 2020e - interview with a Canadian digital nomad)
- ‘For women, Croatia in general - and of course its capital Zagreb - feels very safe and easy to get around. People are exceptionally helpful, and the level of English proficiency is high. Another advantage is certain beauty services are cheaper than in Australia. I often advise nomads, be they from the UK or New Zealand, to wait on getting things like hair done until here. It works out about 4 times cheaper.... The other advantage across Zagreb is the numerous cafes - sitting, taking in the jovial atmosphere and getting a caffeine fix is fantastic. There’s also a growing number of specialty coffee places popping up...’ (Bradbury, 2020d - interview with an Australian digital nomad)

Quality of life in Croatia is one of the factors most often emphasised by the foreigners. Under that umbrella expression, the most often mentioned topics include work-life balance, ‘coffee culture’, delicious (often homegrown) food, high quality wines and wineries, variety of bars and restaurants, very good internet connections in most of the places and friendly locals. These are some of the illustrative testimonials on that topic:

- ‘The food was incredible at every restaurant we went to. Not to mention we ate out every single day (sometimes 2 or 3 times a day). The food was just too good and a lot more affordable than the Coastal region. There were amazing bars and restaurants on every corner with excellent WIFI. Victoria and I are major foodies and Zagreb did not disappoint. We

were in love with the food scene. The fitness centres were of top quality and I signed up immediately. I was the happiest person alive as I could work, keep fit and healthy, travel and live my best life ever in Zagreb.’ (South African digital nomad - Bradbury, 2021a)

- ‘Just the information about what a cool city Zagreb is, how EVERYONE speaks English, the people, the architecture, the food, the parks.’ (Partner of the digital nomad ambassador with UK/Zimbabwe origin, Bradbury, 2021d)
- ‘When I read about Croatia and the Digital Nomad Visa option, I asked myself - why not? Croatia has beautiful and very green nature, amazing food and wine, nightlife, is affordable to live in, has good healthcare, a great internet connection for work, and there is no need to pay income tax in Croatia while I am working from there.’ (Jordanian digital nomad, Bradbury, 2021e)
- ‘Everyone here has been super friendly. I just walk down the street and people want to talk to me, which is so weird coming from LA...Everyone here is just so willing to help you, wants to talk to you... and make sure to let you know that Croatia is an amazing place...Of course, not everything is perfect. There are areas that need improvement. I love Croatia so much, I love the people, and the only thing that has been super difficult is being a vegan here. Yeah, I would have to say I’ve had to ease up on my vegan-ness...’ (American digital nomad, Bradbury, 2021f)

According to the usual expectations, digital nomads have shown to be very flexible in their work and life arrangements. That is also reflected in their choice of destination such as this one:

- ‘It is a measure of how this new breed of remote worker is a little different to my generation when November's Zagreb Digital Nomad Ambassador Rax Suen explained one of the reasons he had applied for the position. "It was on my way home," Rax explained ...'Home' being Singapore, and his starting point being Buenos Aires. It is all about perspective, I guess...’ (Singaporean digital nomad, Bradbury, 2021c)

Hence, quality of life in Croatia with all its features (quality of food, natural beauties both at the seaside and in the continental part, safety, work-life balance, etc.) predominantly remains the top pull factor for the digital nomads and for the immigrant entrepreneurs. Digital nomads also find the advantages of their one-year digital nomad visa to be very attractive, with tax benefits and less administrative burden being considered the major upsides. Migrant entrepreneurs mostly perceive the quality of living (that includes their family, friends and important acquaintances) to be highly important for them. They in a way consider it compensating for the unfavourable entrepreneurial climate (Šimić Banović et al, 2022). In other words, despite continuously stressing numerous barriers in the Croatian business environment (Brzozowski et al, 2021), most of them are not willing to change their destination country because of the previously listed reasons.

3.2. Why not Croatia?

Similar to local entrepreneurs, migrant entrepreneurs have constantly been warning about the problems in the Croatian business environment (Brzozowski et al, 2021). That list has particularly been long for the Third Country nationals and got even longer due to COVID-19 pandemic and natural disasters happening in Croatia recently (Šimić Banović et al, forthcoming). Digital nomads partly share that impression:

- ‘Croatia is fantastic but, of course, it has its downsides. I live in the majorly touristic city. Despite Covid, there are a lot of people here. From crowded streets and paced beaches to longer waits for (?) and everything. It is a lot of noises, it can be overwhelming at times.

Another thing is that the government and bureaucracy here are famously tough to navigate. And while my personal experience was without hiccups, in general, you never know what to expect.’ (Tsentserensky, 2022 - US digital nomad)

Table 1 presents the main formal and informal barriers identified by migrant entrepreneurs and digital nomads. It also provides an overview of the mutual barriers confronted by those two migrant groups.

Barriers confronted by:	Formal barriers	Informal barriers
Digital nomads	<ul style="list-style-type: none"> • Tourist visa issues (usually issued upon arrival to Croatia) • Unresolved digital nomad visa issues for family members • Ambiguous and unforeseeable rules in case of extended digital nomad stay (more than a year) 	<ul style="list-style-type: none"> • Not many events during off-season in most of the cities • Underdeveloped nomad community and infrastructure in some parts of Croatia, lack of coliving and coworking spaces
Both digital nomads and migrant entrepreneurs	<ul style="list-style-type: none"> • Administrative burden, inefficient public administration (reliance on hard copies instead of digital copies, for instance); • Unavailable official guidelines in English, often inadequate instructions, possibility of arbitrary decisions • Minority of front office employees speaking English, lack of communication; • Unstable and/or slow internet speed in some parts of Croatia (on islands in particular) • Uneasy access to kindergartens and schools for kids not speaking Croatian 	<ul style="list-style-type: none"> • Limited openness towards other nationalities, races and religions (in some environments), possibility of discriminatory behaviour • Rather high accommodation prices, sometimes because of the landlords’ impression that foreigners are wealthy; • Lack of institutional and interpersonal trust in general • Misinformation and misinterpretation found in unofficial information sources (blogs, for instance) • Seasonality / tourism-dependency • discrimination (gender, ethnicity, race, age, LGBT) • Lack of entrepreneurial spirit and understanding for entrepreneurship in Croatia society • Predominant online networking (considered inferior to live networking)
Migrant entrepreneurs (Third Country nationals in particular)	<ul style="list-style-type: none"> • Long and ambiguous asylum-seeking procedure • Law on Foreigners - unfavourable, discriminatory requirements • Brexit implications • Arbitrary rules for the COVID support measures 	

*Table 1: Key barriers identified by digital nomads and migrant entrepreneurs
 (Source: IN 1-12; Bradbury, 2020a-e; 2021a-f; Brzozowski et al, 2021; Šimić Banović et al, 2022, forthcoming)*

4. SUPPORT INITIATIVES FOR THE IMMIGRANT ENTREPRENEURS AND DIGITAL NOMADS IN CROATIA: A BRIEF OVERVIEW

This Section provides a brief overview of the main non-governmental support initiatives and associations helping digital nomads and migrant entrepreneurs in Croatia. Many immigrant entrepreneurs and digital nomads consider them vital for their business creation, development and an overall integration in the Croatian society (IN2; IN4; IN5; IN6; IN8; IN9; IN10; Šimić Banović et al, 2022).

The ImpactHub and Centre for Peace Studies - both well known organisations among migrants - were implementing partners for the BEST initiative. BEST (2022) - Boosting Entrepreneurial Skills as a Tool for Integration of Migrants to the Labour Market was implemented from February 2019 to July 2021 in Austria, Slovenia, Italy and Croatia with the aim of effectively integrating migrants into the labour market by providing the necessary entrepreneurial skills. The activities included trainings for potential entrepreneurs, trainings for trainers, bootcamps on social entrepreneurship, Hackaton aimed at developing business, round tables (creative opportunities for cooperation, self-employment in Croatia - sharing personal experiences of migrants who opened their own companies, funding sources for social enterprises and social innovation, change leaders: self-employment of migrants in Croatia, discrimination against migrants in the labor market). It is considered that the goal of the Project was achieved: asylum seekers, refugees and other migrants skilled in critical thinking, understanding of social problems, understanding of the market, customer needs and financial sustainability. In this way, they gained insight into how through their knowledge and previously acquired skills they can contribute to their new environment, but also provide themselves with the opportunity to integrate into the labour market, in an ecosystem that often ignores their needs and specific difficulties.

TASKFORCOME (2022) - Transnational Action to advance SKills and competences FOR Community engagement and social Migrants Entrepreneurship initiatives in the Central Europe was implemented by 12 partner institutions.. In Croatia, the partner institutions were CEDRA Split and the City of Split. The aim of the project was to raise awareness of the citizens of Split and SDŽ about the needs of entrepreneurship development. The activities of the City of Split included the implementation of a pilot project for the opening and setting up the Incubator of Creative Industries in the Youth Centre and the development of an Action Plan for the development of entrepreneurship in the City of Split. CEDRA Split's activities were related to organising and holding trainings and workshops for local entrepreneurs and immigrant entrepreneurs, designing and implementing training and mentoring programs, and continuously organising One Stop Shops and networking events. The project started in March 2019 with an estimated duration of 30 months. Italian partners developed and activated the T4C Learning e-platform on which each partner country operates its own online hub. Tools from various modules for strengthening the capacity of immigrant entrepreneurs have been installed on the platform. Multiplier National Events in Croatia (live) and participation in the same in Italy (online) were held, and members of the project team and immigrants participated in the Hackaton Hack4Split. The One stop shop in Split was designated to be used by immigrants starting (social) enterprises and also by the stakeholders involved in the implementation of this project such as civil and public sector representatives. The City of Split was also in charge of adjusting and upgrading Action Plans after reviewing the International Immigration Entrepreneurship Development Plan.

SEE ME IN (2022) - Social Entrepreneurship as an Enabling environment for Migrants' Employment and Integration was implemented by 10 partner organisations in 5 countries from

September 2019 to March 2022 with the aim of strengthening entrepreneurship among immigrants in Central Europe. In Croatia, it was implemented by the ACT group. Within the Project, a joint Strategy was prepared (Immigrant's enterprises needs and skills shortages in the long-run), a strategy for the development of competencies was developed in addition to the documentation needed for the development of a digital HUB platform - an incubator that will serve intercultural entrepreneurs. In addition, the Intercultural Online Incubator has started operating, for which a part of the content was prepared and is continuously updated. Initiated pilot activities with migrant entrepreneurs from Croatia include: B2B meetings and coaching; participation of an intercultural entrepreneur from Croatia at the Milan Design Week was selected; creation of a digital cookbook with the participation of the intercultural entrepreneurs and organisation of a digital fashion event. Due to the pandemic, a number of changes and adjustments took place in the Project, such as changing project partners, creating digital cookbook instead of a food festival, switching to online platforms, experiencing delays, cancellations and partial changes in activities.

In 2019, Migrant Talent Garden (2022) was launched in Greece, Latvia, Lithuania, Bulgaria and Croatia with the advisory support of Iceland and Norway. It is intended to support young Third country nationals with the aim of developing and implementing their business ideas. In Croatia, it was implemented by ZIP - Zagreb Entrepreneurship Incubator. At the Project, ZIP was in charge of coordinating the Incubator program of the Project, establishing incubators in Croatia and assisting other members of the consortium in bringing incubators in their countries. Workshops were organised to develop ecosystems with partner organisations, they were followed by trainings and mentoring of participants. Due to pandemic restrictions, trainings were predominantly held online, which reduced networking opportunities. The live training proved to be significantly more interactive than the online training and also served as a mentoring and exchange of international experiences. The trainings were held by established entrepreneurs who are also experienced mentors in ZIP. Those trainings covered the following topics: entrepreneurial experience and basics of management, designing and testing an entrepreneurial idea, product and business model development, branding and public relations, legal aspects of starting a business and sales skills.

DNA (2022) - Digital Nomad Association Croatia is the only support organisation for the digital nomads in Croatia. Its main aim is to develop and promote Croatia as the digital nomad destination. There are five activity areas organised within the DNA: community building, information sharing, representation of the digital nomads, providing guarantee quality for the DNA related services and raising awareness among stakeholders on the digital nomads' issues. Besides numerous online and live events promoting digital nomadism in Croatia and , the DNA has introduced the concept of monthly Digital nomad ambassadors who promote various Croatian cities as digital nomad destinations.

In a nutshell, support initiatives help providing windows of opportunities for the migrants. This is one of the examples:

- 'Entering the topic of social entrepreneurship for many asylum seekers, refugees and other migrants was an opportunity to explore their own ideas and potentials and an opportunity to escape from low-paid precarious jobs that are most often available to them.' (IN8)

This Section presented the key activities of the main initiatives targeting migrant entrepreneurs and digital nomads in Croatia at the moment. Those activities were inevitably hit by the pandemic circumstances and, as stated before, led to both systemic and cosmetic changes in the project implementation. Those included: the change of the project partners, delays, a switch

from a live mode to online or hybrid mode, communication issues, change of the deliverables, etc. It necessarily required major efforts of all the implementing organisations, but also creativity and innovation in order to compensate for the increasingly emerging downsides. The beneficiaries of the support initiatives considered the lack of live interaction to be the major issue in all aspects of the project implementation (IN6, IN8, IN9, IN10, IN11, IN12). Some of the successful turning points were: introducing blended learning (IN6, IN8, IN11); providing more individual approach, i. e. ‘.if they are reluctant to attend our events, we need to approach them one-on-one on the premises where they already feel confident’ (IN10); organising outdoor networking events in a cafe or in the form of hiking whenever the pandemic restrictions allowed them (IN9), providing more time to the users to give feedback that was usually very constructive and useful for the further project implementation (IN6). Thus, the support initiatives have mostly shown flexibility, openness and competence while trying to reach the goals of their projects. That should be one of the main lessons for the public administration that are usually blamed for the resistant formal barriers presented in Table 1.

5. CONCLUDING REMARKS

Based on the primary and secondary sources, this paper investigated the key advantages and disadvantages of doing business in Croatia as perceived by digital nomads and immigrant entrepreneurs. The preliminary findings suggest major overlaps in the obstacles faced by those migrant groups. Previous studies (Brzowski et al, 2021; Šimić Banović et al, 2022) suggest most of those doing business obstacles recognised by migrants to be mutual with native entrepreneurs. This should make those barriers (administrative burden, for instance) being considered a triple ‘red flag’. As a counterbalance of their daily business barriers, most of the foreigners emphasise the quality of living in Croatia as their major reason for not relocating to some other country. Initiatives and associations targeting immigrant entrepreneurs and digital nomads have helped them integrate into their new destination society despite the recent unfavourable circumstances. Most of those projects offered holistic support schemes that are deemed to be the most useful and efficient (Solano & Xhani, 2020), but still lacking in many EU member states (OECD/EC, 2021: Ch 3). Because of pandemic restrictions the format of the courses and workshops was adjusted accordingly. Furthermore, besides the tailor-made format adjustments, the approach was also changed to more individual, resulting in rather personalised training. That is another success factor as it draws on the heterogeneity of the participants and their multiple embeddedness (Harima, 2022). The support initiatives seem to partly compensate both for the formal and informal obstacles faced by digital nomads and immigrant entrepreneurs in Croatia. In addition, through their advocacy efforts, several organisations mentioned have managed to eliminate some barriers and speed up some administrative procedures. The room for improvement for the support initiatives primarily seems to remain in their cooperation possibilities and consequent synergy effects. That would, for instance, mean allocating more resources to the individual part of their programmes (that is in accordance with the recommendations presented) instead of multiplying online learning platforms. To underline, despite the global evidence, the potential and contribution of the digital nomads and immigrant entrepreneurs has mostly been underestimated in Croatia so far. The key takeaway from this study for the policymakers would be to scrutinise the impressions of the observed foreigners and use them as a litmus test for their business environment reform attempts. Considering their common obstacles, that would be vital both for native and foreign entrepreneurs.

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SUSTAINABLE CONSTRUCTION AS A NEW NORMALCY IN THE EU ACTION PLAN

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ABSTRACT

The European Union is clearly moving toward establishing long-term competitiveness around sustainable, inclusive, innovative and smart business models. To meet the EU's ambitious climate and energy objectives, several strategically significant documents have been developed and published in recent years, including the European Green Deal, the EU Action Plan for Sustainable Finance, and the Circular Economy Action Plan, among others. The key role in attaining these objectives is played by different stakeholders from businesses to public institutions. They all must direct their operations towards more sustainable pursuits since it is base for their competitiveness and long-term survival. As a result, the European Commission has established the EU Taxonomy, a multi-industry classification system for sustainable economic activities that may be used across many sectors. Because of its distinct position, the construction industry (CI) is commonly regarded as hazardous by most stakeholders. As a result, the construction sector suits well into these efforts since it is widely seen to be low in productivity, environmentally harmful for generating rather high total waste, extreme greenhouse gas (GHG) emissions, unplanned material extraction, animal habitat loss, deforestation, unsecured to employees, etc. The primary goal of this paper is to identify and analyze the Taxonomy-covered economic activities that are essential for the construction sector to foster a more holistic view among key decision-makers.

Keywords: *EU Taxonomy, sustainable investments, economic activities, construction sector, green investments*

1. INTRODUCTION

Almost all public institutions and businesses throughout the last several decades (especially last two) have attempted to figure out how to deal with environmental and climate challenges. To address these issues, the European Union (EU) has embraced a long-term strategy that includes sustainable, inclusive, innovative, and smart business models. Several strategically significant documents have been developed and published in recent years to meet the EU's ambitious climate and energy objectives, including the European Green Deal, the EU Action Plan for Sustainable Finance, and the Circular Economic Action Plan, among others (European Commission, 2020a; European Commission, 2020b; European Commission, 2019). The ultimate objective of all of these initiatives is for the EU's climate, energy, transportation, and tax policies to be able to reduce net greenhouse gas emissions by at least 55% by 2030 when compared to 1990 levels and to achieve the EU's goal of becoming a climate-neutral territory by 2050 (European Green Deal 2020). The advantages of the European Green Deal include better well-being and health for individuals. The world began to change in December 2015, when the Paris Agreement was signed, after years of monitoring and warning about climate change, global warming, and the necessity to embrace low-carbon behaviour. The Paris Agreement was reached by almost 200 countries in an attempt to limit greenhouse gas emissions as directed in efforts to keep global warming below 2 degrees Celsius above pre-industrial

levels, as well as continuing efforts to maintain a global temperature rise of 1.5 degrees Celsius and enabling adaptation to the adverse consequences of climate change, while also ensuring that financial resources go toward low greenhouse gas emissions and development that does not affect climate change. The EU strategy encourages and fully endorses the transition to a sustainable economy, one of the European Commission's and the UN Sustainable Development agenda's key goals, and the construction sector is an important part of this success. The construction industry (hereafter CI), with its 35% of total waste production in the EU and estimated 5-12% of overall national GHG emissions from material extraction, production of building products, and construction site development, is almost natural fit for these efforts. Given that buildings are the biggest consumers of energy and emit a significant amount of CO₂, each country participating in the Paris Agreement on Climate Change was required to include policies for deep energy renovation of existing structures and construction of new high-quality green buildings, as well as innovative technological breakthroughs, bringing potential energy savings and CO₂ emissions reduction. The idea of sustainable financing was created to encourage companies to make long-term, significant investments in all economic sectors. To achieve the set environmental, social, and governance (ESG) goals of sustainability, additional investment in all economic activities is required. Sustainable finance is the technique of assessing and accounting for all ESG elements when making investment decisions or providing investment advice in order to improve long-term investments in sustainable economic activities and projects. The EU and national public sectors will have to make significant financial investments, as well as the private sector. On the other hand, directing financial flows towards a green, low-carbon, and climate-resilient economy is justifiable in this light. In view of the above, a new framework for classifying sustainability of future economic operations, known as EU Taxonomy, has been created. This is especially critical for investors since this method lowers the risk of financing while also lowering interest rates, allowing money to be spent on additional projects. The European Commission laid out four criteria and six objectives for environmental sustainability in a paper released in 2020. In other words, this document specifies the various requirements that firms are expected to satisfy in order to achieve six environmental goals: (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) transition to a circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and ecosystems. The primary aim of this paper is to identify and describe the Taxonomy-covered economic activities that are important for the CI to take a more balanced approach. The theoretical foundation for sustainable CI development is presented in the following sections, followed by its relevance in supporting environmental European and global goals and the presentation of economic activities defined within the EU Taxonomy, as well as a possible climate change construction planning model. The paper concludes with a discussion of the results, followed by recommendations for future study.

2. THEORETICAL BACKGROUND OF SUSTAINABLE CONSTRUCTION

The CI is no exception to the trend of businesses wanting to improve their impact on environment, decrease waste, foster positive eco-knock and implement procedures with a lower or no-environmental impact. The development and implementation of 'green construction' in the last two decades have pushed designers and builders to embrace a 'sustainability mentality' when designing and managing building projects (Bon and Hutchinson, 2000; Seyfang, 2010). Construction companies have a social responsibility to integrate sustainability concepts into project planning, design, building, and management (Ershadi and Goodarzi, 2021). A two-way approach is essential in order to move toward sustainable development and construction: first, a competent and long-lasting local building industry must be developed; second, the sector must be able to meet the demands placed on it by sustainable development (Du Plessis, 2007).

This is only possible if all stakeholders work together to implement a clear strategy that includes specific supportive actions by all role players as well as the development of a set of enablers, such as technological, institutional, and value-system enablers (see Figure 1). Some authors claim that two most important drivers of sustainable construction are financial incentives and building regulations (Pitt et al., 2009).

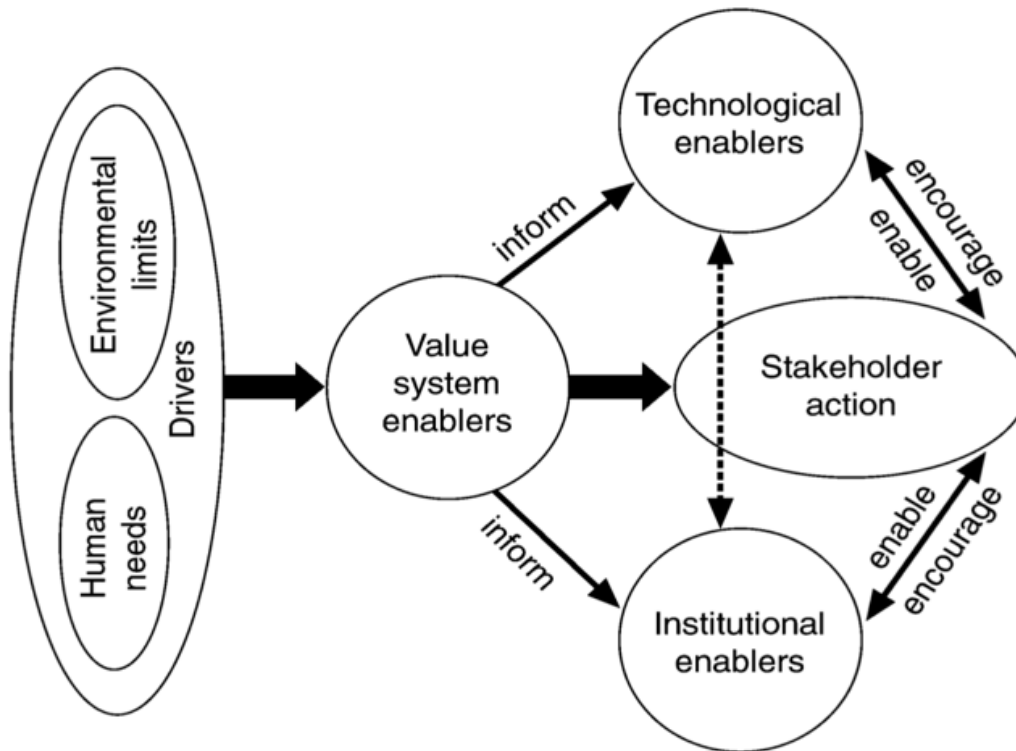


Figure 1: A strategy for enabling sustainable construction

(Source: adopted from Du Plessis, C. (2007) A strategic framework for sustainable construction in developing countries, Construction Management and Economics, 25(1): 72.)

The need for environmental sustainability has prompted the development and improvement of numerous sustainable sections of the construction sector because of governmental incentives, business strategies, and pressure that have increased over time by various stakeholders. The most comprehensive review of prior work on sustainable construction to date, published in 2020 by the Sustainable Construction Research Institute and Hallinger (2020), identified four research approaches: (a) alternative materials for sustainable construction; (b) sustainable construction management; recycling and waste reduction; and social sustainability in construction management. Sustainable construction is the process of constructing buildings and spaces as well as the methods or operations utilized to do so. It also covers the infrastructure components, such as waste management, transportation, and utility transmission networks established to serve this building space (Presley and Meade, 2010). It's also worth noting that circular economy (CE) is an essential component of sustainability, even if the terms are sometimes confused together. CE is regarded as a condition for sustainability by Geissdoerfer et al. (2017), who discovered that CE was considered a sign of long-term viability, and while the notion of sustainability comprises three dimensions (social, economic, and environmental), previous research was mostly concerned with improving environmental performance rather than seeing the three dimensions together. Sustainable construction has been discussed previously by several researchers.

The findings thus far are summarized in Table 1 (see below).

Climate strategy	change	Sustainable item	Research item
Climate mitigation	change	renewable energies	Barrett & Scott (2012), Sreekanth, (2016), Pauliuk et al. (2017), Gieseckam et al. (2018), Akdag, & Yildirim, (2020)
		waste management	Simon et al. 2019; Vladimirov and Bica 2019; Gallego-Schmid, et al. (2020), Det Udomsap & Hallinger (2020), Zhao et al. (2020)
		materials	Gieseckam et al. (2014), Gunawansa and Hua (2014), Scott et al. (2018), Gieseckam et al. (2018), Scott et al. (2019)
		circular economy	Gallego-Schmid, et al. (2020)
		sustainable design	Altomonte, (2008), Sijakovic & Peric (2020),
Climate adaptation	change	digitalisation	Jayasinghe & Waldmann, (2020), Yevu et al. (2021), Figueiredo et al. (2022)
		building design	Altomonte, (2008), Najjar et al. (2019), Ueda et al. (2019), Minunno et al. (2020), Mirzaie et al. (2020)
		sustainable governance	Gunawansa and Hua (2014), Det Udomsap & Hallinger (2020), Paccas, (2021)

Table 1: Research topics on sustainable CI

It is beyond dispute that today's building sector must adhere to sustainable practices and that construction as a whole has a significant negative environmental impact. The issue of how and who will finance capital projects in this direction arises, however. Given that the European Union has established long-term goals for several sectors, it is now up to banks and financial institutions to redirect their activities and financial flows toward such projects. They are attempting to find a solution to the climate change problems by increasing funding for actions aimed at reducing and controlling its impacts through climate finance. The Inter-American Development Bank, in conjunction with other multilateral development banks (MBDs), developed a single method for recording resources invested in CC mitigation and adaptation efforts to be used by these MBDs. This document explains how buildings of social infrastructure and other sectors can contribute to the fulfilment of the 30% goal of climate financing that the IDB Group has set for 2020, outlining those climate change mitigation and adaptation measures that can be incorporated and accounted for in projects of the Bank that include design, improvement and/or construction of buildings (IDB, 2018).

3. THE ROLE OF CONSTRUCTION INDUSTRY IN THE EU ACTION PLAN

The EU's objective, as stated in the Green Deal (2020), is for the continent to become the first carbon-neutral continent by 2050. To reach this goal, each member state agreed to reduce emissions by at least 55% compared to 1990 levels (EU, 2020). As one of Europe's major economic sectors (it directly employs 18 million people and contributes approximately 9% of EU GDP), the construction business has a significant role to play in achieving this objective. The CI is one of the most material-intensive industries in terms of the materials and natural resources required to produce its services and products. Benachio et al. (2020) assert that the CI is behind more than 30% of natural resource extraction, as well as 25% of solid waste generation. The buildings sector, as a whole, has a significant carbon footprint when indirect emissions are taken into account; it is responsible for 37% of global energy-related and process-related CO₂ emissions and has considerable energy consumption. The use of fossil fuels in buildings accounts for about 9% of worldwide energy and process-related CO₂ emissions, 18% by the generation of electricity and heat used in buildings, and 10% by the manufacturing of construction materials (IEA, 2021). Buildings are responsible for 39% of the world's energy-related CO₂ emissions, with 28% coming from operational greenhouse gases and 11% from materials and construction (World Green Building Council, 2019).

In 2019, the global share of final energy and emissions from construction was shown in Fig. 2. The worldwide share of total CO₂ emissions is estimated to be 38%, while the worldwide share of energy consumption is 35%.

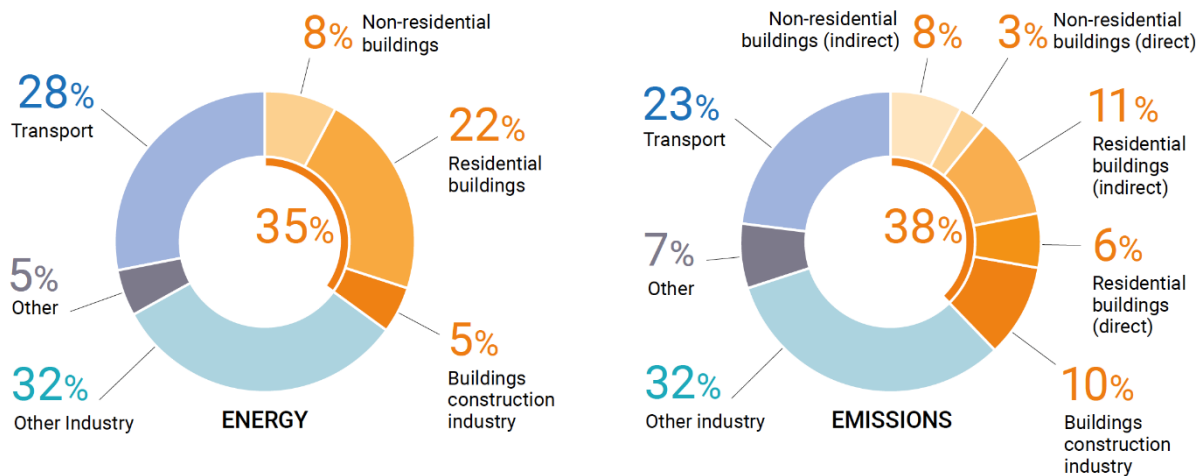


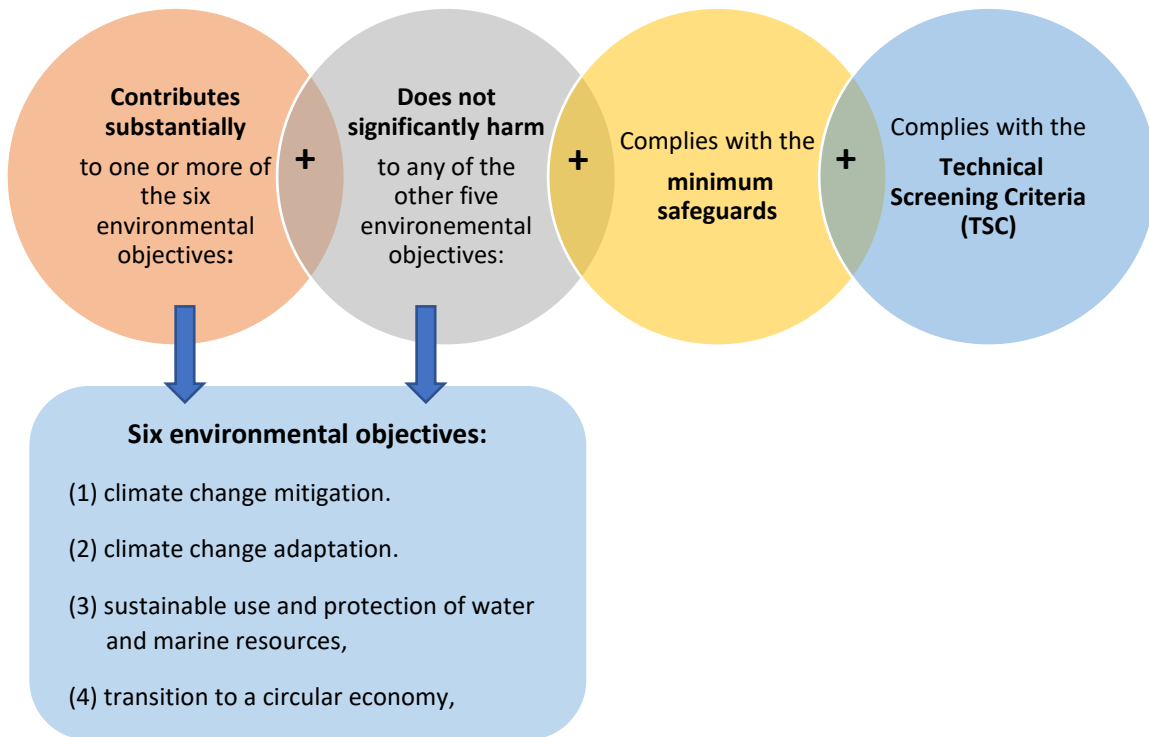
Figure 2: Global share of buildings and construction final energy and emissions, 2019
 (Source: GABC (2020) Global status report for buildings and construction, p.4)

By 2050, the IEA said that net-zero carbon construction stock will necessitate a 50 per cent reduction in direct building CO₂ emissions and a 60 per cent decrease in indirect sector emissions through 2030. These efforts would need to result in a 6% annual reduction in building sector emissions from 2020 to 2030 (IEA, 2020). This chapter demonstrates how the construction sector plays a key part in achieving climate change goals. Some initiatives have already been taken in this direction, such as the adoption of the EU Taxonomy at the European level, which will be discussed further below.

4. EU TAXONOMY AS A NEW TOOL FOR SUSTAINABLE CONSTRUCTION

The EU Commission has established the initial set of climate-friendly economic activities standards, known as the EU Taxonomy (EU, 2020), in order to achieve carbon neutrality by 2050. The EU Taxonomy is a tool for individuals and businesses looking to make the shift to a low-carbon, resilient, and resource-efficient economy (EU TEG, 2020). It is critical to determine whether an economic activity is ecologically sustainable in order to assess the degree to which an investment is ecologically sustainable, i.e., in order to facilitate sustainable investment. In that context, the Taxonomy establishes performance thresholds (also known as "technical screening criteria"), which include: (a) making a meaningful contribution to one of six environmental objectives, (b) causing no substantial damage (DNSH), where relevant, and meet minimum safeguards (e.g., OECD Guidelines on Multinational Enterprises and the UN Guiding Principles on Business and Human Rights). All of the aforementioned are essential criteria for economic activities across 13 sectors based around the EU's NACE (*Nomenclature statistique des activités économiques dans la Communauté européenne*) industry classification system, which must be satisfied in order for an activity to be considered sustainable (see Figure 3).

Figure following on the next page



*Figure 3: Criteria for classifying environmentally friendly activities
 (Source: Authors' own representation)*

The two most common strategies employed to combat climate change are mitigation (particularly reducing GHG emissions, energy savings, and use of renewable methods) and adaptation (particularly vulnerability reduction and risk exacerbation). Mitigation techniques (such as reducing vulnerability and risks created by the CI) and adaptation tactics (such as building resilience improvement) are taxonomically classified. Mitigation of climate change by lowering greenhouse gas (GHG) emissions, particularly through demand management and renewable energy generation, can significantly cut pollution while also increasing efficiency in all economic sectors, according to Hasan et al. (2020). However, climate change mitigation will not be enough to prevent all of the consequences of global warming; therefore, adaptation strategies are required (Klein et al., 2007). As a result, Technical Screening Criteria (TSC) was created to determine whether economic activity significantly contributes to climate change mitigation or adaptation and if it has a beneficial influence on the environment or reduces harm to a particular climate objective. The EU Taxonomy includes the construction and real estate industry, which covers both new development and refurbishment of existing structures. It's worth noting that the construction sector under the EU Taxonomy only considers building projects — both old and new buildings — whereas infrastructure works (airports, harbors, roads, railways, etc.) are handled through the transport sector. Over the last few years, there has been a surge in interest in finding climate change mitigation and adaptation solutions among architects. Gunawansa and Kua (2014) studied three coastal regions that employ climate change mitigation strategies in their building industries and evaluated and compared them. It was discovered that these three regions have several similarities, such as the need for environmentally friendly construction criteria, although some of them expressly consider adaptation measures in their building codes. It was also observed that while mitigation has become common policymaking, adaptation is still falling behind. Energy-efficient renovation of existing structures and new construction are important to climate policy in the buildings sector (Schutze et al., 2020).

Two distinct criteria are included in the taxonomy that may each be used as a threshold for energy-efficient building refurbishment. If the work is covered by the EU Directive on Energy Performance of Buildings, it must meet only one criterion (EPBD, 2020). The second threshold applies if the renovation lowers the primary energy consumption by at least 30%, and proof of that is provided through an energy certificate and a prior energy assessment. The taxonomy specifies that new construction should consume 20% less energy than the national norm for Nearly Zero Energy Buildings (NZEB). The Construction and Real Estate industry is made up of seven EU Taxonomic classes (EU, 2020): (1) Construction of new buildings, (2) Renovation of existing buildings, (3) Installation, maintenance and repair of energy efficiency equipment, (4) Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings), (5) Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings, (6) Installation, maintenance and repair of renewable energy technologies, and (7) Acquisition and ownership of buildings. Only the first two of the seven areas covered in detail in the infographic below are addressed (see Figure 4) because new and refurbished structures have the most negative impact on the environment. After considering the basic purpose of the taxonomy, as well as the criteria and goals, we listed the essential guidelines and objectives that needed to be met through construction's sustainable economic activities definition.

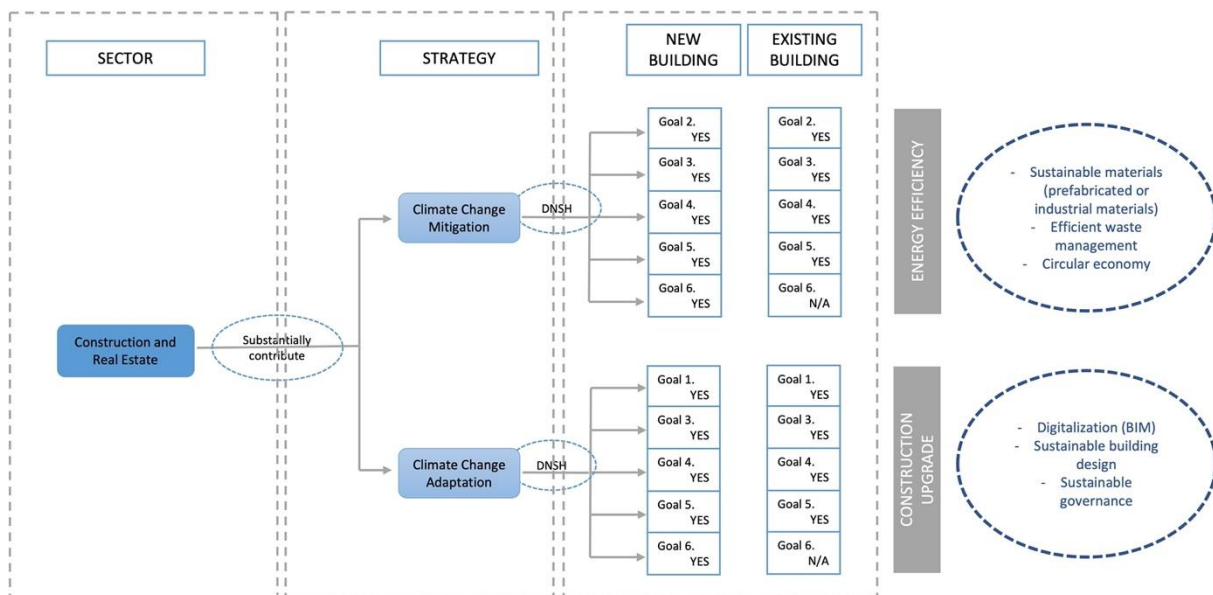


Figure 4: Strategies for achieving environmental goals through climate change construction, based on EU Taxonomy
 (Source: elaborated by the authors)

Based on the fundamental assumptions of the adopted taxonomy and construction-related activities, as well as previous studies on sustainable construction presented in Chapter 2, certain conclusions may be drawn about climate change mitigation strategies for CI. Mitigation and adaptation are two primary climate change methods that must be addressed to achieve environmental objectives. The mitigation techniques studied in the construction sector were found to be focused on energy efficiency, which may be accomplished by using environmentally friendly materials (e.g. prefabricated and industrialized materials), efficient waste management, transitioning to the CE, and so on. The second strategy - climate change adaptation - may be achieved by enhancing the entire construction sector through digitalization (e.g., Building Information Management - BIM), sustainable building design, or changing to more sustainable governance models.

5. CONCLUSION

To reach net-zero emissions, the global economy must be transformed, and the construction sector will play a prominent part in this process. To achieve its ambitious goals greater ambition is required within EU, and nations and organizations at all levels are taking steps to decarbonize the global building stock and improve its energy efficiency (GABC, 2019). To achieve the EU's objectives of sustainable development, capital flows must be invested in a sustainable manner. Making financial services available to channel private investment into environmentally beneficial projects is an efficient approach to channelling capital into ecologically beneficial actions. As a result, EU Taxonomy should aid firms, project promoters, and issuers in obtaining green capital to enhance their environmental performance while also indicating which activities are already ecologically beneficial. There is a clear lack of understanding or wider appreciation of nuance influences the project lifecycle from day one – from conceptual design through to handover, maintenance, and deconstruction (Rahimian et al., 2022). The sector of buildings and construction must establish new standards for energy efficiency, environmentally friendly materials, and improved design, construction, and governance procedures. It's also critical to refocus attention on total life-cycle performance rather than merely operational efficiency (Röck et al. 2020). Even if you choose reusable and recyclable construction materials, they won't reduce your carbon footprint unless the whole life cycle is taken into account (Aberilla et al., 2020). This may be an indication of growing attention on the part of regulators and policymakers to devise climate change mitigation and adaptation methods (Carlarne et al., 2016). Lastly there is a huge space for improvement in the green building certification and eco-labelling procedures where it refers to the extent to which a building process throughout its life cycle complies or performs with specific environmental prerequisites, goals and requirements. This paper's findings will be of particular interest to policymakers crafting climate change and circular economy policies as well as construction participants such as architects, product designers, builders, and construction waste management firms. More research on these topics is needed in order to assist lawmakers in developing climate change and circular economy-related regulations, as well as CI business participants such as architects, product designers, builders, and construction and demolition waste firms.

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RESILIENCE OF THE ROMANIAN POOREST PEOPLE – GUARANTEED MINIMUM INCOME PROGRAM AS BINOM OF POVERTY ESCAPE AND WORK INCENTIVES

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ABSTRACT

The guaranteed minimum income GMI is the most important means for supporting the poorest people without the necessary mechanisms to get out of poverty and social exclusion. The role of the GMI in poverty alleviation is not only to ensure a minimum financial support, but also it must be a pro-actively support of the social aid beneficiaries, to ensure their transition from social assistance into employment. The two dimensions, respectively of financial support and its accompaniment with pro-activation incentives in order to access a job and to overcome the poverty risk, must be completed and act in an integrated way, not to exclude themselves. Therefore, the introduction of activation elements in the GMI program is particularly important. In addition, these work incentives should not be discouraging, demobilizing, non-stimulating factors, but rather they should stimulate the job activation. In order to contribute to the stimulation and insertion of the beneficiaries on the labour market, certain income thresholds were inserted within the GMI scheme, not from the perspective of increasing the GMI amount, but from the perspective of stimulating its beneficiaries in employment. Thus, the paper considered 3 test thresholds in determining disposable income, and the simulations will take into account a certain percentage of income from work in determining eligibility for GMI program. The simulation scenarios with the 3 income thresholds will highlight the simulated poverty rates in the 3 variants of the pessimistic, optimal and optimistic scenario. The differences in the poverty rate will represent the impact on poverty reduction that the insertion of these activating elements into the GMI program could have, respectively how much each of the 3 pro-activation incentives will contribute to reducing the poverty incidence. These incentives are pro-active conditionalities among the beneficiaries of the GMI program, which at the same time support the poverty reduction and the mobilization of beneficiaries who can be activated in their transition to employment.

Keywords: *Activation elements, Beneficiaries of social aid, Guaranteed minimum income Scenarios and Simulation, Poverty*

1. INTRODUCTION

The guaranteed minimum income GMI / MIG is regulated by Law no. 416/2001, with subsequent amendments and completions. The purpose of this program was to provide a form of social assistance, to ensure a guaranteed minimum income for families or single people, who have very low income or no income. In order to ensure the minimum guaranteed income necessary to cover the needs of persons who are, at a certain moment, unable to provide for their subsistence, social assistance is provided in addition to the net monthly income of the family or the single person. This social assistance is determined as the difference between the income obtained by the family members or by the single person and certain income thresholds established by law according to the composition of the family. The guaranteed minimum income is thus the most important measure taken to reduce poverty and social exclusion, a measure with a major impact on the existence of those who face the risk of poverty and its severe and extreme forms.

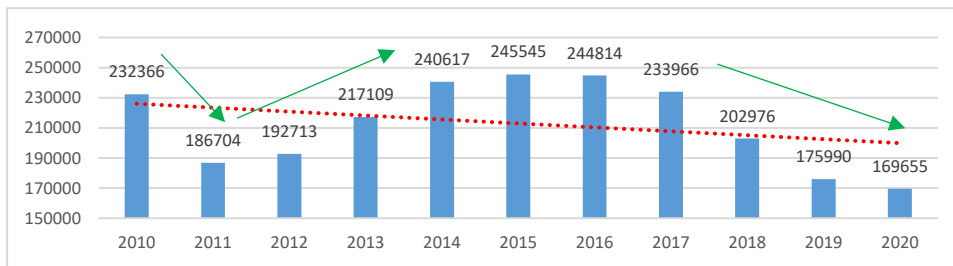


Figure 1: The average number of guaranteed minimum income beneficiaries, 2010-2020 (Source: Statistical Bulletins in the field of labour and social protection, The Ministry of Labour and Social Protection MLSP, 2010-2020)

An abrupt annual decrease was recorded in 2011, with approx. 20%, as a result of the following actions: the transfer of funding from local budgets to the state budget, more rigorous monitoring of the social aid granting, the introduction of a list of goods that are / are not considered strictly necessary for the needs of the individual or the applicant family, a list which significantly restricted access to this social assistance benefit. Subsequently, the periods of increase alternated with those of decreasing the average number of guaranteed minimum income beneficiaries. The increases were generally due to the increase in the threshold of the guaranteed minimum income or to "positive" conditions on income criteria, in the sense that certain social assistance benefits were no longer included in the eligible income. Then, the declines in recent years could be attributed to tightening of legislative conditions, such as the refusal of a job or participation in active employment measures that have led to the cessation of the social aid (employment and training services provided by Employment Agencies). Thus, on the first hand, vulnerable families have been supported, and in the same time, a significant emphasis has been placed on stimulating labour market participation among eligible minimum guaranteed income beneficiaries, given their age and ability to work. In this regard, a new measure has been introduced since 2021 to support recipients who want to get out of their vulnerability by taking a job, through which people who receive social aid and are employed for a period of at least 2 years receive their guaranteed minimum income for another 6 months after starting work. In addition, failure to register to the Employment Agencies will result in a refusal of employment and will result in the social aid ending and a new application after a period of 12 months.

2. ANALYSIS OF SPECIALTY LITERATURE

As the literature points out, it is particularly important that social support be adapted and adequate to social assistance, from the perspective of poverty reduction, but also of activating the recipients, to not encourage to permanently place themselves in the social protection net and to determine and encourage for employment, through a real stimulation. Many EU member states have introduced major social assistance reforms to stimulate the guaranteed minimum income recipients in employment, and a lot of scientific papers offer a wide range of examples. Thus, a study conducted 10 years ago mentions the countries where these reforms took place and which involved "a substantial change in the nature and objectives of (guaranteed) minimum income schemes", by "the recipients' willingness to work or to participate in activation programmes" (Moreira, 2008). A similar approach, which is increasingly seen as an indestructible link between the welfare system and the labour market, is also addressed by other authors. One on them, Nelson raises some questions, namely "Does social assistance provide benefits at levels necessary to escape poverty? To what extent is the development of benefit adequacy related to active labour market policy?", and the article offers "new evidence about the construction of just social minimums by analysing the relationship between social assistance, benefit adequacy, and labour market activation" (Nelson, 2013), and these questions must be taken into account.

The GMI schemes "should help people to be able, motivated and activated to work". In this sense, the Social Protection Committee shows that "some of the main challenges identified by the European Commission regarding minimum income schemes relate to their adequacy, coverage, simplification and their effective linking to activation and enabling services" (European Commission, 2013, Social trends to watch Depth of poverty). In this regard, one European Commission Report states that "Minimum income schemes provide cash benefits to ensure a minimum standard of living for individuals (and their dependents) that have either no other means of financial support, or whose resources fall short of a given level, despite including contributory cash benefits and support from other family members". These guaranteed minimum income schemes function as a form of social assistance system, are means-tested and funded through the tax system (noncontributory benefits). European Commission Report shows that these schemes "are intended mainly for people out of work, but some member states, including Romania, have extended their scope to provide in-work income support" (European Commission, 2013, Social trends to watch The role of activating and enabling benefits and services for reducing long-term exclusion from the labour market). Other studies examine the link between activation and support income. Thus, the European Commission focuses on the connection between activation and income support, arguing that "Active labour market policies help ensure that those who receive unemployment benefits and other social assistance benefits, as well as other people looking for a job have a better chance of finding a job" (European Commission, 2013, Social trends to watch The role of activating and enabling benefits and services for reducing long-term exclusion from the labour market). This means that the person looking for a job must be in the records of the Employment Agency, in order to be offered such opportunities to support access to employment. Although this section of this Annual Report of the European Commission 2013 is addressed in particular to the unemployed, in encouraging and stimulating employment, no other categories are excluded, such as those who receive social assistance benefits and who are registered at the Employment Agencies and expect those who receive social benefits to be stimulated in the more active searching actions to get a job and to really improve their employability. Thus, as the literature points out, it is particularly important that social support be adapted and adequate to social assistance, from the perspective of poverty reduction, but also from the perspective of activating the beneficiaries of social assistance policies, so that they not to be encouraged to place themselves permanently in the social protection safety net and to be motivated to find a job through a real and incentive measure. Based on this context of the scientific literature, but also the action directions provided in the National Strategy on Social Inclusion and Poverty Reduction 2015-2020, and also for the period 2021-2027, in the following we focused on the concatenation of two very important dimensions of the guaranteed minimum income: (1) as the main social assistance benefit which was directly designed to prevent and combat poverty and the risk of social exclusion (according to Law no. 292/2011 on social assistance), and (2) to stimulate employment among its beneficiaries, to mobilize them to move from dependency of the social support into participation on the labour market. Thus, by inserting of real activation elements within the guaranteed minimum income, these two dimensions concerning both the poverty reduction and the increase of social and occupational inclusion are considered simultaneously. We started from the fact that the present Law no. 416/2001 regarding the guaranteed minimum income, art. 6, paragraph (1), provides that "Families and single persons with a net monthly income below the guaranteed minimum income benefit from a 15% increase in the amount of social aid per family, if at least one family member proves that works on the basis of an individual employment contract, has the status of a civil servant or performs an activity, earning a work income". This legislative provision marked at that time (in 2002) an important step towards encouraging the efforts of the guaranteed minimum income beneficiaries to overcome their condition of socially assisted person and to be employed (the

previous legislation, respectively Law no. 67/1995, art. 3, paragraph (3), contained a provision related to the stimulation of employment for the recipients, but it was not at all incentive, the amounts provided being low, unincentive, from the perspective of stimulating the beneficiaries to employment). However, even now, the reality has not fully confirmed this transition to employment, which indicates that this element of activation present in the guaranteed minimum income program was not one with an incentive effect to determine the beneficiaries to transition to employment, perhaps even a discouraging factor related to their entry into the labour market. The current provision, which mentions a 15% increase in the minimum guaranteed income level for legally employed persons, does not seem to provide a real impulse for the activation of social assistance beneficiaries on the labour market, it does not seem to be a real incentive to give up social assistance or informal income. Thus, the employment condition currently imposed in the guaranteed minimum income program (incentive for activation) is rather a non-incentive, non-stimulating factor, rather than a pro-active precondition for occupational and social inclusion among its recipients. The law also provides for a certain number of working hours for the community benefit, under certain conditions for the abled persons in the family receiving a guaranteed minimum income, but, in our opinion, this provision cannot be included in the typology of incentives for occupying a job (work incentive). Therefore, we believe that a set of actions would be needed to really stimulate employment among the beneficiaries of the guaranteed minimum income, so that they can transition to employment, despite the permanent dependence on social assistance and other specific aid. This would be necessary on the one hand to reduce poverty, but also to really stimulate employment among the recipients. Other authors also believe that the GMI program does not include a real incentive to activate its beneficiaries. In this sense, "the system has failed to achieve its main declared goal" (Adăscăliței et al., 2020). The authors state that "The conditions associated with the provision of the GMI are not tailored to the needs of the beneficiaries, but rather seek to impose a 'one-size-fits-all' policy that ignores the regional and local context. The policy entirely ignores two central features of the Romanian labour market: a strong rural-urban divide that impacts on the availability of jobs in a specific area, and the lack of geographical mobility of the labour force, as affordable transport options remain unavailable in many areas. These two aspects mean that the policy goal of the GMI is unachievable in most situations and irrelevant for the vast majority of its beneficiaries, who are forced to rely on informal work or, especially in rural areas, on precarious contractual day-labour in agriculture" (Adăscăliței et al., 2020). Other authors also argue that the guaranteed minimum income program does not encourage its beneficiaries to take job, appreciating that "The increase of the MIG benefit by 15% for each person formally employed does not seem to provide enough incentive to give up informal incomes and, for the time being the MIG work requirement component is connected to a workfare ideology rather than setting a prerequisite for social inclusion" (Radu, 2009). Other authors also appreciate that "A key challenge then for the design of GMI schemes is how to best manage this inherent trade-off between equity (poverty) and efficiency (work incentives) objectives" (Coady et al., 2021, pp. 10). There are different approaches, some that focus more on poverty reduction and those models seem to reduce the work discouragement, others that give them a fixed period of time to encourage work. These models with the granting of benefits for a fixed duration, respectively with the gradual reduction not with the increase of earnings, but with the working time are found in some countries, while in other ones, including Romania, a high level is combined work discouraging with low generosity (Coady et al., 2021, pp. 14). Regarding the generosity of the system, it is estimated that there are countries, including Romania, where "minimum income does hardly reach 20% of AROP and less than 1/3 of low wage" (Lanker et al., 2020, pp. 7). In this regard, the authors consider that "people with an income at the poverty threshold cannot even adequately fulfil basic physical needs such as food, clothing and shelter" (Lanker et al., 2020, pp. 37).

In order to achieve its goal, the guaranteed minimum income program must stimulate employment among the beneficiaries. This aspect is also highlighted in the minimum income, respectively in The European Pillar of Social Rights, "in the context of minimum income, i.e. social assistance, suggests that benefits for those who can work should be combined with incentives to reintegrate into the labor market" (European Commission, 2017). The conclusion is reiterated by other studies and authors (Bogdanović, Project Leader, 2020, pp.8). In addition, "in the context of informal economy, it is especially important to address the issue of activation of FSA / financial social assistance beneficiaries and to review the Decree on Social Inclusion Measures, which governs this matter" (Bogdanović, 2020, pp. 44). On the other hand, at the national level, as the current legislation provides for a 15% increase in the value of the minimum guaranteed income in the conditions in which a family member receiving social aid gets a job, other authors consider that this provision "could be considered more of a bonus, taking into account that the value of GMI is quite low" (Mihailescu, 2014). The author always appreciates that "moreover, because of the different benefits almost automatically accompanying the GMI, the incentive for beneficiaries who have a minimum qualification or without a qualification, for entering the labour market is almost negative. The disincentive factors related to entering the labour market by getting low paid jobs generates the premises for long-term unemployment and social exclusion" (Mihailescu, 2014, pp. 6). The national campaign to verify the establishment and granting of social aid and to identify measures to increase the employment of people able to work, carried out in February 2021 at UAT / territorial administrative units showed that "from the point of view of the level of employability, the vast majority of people as being difficult and very difficult to employ, because: *86.4% of the people present come from rural areas; *the level of education is low; *the level of qualification is low; *they belong to a vulnerable group / group with special needs; *58.4% are in the age group over 45 years; *they have low professional aspirations and low skills" (Ministry of Labour and Social Protection MMPS, National and County Agencies for Employment ANOFM/AJOFM, and National and County Agencies for Payments and Social Inspection ANPIS/AJPIS, National Campaign Report, 2021). On the other hand, as the data of the National Institute of Statistics NIS/INS show, "poverty is unequally distributed in the regional profile as well. In 2020, the poverty rate was almost 15 times higher in the North-East regions and more than 13 times in the South-West Oltenia and South-East, than in the Bucharest-Ilfov region" (NIS, 2021), and the maps made on development regions maintain these clusters whether they refer to poverty (pp. 15) or to poverty and social exclusion (pp. 36). Poverty "bags" are widespread in some rural areas, such as especially in the north-east of the country, as specified by other authors (Lincaru et al., 2018, Fig. 3. Map. 1, pp. 740) who identify clutches with significant relief in this area of the country, where the poor population it also faces a host of other problems such as lack of a large number of unemployed, large number of recipients of the guaranteed minimum income, increased migration, and so on. Similar clusters are identified by other authors (Lincaru et al., 2020, in Fig. 4. The rural MGR / minimum guaranteed income Marginalized Communities (HH) and the rural density of MGR spatial distribution at June 2018), which states that the higher concentrations of people benefiting from guaranteed minium income - statistically by counties, but also at the level of UATs/ territorial administrative units are identified in "six hot spots of high cumulative risk of poverty and flood risk. These are at the interference of the counties" which are mainly in the north-eastern part of the country, following the profile of the poor counties / regions. Given the fact that the experiences of the literature showing that the GMI schemes do not offer a direct answer in motivating the beneficiaries to move to employment, different solutions have been tried to improve this purpose of work incentives, simultaneously with reducing poverty and its extreme and severe forms. And within the RENASIS network, the 2020 Report mentions that "the minimum income program in Romania is inadequate and with low accessibility, which only encourages the participation in work of healthy and abled

people” (RENASIS, 2020). The same report states that “The new law on minimum income for social inclusion (Law no. 196/2016) is considered that will bring significant improvements to the current system, by introducing greater social benefits, less bureaucracy and new incentives for (re) integration on the labor market” (RENASIS, 2020, pp. 21). This conclusion of consolidating the minimum inclusion income is also highlighted by World Bank experts (World Bank Group, 2015). Thus, in this sense, Law no. 196/2016 on the minimum income of inclusion was initiated, in order to better meet the goals of GMI schemes (this new law will come into force on September 2023). Internationally, under certain conditions, a basic universal scheme has been devised to support people who have very low incomes or no incomes. Thus, some experiments were initiated: “Initial findings from the first of a two-year programme in Finland, where participants were given 560 euros (around \$630) per month, showed positive effects on health and stress, but no improvement in work status” (World Economic Forum, 2019). Finland launched Europe's biggest ever UBI pilot / universal basic income in January 2017. These action was an experiment in which 2,000 Finnish citizens participated (Hugill and Franklin, 2017), and the publication mentions that “similar pilots are being launched in Barcelona (Spain), Utrecht (the Netherlands), Glasgow (Scotland), Ontario (Canada), and Oakland (United States)”, but these pilot experiments did not have the expected results, so they were not generalized or multiplied. Thus, efforts are being made to attract various innovative elements within the guaranteed minimum income program, both to support the reduction of poverty among the beneficiaries, and especially in stimulating them to transition to employment. As some authors point out, “activation here means a policy of combining negative and positive incentives with the purpose of helping income support recipients to become self-sufficient through paid employment” (Moreira, 2008, pp. 85). By transposing and comparing positive and negative incentives (pp. 10) with the elements of the national legislation on the guaranteed minimum income program, among the negative elements can be found, e.g. time limitation of granting or various constraints such as the list of assets held or a non-incentive percentage for activation, as currently provided (15%), and among the positive ones could be the conditioning of the job searching by presenting to Employment Agencies in order to identify a proper job. The paper focuses on the review of activation elements, proposing, simulating and analyzing different thresholds that could be at the same time more stimulating for activation and that would also contribute to poverty reduction. Thus, the added value of the paper consists in the ex-ante evaluation of the insertion of these activation elements in the program regarding the guaranteed minimum income, in terms of ex-ante estimation of the impact on the incidence of poverty of introducing this proactive component in the income of social aid eligibility. The fact that we refer here and use an ex-ante evaluation means that these activation components do not currently exist in the program on the guaranteed minimum income for the vulnerable recipients.

3. SIMULATIONS REGARDING THE IMPACT ON POVERTY REDUCTION OF THE NEW PRO-ACTIVE INCENTIVE INCLUDED IN THE GMI PROGRAM

To assess the impact of the guaranteed minimum income on the incidence of poverty, the main tool used is to simulate, under certain conditions, the poverty rates when the disposable income of the new pro-active coordinates inserted in this benefit is taken into account and after it is not taken into account in the disposable incomes of the household. Thus, the aim of the paper is to analyze the way in which the new activation component would contribute to poverty reduction, which, hypothetically, in the simulation exercise, we include it in the family's disposable income - income that is taken into account when establishing social aid to the family which applies to the guaranteed minimum income program. We suppose that if would increase the incomes of the employed persons who make up the eligible household to the minimum guaranteed income, then the poverty rate among the persons in that household who receive this social benefit would register a certain reduction.

The specific provision from Law no. 196/2016 on the minimum inclusion income (which will come into force in September 2023), according to which "50% of income from work is not taken into account when establishing family income who will receive social aid". Also other thresholds have been proposed, one lower and one higher than the threshold of 50%, respectively 35% and 65%. The simulations we are considering are based on these 3 income insertion thresholds and we are looking at the impact on poverty reduction. The model cannot take into account the impact on employment growth among the recipients, but we estimate that this work-incentive supports their activation, as long as it does not exclude the granting of social aid, and the disposable income is below the thresholds required by law regarding the monthly minimum guaranteed income. Scenarios have been developed to change the amount of disposable income, based on which some simulations have been made on the impact on the evolution of the poverty rate calculated using the threshold of 60% of the median disposable income per equivalent adult. In the scenario regarding the insertion of proactive elements within the guaranteed minimum income, the simulations were performed for households where there are employed people. For these households we consider that their income testing threshold increases with a certain proportion of the income obtained from work taken into account when establishing the new threshold of the income. We were taken into account 3 scenarios for simulating poverty rates, given that some pro-active elements are introduced in GMI program:

- 1) The pessimistic scenario (35% threshold);
- 2) The optimal scenario (50% threshold);
- 3) The optimistic scenario (65% threshold).

As stated, the changes introduced would be aimed at activating labour resources within the household, so that a measure has been implemented that does not include in the income testing a fraction of the income earned from work by household members. The simulations were performed at the level of the total population, using data from EUSILC, National Institute of Statistics, at the level of 2019. The simulations were performed using the EUROMOD microsimulation model which highlighted the poverty rates. In the presence of the 3 income thresholds. Even if we do not have more recent data, these simulations can be considered an iteration that shows a certain impact of different scenarios could have to mobilize / stimulate the beneficiaries of the guaranteed minimum income to take a job.

	Poverty rate (%)	Simulation i) - Scenario I –The pesimistic Scenario (threshold_35%)	Simulation ii) - Scenario II –The optimal Scenario (threshold_50%)	Simulation iii) - Scenario III –The optimistic Scenario (threshold_65%)
Poverty rate (%)	23.5	20.76	20.59	20.15
Relative changes (%)		88.34	87.61	85.74

Table 1: Poverty rate and simulated poverty rates by the work-incentive introduction in GMI (Source: estimation on EU-SILC data 2019 using EUROMOD microsimulation model)

The 35% increase in existing income influences the poverty rate by 88.34% of the entire population, in other words the poverty rate decreases by 2.74 percentage points. So the impact of this scenario is relatively small. This impact is much more visible as the next threshold is higher. Thus, the increase by 65% of the existing income influences the poverty rate by 85.74% at the level of the entire population, in other words the poverty rate decreases by 3.35 percentage points. We must not rule out the fact that such a relatively small influence can be attributed primarily to the reality that the guaranteed minimum income falls with a small share (of about 0.3%) in disposable income compared to other social benefits (for example, pensions - which occupy the vast majority, followed at a great distance by those granted to children and families

with children, those for people with disabilities, etc.). In these situations, the rather low impact obtained from the simulations must be associated with these influences and reduced contributions, respectively weights of this benefit compared to other social assistance benefits in the total disposable income. On the other hand, the effects may be so small, because in very few households receiving the guaranteed minimum income there are people who are employed. The simulations for 2019, given that these thresholds would be included in income, showed that poverty among recipients is not greatly affected as a result of the introduction of these new income thresholds in the hypothetical conditions of these 3 scenarios considered. On the one hand, this is explained by the fact that the share of this social aid benefit in relation to the total disposable income is quite low. Besides, this social benefit is granted to the poorest of the poor people, so we estimate that this benefit does not have an impact on the poverty determined at the 60% threshold, but it would have a much more pronounced impact on the severe poverty, calculated at threshold of 40% of disposable income. At the same time, it is possible to find a more significant impact among large families, especially those with dependent children in care.

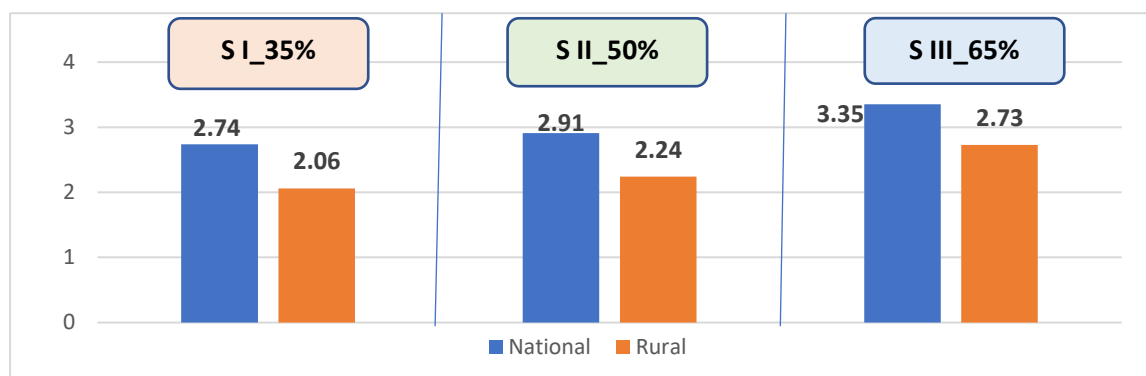


Figure 2: Changes in poverty rate, registered versus simulated, national and rural, in 3 simulated Scenario
 (Source: estimation based on EU-SILC data and EUROMOD model)

According to the data obtained from the simulations performed using the EUROMODd microsimulation model, depending on the alternative scenario taken into account, the change in the incidence of poverty varies between 2.74% - 3.35%. In rural areas, changes in poverty rates are slightly lower. It is observed that the effects are quite low, because in very few households benefiting from a guaranteed minimum income there are people who are employed. In particular, in rural areas, the effects are even less significant, even if the number of people receiving social aid is much higher (about 79%, Pop, 2016). Concluding, changing the amount of guaranteed minimum income by not including in the income test a fraction of the income earned from work does not produce major effects on the poverty rate, which is reduced by only 2-3%, both nationally and in the rural area. However, the level of well-being of beneficiaries increases slightly, although this increase is generally not sufficient to lead to a significant decrease in the level of poverty. Thus, it can be stated that the incidence of poverty is not significantly affected as a result of the introduction of these thresholds into the guaranteed minimum income, because even in the initial situation, when these households received social aid, they were still below the poverty line. It is possible that some of the households in the vicinity of the poverty line will slip below this threshold if they do not receive the social aid. Regardless of the proposed alternatives, the contribution of this measure to poverty reduction is quite small, regardless of the income fraction and the scenario used. However, there is a progressive effect on the percentage of income not taken into account when testing income (the most important reductions in the incidence of poverty are found in the case of Scenario III_65%).

4. CONCLUSION

The guaranteed minimum income is the most important means of supporting the poorest people without the necessary mechanisms to get out of poverty and social exclusion. The introduction of pro-active conditionalities within this social program was simulated in 3 variants of scenarios, by not taking into account a certain income thresholds in the incomes for establishing the eligibility in granting of the social aid. According to these scenarios and simulations, the contribution of the guaranteed minimum income to poverty reduction is quite low regardless of the income fraction, however there is a progressive effect of income-based effects not taken into account when testing the disposable income of the recipients. On the other hand, it should be noted, however, that this reduced impact may be due to the fact that the share of this benefit on social assistance in total disposable income is quite low. Even this impact on the incidence of poverty of introducing pro-active elements within the guaranteed minimum income is not significant (2-3%), according to the simulations performed, they still contribute to some extent to reducing poverty among beneficiaries. This impact may be more visible among the most vulnerable, including those living below the poverty line (calculated at 40% of median income per adult equivalent), or among large families with more dependent children who face more the poverty risk. Thus, even if the impact seems quite low, the fact that over 1 in 5 people face poverty in the absence of this social program remains an alarm signal. However, with an average monthly number of recipients of 1.6-2 thousand, which represents about 1% of the country's population, even if, hypothetically, the impact of non-payment of the social aid is not very representative, a special attention must be paid to the guaranteed minimum income. This social program is very important, as it is given to the poorest blanket, i.e. the people with the lowest incomes and who often face a number of problems: low level education and qualification; health problems; large number of members in the household, elderly / inactive people / single-parent families with children, etc. We are not advocating other passive actions here, such as increasing the amount of the social aid or more permissive legislative conditions for access to the guaranteed minimum income program, but we are trying to sound the alarm about activating social aid recipients, where appropriate. It is possible (activable persons, respectively working age and working capacity people) and the impact of these pro-activation elements not only in reducing poverty but, especially, in stimulating employment among these activable beneficiaries. Although at first sight these activation incentives introduced under the guaranteed minimum income program do not appear to significantly reduce poverty, they could be an incentive for the efforts of recipients to overcome their personal status, from socially assisted into employed. These simulations of the impact on poverty reduction could also provide the research framework for the future program on the minimum inclusion income (Law no. 196/2016, which would enter into force in 2023, and which has a threshold of 50% - simulated in this paper). In conclusion, the following are indisputable:

- the guaranteed minimum income remains a program of real support for the poorest people, in order to cover the minimum living needs of families and single people in difficulty;
- this social intervention was designed with the direct aim of preventing and reducing poverty and social exclusion, being granted to the most vulnerable segments of the population;
- the guaranteed minimum income program covers a contingent area at the level of the total population of approx. 1%, at approx. 4% of the people at the risk of poverty and 2.4-2.5% of the people at the risk of poverty and social exclusion; so, they are the poorest of the poor, deprived of means of subsistence people;
- the guaranteed minimum income aims to increase the participation of recipients to find a job, by containing certain activation components, in order to ensure their increased participation to employment, respectively to mobilize them to transit from the state of social assistance, dependency of the social assistance system, in that of active participant on the labour market.

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HOSPITAL MANAGEMENT AND GOVERNANCE WITH INFORMATION AND COMMUNICATION TECHNOLOGY IN GENERAL HOSPITALS IN THE REPUBLIC OF CROATIA

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ABSTRACT

Information and communication technology (ICT) acts as a support to management in business and it represents the primary level of information. ICT as a tool produces relevant information for decision makers. The aim at this paper is to investigate whether the management in general hospitals is information-literate, i.e. whether it uses the information produced by ICT to make quality decisions. Management often sees ICT as a cost without appreciating the contribution of ICT through the awareness of trained employees, optimized business processes, satisfied patients all of which affects the increase in financial results. The hypothesis in this paper is: The hospital management needs to govern ICT in order to use it effectively. In the process of researching to test the hypothesis, a questionnaire (the questionnaire was completed by board members, heads of services, department heads), available literature research, CMM (Capability Maturity Model), COBIT and information literacy analysis were used. By analyzing the answers obtained in the survey and comparing them with the expected management behaviour described in the literature, it was found that the hospital management does not recognize the contribution of ICT to more efficient business. The paper provides recommendations on how health management can recognize relevant information as well as how to collect, process, structure and distribute it to stakeholders with the help of ICT.

Keywords: *governance of information and communication technology, health management, information and communication technology (ICT), information literacy*

1. INTRODUCTION

For the last twenty years, ICT, with an emphasis on the integrated hospital information system (which connects hospital, radiological, laboratory, business and pharmacy information system) has become an integral part of the healthcare system in Croatia. This fact caused the need for all participants in the healthcare system to know how to use ICT and to be information-literate. Information literacy in healthcare is a specialty that integrates health care, computer knowledge and the field of information system in the recognition, collection, processing and use of data and information in health practice, administration, management, education, research and dissemination of knowledge. The aim of this paper is to point out the role and importance of information literacy for hospital management and its skills of ICT governance. It is necessary for management to make effective and efficient decisions. These decisions can be such if the management governs ICT, i.e. creates the conditions for the ICT to support decision-making. Is management creating the conditions for the ICT to support decision-making? Is management having skills of ICT governance? Through the answers to these questions, a hypothesis is reached: hospital management in the Republic of Croatia has not skill of ICT governance.

This hypothesis is sought to be proven with the help of questionnaires filled out by hospital managers and heads of IT departments. The questions in the questionnaire are based on 4 perspectives of the so-called COBIT approach. The maturity of the ICT governance by hospital management was assessed by the CMM method. The paper explains what the ICT governance is, shows one of the ways of ICT governance (COBIT approach). The relationship between hospital management and information literacy is further presented. After that, the research and its results are shown. The certain conclusions are drawn at the end.

2. ICT GOVERNANCE

ICT governance can be defined as a framework for the leadership, organizational structures and business processes, standards and compliance to these standards, which ensure that the organization's ICT supports and enables the achievement of its strategies and objectives. ICT technologies hold great promise for improving government effectiveness, a multi-faceted concept that includes, among other things, efficient delivery of public goods such as health. For information and communication technology (Panian, Spremić, 2007) to support business, management should answer the following research questions:

- Why and to what extent do we need ICT?
- What is the business value of ICT?
- What is the quality of service that ICT offers?
- How to use ICT in the organization efficiently and optimally?
- How much to invest in ICT?
- What is the return on ICT investment?
- Is the current information infrastructure aligned with the business needs and objectives?
- Do we know how to identify priority ICT projects, and can we assess their contribution to business?

In other words, management should have skill of ICT governance. *ICT governance* is a set of techniques and methods whereby the top management fully understands and controls the application of ICT in business, but also takes responsibility for the implementation of information processes and all activities.

ICT governance means	ICT governance includes
-adoption and implementation of ICT strategy -firm connection between the business strategy and ICT strategy, i.e. determination of the optimal role of ICT in business -adoption of metrics that measure the impact of ICT on business and measuring the business value of ICT -organizational and comprehensive management of information risks -effective management of ICT projects and investments -responsibility for the effectiveness of the ICT control system.	-a connectivity business strategy and IT strategy -ICT as a function that creates new value -optimal investment and good management of critical ICT resources: people, network, data, applications, projects, infrastructure -understanding and managing organizational risk, (<i>corporate appetite for risk</i>); should create a system of continuous monitoring level of risk -determine counter measures to avoid or minimize risks -performance of operations and performance measurement - implementation of strategies, projects, performance monitoring of business processes and / or services, etc.

*Table 1: Governing with ICT
 (Source: author's research)*

3. THE WAY OF ICT GOVERNANCE

There are different frameworks or “good practices” (ISACA, 2007) for governing with ICT by health management. This paper will present COBIT (Control Objective for ICT), version 4.0 as a one of the frameworks for governing with ICT. COBIT is an ICT management framework with the following aims:

- ICT should be a strategic partner in business
- ICT should enable gradual integration of business, new business opportunities, quick adaptations to changes and reactions to new business challenges
- ICT must provide management with information that will enable it to operate more efficiently and effectively.

COBIT¹, (Krakar, Žgela, et al., 2008), (isaca.org, 2008) is the acronym for Control Objective for Information and related Technology. It was created in 1992 under the auspices of two organizations: The Information Systems Audit and Control Association (ISACA) and the IT Government Institute (IGI). COBIT provides managers, supervisor and ICT users with a set of measures, indicators, processes and examples (best practice) that help them make the most of ICT as well as to develop appropriate management and control of business processes in their organizations. COBIT offers a chance for the ICT department to be not only a provider of information services but also a strategic business partner. The key role of COBIT is to provide control of all processes related to ICT, to be directed towards the constant checking and safety performance. The goal of COBIT is the management of business services. This should solve the so-called surplus of ICT i.e. under-utilized ICT, on the other hand should ensure that ICT can support the demands of the business system (it should mitigate any ICT deficit).

3.1. Basic features of COBIT 4.0

COBIT supports of information and communication technology (ICT) governance, i.e. business process management (ICT governance) by providing a framework within which to present domains, processes and activities in a usable and logical manner. It consists of four basic domains and 34 processes within the domains.

<i>CEO</i>	
<i>Planning and organizing.</i> This domain refers to the strategy and tactics; it defines the best manner in which IT can contribute to the achievement of business goals.	<i>Acquisitions and implementation.</i> The subject of interest here is the realization of the strategy. ICT solutions are defined, developed and enriched, implemented and integrated into the business process.
<i>CIO</i>	
<i>Delivery and support.</i> This domain refers to the delivery of required services, which includes the delivery itself, security and continuity management, customer service support, data management, and operational services	<i>Monitoring and evaluation.</i> Over time, each ICT process needs to be controlled to establish whether it works according to the user requirements. Within this domain, performance is managed, internal control is monitored, and processes are regulated.

*Table 2: COBIT domains
 (Source: Source: ISACA Press, 2008)*

¹]“What is COBIT”; <https://www.cio.com/article/3243684/what-is-cobit-a-framework-for-alignment-and-governance.html>;
 Downloaded: 14. 1. 2020.

Through these four domains and 34 processes within these domains, COBIT achieves its purpose, which is to support the realization of business services. However, in addition to being process-oriented, COBIT is business-focused, control-oriented, and measurement-driven. The focus of COBIT on business means that it is not just a tool for ICT service providers, users and controllers, but also a clear guide for *managers and business process owners*. This is because quality information is crucial for decision making, and information management and control are at the core of COBIT. COBIT ensures that information is effective, efficient, and confidential if necessary, accessible, legal, and secure and verified. COBIT is focused on control through *control goals* that ensure the quality of each of the 34 processes. In addition to goals that apply only to a specific process, there are also global goals that apply simultaneously to all processes in all domains. COBIT is driven by measurements. This means that performance measurements of goals and processes are applied within COBIT. Specifically, the CMM (Capability Maturity Model) model is used to determine the level of maturity of a ICT process in order to determine the state in which the process is currently as well as the need for improvement. There is the initial level and five further stages of maturity. These are: initial / ad hoc phase, repetitive but intuitive, defined process, manageable and measured and optimized phase.

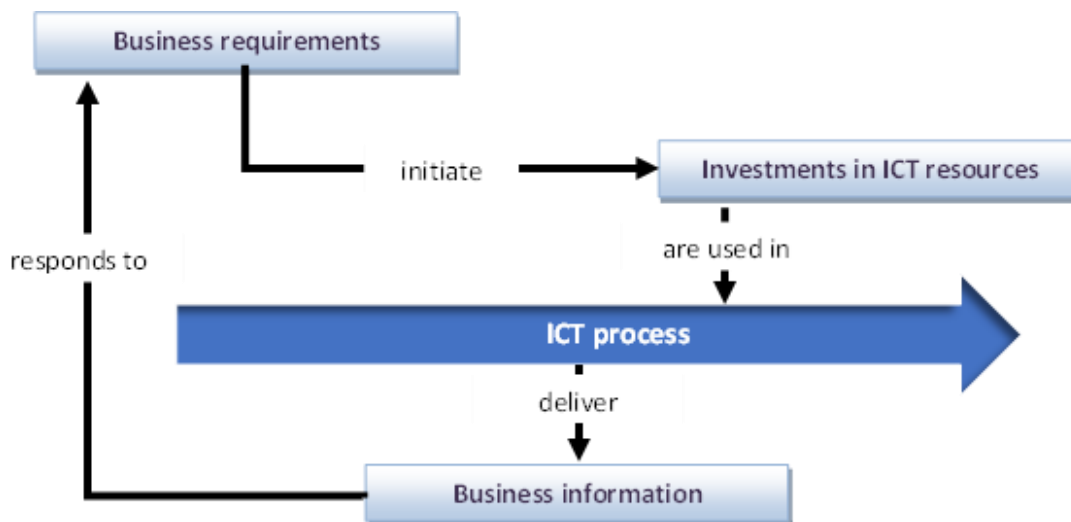


Figure 1: The basic COBIT principle
Source: author's drawing

Through this principle, it supports the basic areas of business management: *strategic alignment* (the link between the business and ICT plan; defining, maintaining and evaluating ICT values, harmonizing ICT and business operations), *value delivery* (ensuring that ICT delivers information valuable for business, and in accordance with the strategy), *resource management* (optimal investment in resources), *risk management* (requires awareness of the existence of risk by management, there must be understanding of the need for risk because without it there is no progress, agreement on significant risks, defining responsibility for risks in the organization), *performance measurement* (monitors the implementation of strategies, project execution, resource use, process execution and delivery of ICT services; the Balanced Scorecard (BSC) method is used for monitoring). *The concept of goal in COBIT is crucial*. There is a hierarchy of goals here. At the highest level is the business goal. It is achieved through ICT goals. Every ICT goal is realized through the achievement of process goals. Each process goal consists of a series of activity goals. The indicator of the achievement of each goal in COBIT is called the measure of results (in earlier versions it was called the key indicator of the goal). The scale of results shows whether a goal has been achieved or not.

It is always used after an event. Performance indicators (formerly key process indicators) are also linked to the goal and its achievement. Performance indicators show whether there is a chance that a goal will be achieved. It shows the ability of a process to achieve a goal, so it is sometimes called the driver of performance (in BSC, for example). Due to the hierarchy of goals, the same thing that was a measure of results at a higher level becomes an indicator (driver) of performance at a lower level. There are four parts of the structure for each ICT process:

- First part
 - information criteria are shown (what information must be)
 - which business requirement the ICT process satisfies
 - the goals whereby the ICT process satisfies the business requirement
 - what activities are carried out by the ICT process to achieve the goal
 - how goal achievement is measured
 - the business area within the business management which ICT process primarily processes, and the secondary supports
 - what ICT resources the process uses to achieve the goal
- Second part
 - contains control objectives for achieving the purpose of the IT process
- Third part
 - contains inputs to and outputs from the processes (these are activities from different domains)
 - a so-called RACI matrix that shows which activities make up the IT process and who is responsible for a particular activity, who is counted on, who is consulted and who is informed (**R**esponsible, **A**ccountable, **C**onsulted, **I**nformed)
 - the RACI matrix also shows the functions needed to fulfil the purpose of the IT process (management, head of ICT, executive director, manager, employee, project manager...)
 - the objectives in a hierarchical relationship and metrics for measuring achievement

Example of a RACI matrix:

Activities	Functions										
	CEO	CFO	Business Executive	CIO	Business Senior Management	Head Operations	Chief Architect	Head Development	Head IT Administration	PMO	Compliance, Audit, Risk and Security
Determine risk management alignment (e.g., assess risk).	A	R/A	C	C	R/A	I					I
Understand relevant strategic business objectives.		C	C	R/A	C	C					I
Understand relevant business process objectives.				C	C	R/A					I
Identify internal IT objectives, and establish risk context.					R/A		C	C	C		I
Identify events associated with objectives (some events are business-oriented [business is A]; some are IT-oriented [IT is A, business is C]).	I			A/C	A	R	R	R	R		C
Assess risk associated with events.				A/C	A	R	R	R	R		C
Evaluate and select risk responses.	I	I	A	A/C	A	R	R	R	R		C
Prioritise and plan control activities.	C	C	A	A	R	R	C	C	C		C
Approve and ensure funding for risk action plans.		A	A		R	I	I	I	I		I
Maintain and monitor a risk action plan.	A	C	I	R	R	C	C	C	C		R

A RACI chart identifies who is Responsible, Accountable, Consulted and/or Informed.

Figure 2: RACI chart
 (Source: ISACA Press, 2008)

- Part four
 - the ICT process maturity model according to CMM [2], [12], [13] model (5 levels):

<i>0. The process does not exist</i>
The management is not information-literate. The organization does not take into account the consequences of information literacy to business (a consequence of vulnerability and uncertainty of projecting and this). Information literacy has not been identified and as risk i.e. something essential for the realization and delivery of ICT services.
<i>1. The process is in the initial phase (ad hoc)</i>
The need for information literacy is observed on a case-by-case basis. There is an informal assessment of the level of information literacy depending on the project and the project manager. Assessment sometimes exists, but is not a formal task for managers. Specific risks of information illiteracy such as security, availability, integrity are sometimes examined. Information literacy is rarely mentioned at a board meeting. There is awareness that the risks associated with insufficient information literacy of management are dangerous and that they should be seriously considered.
<i>2. The process is in a repetitive but intuitive phase</i>
There is a developed approach to assessing information literacy at the project level and is dealt with by project managers. Risk management of insufficient information literacy of management is applied only in large projects and reactively, i.e. in response to a problem. There are procedures for information literacy through the process of lifelong learning.
<i>3. The process is defined</i>
The organization defines the management of the information literacy process, method of assessment and time of performance. Information literacy management follows a certain procedure that is documented. There is training available to the staff. The process of reducing the risk of information illiteracy is defined. Responsibility for information literacy of management is built into the job description.
<i>4. The process is manageable and measurable</i>
Information literacy assessment is a standard procedure. Exceptions to the information literacy management procedure are reported to the quality management assistant. Managing the information literacy process is the responsibility of management. Management considers risk reduction strategies.
<i>5. The process is optimized</i>
The process of information literacy is structured, expanded in all segments of the organization; the processes are well defined and managed. Good practices are applied throughout the organization. The coverage, analysis and reporting of information literacy is highly automated. There are guides to information literacy. Management continuously evaluates information literacy strategies.

Table 3: CMM levels

(Source: Software Capability Maturity Model, 2020)

4. INFORMATION LITERACY AND HEALTH SYSTEM MANAGEMENT

Information literacy² (Cats, Lau, 2008), (Grasian, Kaplowitz 2009), (Špiranec, 2018), (Lasić-Lazić, Špiranec et al, 2012) in the narrow sense, is the ability to recognize the need for certain information, to find information, to structure it (place it in relation to each other) as well as to create new knowledge and forward information to those who need it. The tool with which health management achieves its information literacy is an integrated information system that supports business processes within medical institutions (hospitals) and business processes between different information systems. Information literacy, in the broader sense, as described by Anemaree Lloyd (Lloyd, 2010) is information landscape consisting of social space, physical space and space dealing with the level of knowledge (intersection of truths and beliefs). *The space that deals with the level of knowledge* is based on information that is true, provable and objective. These are the rules, the laws that apply in everyday life. *The social space* is filled with intangible information that is not written down. These are social norms, conventions, practices that are observed in certain environments. *Physical space* is filled with information that we give to the environment with our own body (appearance and gestures, for example). All of the three described spaces are intertwined and must be viewed as a whole for a person to be declared information-literate.

² <https://epale.ec.europa.eu/hr/blog/informaciona-i-informaticka-pismenost> ; Retrieved: May 4, 2020

From this perspective, how can we know if a healthcare manager is information-literate? Formal education alone is not enough. It covers only the space that deals with the level of knowledge (so-called *epistemology*). The manager should:

- have a formal education in management (*space dealing with the level of knowledge this can be obtained throughout formal education*)
- have "intangible" knowledge about the employee's habits and reactions to criticism/praise, the way employees think, about organizational culture (*social space this is the knowledge that the manager acquires through time, i.e. experience*)
- be able to recognize the physical reactions of employees; based on reactions, be able to recognize whether everything is fine or not (*physical space knowledge can be gained partly throughout formal education, but practice is also necessary*)

According to Lloyd's approach, an information-literate manager must be able to access information, assess its value, and make correct conclusions based on the information obtained and share the information obtained (information literacy in the narrow sense) *but also information-literate managers have to know the social habits and physical reactions of employees. Information literacy in the narrow and broader sense is the basis for governance with ICT* and this is necessary for the establishment of *the conditions* for information and communication technology to be support decision-making. Health management should aim for efficient and effective management with the aid of information and communication technology. For that, it is necessary to be information-literate. Managing a health system (Kern, 2014), (Kuek, Hakkeness, 2019) as one large, complex system is very challenging and requires many managerial skills, the most important of which are: human resource management, quality communication skills, information management, motivation, financial management and strategic planning. All of these skills require management of information literacy. The question that arises is what the state-of-play is today? Do health care managers possess these skills? This should be investigated.

5. RESEARCH AND RESULTS

The area that studies the importance of information literacy of management in health system management is insufficiently researched. It is necessary to determine the readiness of health management to be information literate and master ICT. This is necessary to define the current situation and to suggest improvements based on it. The current situation will be described by the so-called CMM (Capability Maturity Model), i.e. the Maturity Model for the determination of the level of information literacy of *management and their governance of ICT*. The aim of the research is to determine the degree of the maturity of health management so that it can become information literate and govern ICT. Research was conducted in four general hospitals. The research method used was a survey conducted by means of a questionnaire. The same questions were asked to all respondents. Three groups of management were interviewed: the boards of the general hospitals, the middle management (heads of services, department heads) and the CIO (chief information officer). The survey was based on four domains of COBIT 4.0. The first two domains (*Planning and organizing; Acquisitions and implementation*) referred to the members of the management of the hospital (the Board and middle management), while the other two (*Delivery and Support, Monitoring and Evaluation*) focused on the heads of IT (CIO). The average number of affirmative answers was calculated for each question. Based on this, a level of maturity was assigned for each percentage obtained. Finally, the level of maturity was determined based on the average maturity for each question. With the survey we examined the process of computerization. Computerization is the process of planning, analysis, design of ICT support, and implementation and maintenance activities within the same organization.

In this sense, the readiness of management to recognize the importance of computerization was examined. The willingness of management to recognize the importance of computerization also shows the degree of their computer and information literacy. The questions from the survey which was conducted in the hospital are the shown in Table 3. The same questions were posed to the top and middle management, as well as to the CIO. The answers show that top and middle management have not governed with ICT. Their answers are also shown in Table 4.

		% of affirmative answers Board	Level of Maturity – Board (N=16)	% of affirmative answers Middle management	Level of Maturity – Middle management (N=78)	% of affirmative answers CIO	Level of Maturity – CIO (N=4)	
Planning and organization	1.	Does ICT play a role in decision-making?	31	2	37	2	27	2
	2.	Is the information you receive from the system of sufficient quality (reliable, complete and accessible)?	40	2	39	2	57	3
	3.	Is the information system you are using standardized (comparable to others) and as such better support to decision-making?	41	3	40	2	66	4
	4.	Do you think that ICT should play an important role in the organization?	23	2	31	2	21	2
	5.	Is there collaboration between IT and other parts of the organization?	50	3	57	3	50	3
	6.	Is financial viability taken into account when investing in ICT?	67	4	66	3	21	2
	7.	Is the financial plan of computerization an integral part of the financial plan of the entire organization?	78	4	64	3	23	2
	8.	Does management discuss ICT?	20	1	37	2	10	1
	9.	Is your organization learning?	23	2	36	2	17	1
	10.	Are your employee's computer literate? Do they know how to use applications, ICT system in a satisfactory way?	27	2	33	2	32	2
	11.	Do ICT products meet customer needs?	32	2	43	3	57	3
	12.	Have your risks in relation to computerization been assessed?	36	2	44	3	68	4
	13.	Are risks in computerization managed?	20	1	31	2	19	1
	14.	Do you manage ICT projects?	41	3	50	3	60	3
Monitoring and evaluation	15.	Is the quality of your ICT service (application) monitored?	30	2	45	3	84	5
	16.	Do you have defined parameters that are monitored when evaluating the quality of ICT performance?	17	1	20	1	77	4
	17.	Do you have control mechanisms in place to protect IT assets from destruction?	23	2	25	2	56	3

	18.	Do you make sure that ICT services comply with laws, regulations and business policies?	40	2	41	3	71	4
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			% of affirmative answers Board	Level of Maturity – Board (N=16)	% of affirmative answers Middle management	Level of Maturity – Middle management (N=78)	% of affirmative answers CIO	Level of Maturity – CIO (N=4)
Acquisition and implementation	19.	Do you develop solutions yourself?	3	1	5	1	10	1
	20.	Do you have a maintenance contract (SLA, etc.) with your partners with precise definitions of the partners' obligations?	73	4	50	3	80	4
	21.	Does the outsourcing partner respond to your requirements to your satisfaction?	50	3	51	3	40	2
	22.	Is the support response time satisfactory?	49	2	57	3	59	3
	23.	Do you have enough resources for a quality IT service (to make it continuous)?	45	3	55	3	34	2
	24.	Has the service always been available in the last year?	20	1	26	2	1	1
	25.	Has the service been unavailable for a long time?	10	1	12	1	1	1
	26.	Are your applications used in the right way?	49	3	57	3	50	3
	27.	Do you conduct application user training?	51	3	47	3	60	3
	28..	Do you manage ICT costs? Are they viewed as part of an organization's costs?	30	2	32	2	30	2
	29.	Do you have physical controls and logical protection (passwords) in place for ICT services?	55	3	59	3	60	3
Delivery and support	30.	Is there a procedure for accessing the server and the database?	40	2	49	3	67	5
	31.	Do you have customer support?	49	3	50	3	44	3
	32.	Do you deal with incidents right away?	46	3	51	3	57	3
	33.	Do you always know what you have at your disposal (number of PCs, servers, routers, switches)?	8	1	10	1	60	3
	34.	Is there an up-to-date list of equipment?	19	1	21	2	50	3
	35.	Are there records of problems in the use of the ICT service?	34	2	20	1	56	3
	36.	Are corrective and preventive actions being	32	2	37	2	58	3

	taken regarding the problem?						
37.	Do you handle user requests quickly?	58	3	44	3	59	3
38.	Is there a data management procedure?	20	1	18	1	55	3
39.	Is there physical protection in place for ICT resources?	52	3	39	2	57	3
40.	Is there preventive maintenance and is it planned?	39	2	40	2	58	3
41.	Is the performance of the ICT service monitored?	34	2	30	2	60	3
42.	Are you backing up data?	40	2	38	2	80	4

*Table 4: Questions, % of affirmative answers and level of maturity
 (Source: author's research)*

Level of maturity – Management Board: 2, 21

Level of maturity – Middle management: 2, 48

Level of Maturity – CIO: 2, 76

Results show that members of the Management Board use information and communication technology (ICT) to the least extent. Middle management uses ICT in larger scale. CIO use ICT the most often, which was expected.

Criterion for determining the level of maturity:

- the percentage of all affirmative answers from the maturity survey scale

Percentage of affirmative answers	Level of maturity
0%	Does not exist / 0
1-20%	Initial / 1
21-40%	Repetitive / 2
41-60%	Defined / 3
51-80%	Managed / 4
81-100%	Optimized / 5

*Table 5: Relation between percentage of affirmative answers and level of maturity
 (Source: Software Capability Maturity Model, 2020)*

Level of maturity of management's information literacy is: 2, 48 = 2nd level. The average percentage of affirmative answers was examined, leading to the following conclusion:

- **The governing with ICT in the general hospitals is on the second level.**

It is repetitive, but intuitive. This means that there are certain defined and documented processes used in day-to-day business, but they are not defined at the level of the whole organization (they do not take place in the same way everywhere, in all parts of the organization). There are requirements to management and projects. Care is being taken to procure everything necessary for the delivery of the ICT service. It strives to work in accordance with business policies. The second level of maturity of hospital management related to ICT governance shows that it does not actually have enough knowledge related to information literacy. Hospital management does not realize that ICT is a tool that helps them to make decisions faster, more efficiently and effectively. ICT is not perceived as an important factor in business.

6. CONCLUSION

Information literacy in the narrow and broader sense is necessary for health system management because it enables management to govern with ICT, i.e. it enables them to establish conditions that enable ICT to support decision making (efficient and effective health system management). This is especially important today when any savings on the one hand and an increase in income on the other are extremely important. Information literacy can help with both of those challenges. It enables recognition of information in timely manner, access to information as well as processing and transmission of information to make optimal decisions at a given time. Through the research, the hypothesis was confirmed. The hospital management in the Republic of Croatia has not skills of ICT governance. Managing a health system as one large, complex system is very challenging and requires many managerial skills, the most important of which are: human resource management, quality communication skills, information management, motivation, financial management and strategic planning. All of these skills require that managers are information-literate. The second level of maturity according to the CMM method shows that hospital management is not sufficiently information-literate and thus cannot have a skills of ICT governance. Curricula related to information literacy within formal education and lifelong acquisition of ICT-related competencies is one of the ways for managers to become information-literate and to acquire the skills of ICT governance.

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FINANCIAL EFFECTS OF FINTECH MERGE IN THE FINANCIAL SECTOR: EVIDENCE FROM AN INTERNATIONAL SAMPLE

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ABSTRACT

The last two decades have been marked by a strong expansion in the development of technological innovations in all human activities. This phenomenon has strongly impacted the financial sector, which has had to readjust and reinterpret its business operations in an environment that has never been so competitive. Financial Technology (FinTech) has led to a streamlining and optimisation of the internal activities of financial institutions, producing opportunities related to the reduction of operating costs. However, the FinTech phenomenon is characterised by the entry of new players, typically technology companies, into finance and financial intermediation. In response to this external pressure, financial institutions have started collaboration and merger operations to integrate the new technologies developed on the market in their business model. In this context, some banks may be more driven by strategic reasons to acquire FinTech start-ups; others may feel compelled to do so to increase their performance or efficiency. This paper intends to investigate whether banks that embark on a FinTech merge achieve positive effects in terms of financial performance. The research hypothesis is tested using an international sample composed of 106 financial intermediaries that implemented FinTech merge from 2010 to 2018. The methodology employed is the Propensity-Score-Matching (PSM) technique that provides empirical results using a control group composed of 79,974 financial firms in the observed period. The findings outline the positive effects that a FinTech merge determines on the financial performance of intermediaries. These evidence underline the strategic importance of FinTech merging in the modern financial system; indeed, bank managers should consider the opportunities of acquiring technology start-ups, also to compete with these innovative financial players.

Keywords: *Financial Intermediaries, Financial Performance, FinTech, Innovation, Merge*

1. INTRODUCTION

The disruptive digital revolution that has characterised various sectors in recent decades (Iansiti and Levien, 2004) has also affected the financial sector, forcing it to adapt to a changing market. Digitisation processes are spreading in the banking and financial sector, improving productivity, profitability and efficiency of services (Park et al., 2016). This revolution, as well as leading to the development of new products in the banking sector, has also led to the adaptation of its technological infrastructure by making the human factor give more and more space to the automation of internal processes (Omarini, 2017). The term FinTech (Financial Technology) has spread through the financial system, leading to overcoming financial activity in its traditional form. Indeed, the application of new technologies to the financial sector is leading more and more players to reconsider the nature of the intermediation process.

On the one hand, technological innovations make intermediaries and their services more accessible; FinTech services allow for greater efficiency and cost reduction by replacing human labour with technological procedures; furthermore, new technologies allow for greater transparency, convenience, simplicity, speed, flexibility, and personalisation of services, all of which encourage customer loyalty (Frame and White, 2004; Omarini, 2018). In a context where markets are constantly evolving, disintermediation undermines the classic role of financial intermediaries, as the system generates a more efficient and transparent resource allocation function (Scholtens and Van Wensveen, 2000). Moreover, the centrality of financial institutions is destabilised by the growing presence of new technological players, which adapt their high-tech structure to offer new financial products to the customers of traditional banks. This phenomenon is a result of the debureaucratisation of financial services, which has allowed new external actors to present themselves as a viable alternative to traditional channels (Sapienza & Zingales, 2012), thanks to a significant reduction in entry barriers, which has resulted in an exponential increase in competition in the sector. This represents a risk for traditional institutions that need to bridge the technology gap to maintain profitability. The convergence of traditional financial players towards adopting a technologically advanced structure seems to be a foregone conclusion. However, building innovative structures internally requires huge investments that may be difficult to sustain for small intermediaries or not acceptable for more traditional or less efficient ones. From the framework outlined, the choices of inertia in both organisational and governance restructuring towards FinTech and internal development of such technologies seem to be two impervious paths. Therefore, a collaborative approach may be the most appropriate decision to avoid being isolated in technological development. The most frequent partnerships are represented by acquisitions of FinTech players or the conclusion of joint venture agreements aimed at developing synergies between the various contractors (Schena et al., 2018). The phenomenon of Open Banking is the sharing of data between the many actors in the banking ecosystem, as authorised by consumers, resulting from collaboration between credit institutions, FinTech businesses, and other financial institutions. Because of the quicker and more efficient interchange of information, Open Banking is likely to have the most significant influence on changing the management balance of financial intermediaries, primarily because it allows them to handle numerous procedures more efficiently in outsourcing. Financial institutions can use mergers and acquisitions to fight this competitive pressure and access FinTech innovations. Horizontal growth is the most expensive and the fastest option for banks to reap the advantages of the innovation process and maintain their market competitiveness. This paper aims to investigate the impacts of FinTech merge transactions on the earnings performance of financial firms and asks: is there a relationship between FinTech merge and the financial performance of financial institutions? In the literature, although there is no lack of works concerning M&A transactions in the financial sector, and there is no lack of analyses concerning FinTech performance, there is still a lack in combining these two phenomena. In this way, the contribution to the literature is enhanced by the worldwide scope of the sample and the observation period, which spans the years when the FinTech phenomena was at its peak. The paper is structured as follows. Section 2 provides the literature review leading to the research hypothesis. Section 3 presents the models, methodology and sample. Section 4 discusses the primary findings and the final section provides brief concluding assessments and implications of the phenomenon studied.

2. LITERATURE REVIEW

2.1. FinTech and financial system

FinTech (Financial Technology) is a term referred to the use of modern Internet technologies in the established business activities in the financial sector. It can be seen as a group of initiatives based on technology innovation that challenged the traditional business models,

services offered, and roles (Gomber et al., 2017). Innovation in the financial sector is intended as every tool able to reduce costs and risks or provide efficiency in delivering products, services and instruments for satisfying financial system participant's demands (Frame and White, 2004). Furthermore, innovation has to include the process connected with the invention, the research and development function, and the diffusion of new instruments (Tufano, 2003). The central role of the financial system in the economic development (Levine, 2004; Shen & Lee, 2006; Beck, Demirgüç-Kunt & Levine, 2010) and market (Matei & Voica, 2013; Fatma, Rahman & Khan, 2014) highlight the importance of financial innovations and their diffusion (Levine, 1997). Some studies have already evidenced the positive relationship between financial innovation and capability to bring better saving and investment decisions, increasing the economic value of financial innovation (Van Horne, 1985; Miller, 1992; Merton, 1992, 1995; Tufano, 2003; Berger, 2003; Frame and White, 2004). Nowadays FinTech affects practically every aspect of the financial system in virtually every corner of the world, with the most dramatic impact having altered finance and posed new regulatory issues (Zhou, Arner & Buckley, 2015). For these reasons, Fintech's emergence has unavoidably brought about changes in the role of technology, customer behaviour, ecosystems, and the industry and regulation as a whole (Wonglimpiyarat, 2017; Gozman, Liebenau & Mangan, 2018). For Arner et al. (2016), the modern FinTech scenery is the outcome of three evolutionary trends: digital transformation in developed markets, digital financial services in developing countries and FinTech start-ups. The reasons that bring the emergence of FinTech seems to be related to the financial markets lacks and the public distrust in the financial services industry caused by the financial Crisis (Gabbi et al., 2009; Uslaner, 2010). The 2008 Global Financial Crisis (GFC) was a turning point in the development of financial technology. During the GFC, financial institutions expose all their economic and compliance deficiencies, producing a lack of trust in the entire financial system. The credit rationing that followed the Crisis favoured an alternative form of financing, such as crowdfunding (Blaseg and Koetter, 2015). Moreover, a pressure for alternative sources of finance for Small and Medium Enterprises (SMEs) emerges, and the use of big data analytics and data science has also transformed how information is acquired, handled, and analysed, resulting in considerable savings in search expenses (Giudici, 2018). In these shortcomings, the FinTech phenomenon spreads, facilitating the rise of new competitors and the development of the FinTech phenomenon (Sapienza & Zingales, 2012). To restore the profitability lost from the financial Crisis regarding consumer lending and small and medium-sized businesses, some banks have decided to adopt FinTech solutions to process customer and application data (Eckblad et al., 2017; McKillop et al., 2020). In this context, the emergence of Fintech has resulted in the "*disintermediation of financial services*" and the necessity for a new type of consumer and investor protection (Giudici, 2018; Guo & Liang, 2016). The disintermediation process overturns static conceptions of financial intermediation that situate the bank's centrality in its capacity to attain the advantages associated with economies of scale and the obstacles the borrowers face. In reality, the existence and participation of intermediaries are made economically convenient by the presence of restraints and limits on direct transfers of resources between employers and borrowers (Gurley and Shaw, 1955). Financial intermediation theories' static approach, on the other hand, does not match the contemporary financial system, which is extremely dynamic and continually developing. In fact, in imperfect and constantly evolving markets, the disintermediation process threatens the existence of credit intermediaries who act as agents because the system generates a function of more efficient and transparent resource allocation through deregulation processes and the evolution of information technologies (Scholtens and Van Wensveen, 2000). FinTech start-ups and established IT firms are increasing the competition against banks (Jakšič & Marinč, 2019). Competition between financial actors is raised to a higher level. Frame et al. (2018) conclude that the spread of the most powerful and faster computers, linked with the adoption of more interrelated internet connections,

produces a more efficient payment system, where new products quickly reach a large part of the population. According to Fuentes et al. (2006), when competition is fierce and competing banks have already embraced transactional online banking, banks are more inclined to adopt it. Technological evolution has also brought about a change in consumer credit, in which the relationship is no longer human but mediated by bots capable of evaluating credit scores and other information very rapidly, leading to greater availability of credit. They have shown that Information Technology (IT) developments have allowed banks to serve more distant clients, increasing competition in banking. Furthermore, the presence of FinTech could be intended in a transversal way to respect all the functions in the financial system. What emerges from the literature (Frame et al., 2018; Frost et al., 2019; Stulz, 2019; Thakor, 2019; McKillop et al., 2020), the majority of FinTech services are in the payments, clearing and settlement sectors (such as mobile wallets, peer-to-peer transfers, and digital currencies), followed by credit, deposit, and capital-raising services (e.g., crowding funding, lending marketplaces, credit scoring, mobile banks). For Frame et al. (2018), the most relevant technologies currently used are attributable to: the Blockchain and the distributed ledger, widely used for the issuance and transfer of cryptocurrencies and the initial stages of financing of technology companies; Artificial Intelligence and Machine Learning, to promote loan services and account activity monitoring, as well as providing low-cost advisory services and improving credit choices through the use of additional data. In summary, the financial services industry's structure, operations, and economics have all been altered by technological progress. IT changes how clients obtain services, mainly through automated distribution channels, the most prominent of which is the internet. Technology may also save resources on information management and replace paper-based and labour-intensive methods with automated ones (Hernando and Nieto, 2007; DeYoung et al., 2007). As mentioned above, the rise of FinTech is dated back to 2008 and is viewed as a bottom-up movement organised by start-ups and IT corporations (Arner et al., 2016). Fintech start-ups can avoid the intermediation costs and minimum capital requirements usually associated with traditional banking services (Iman, 2018). The growth of FinTech was led by start-ups and subsequently fuelled by more and more forms of collaboration, fusions, partnerships or acquisitions carried out by banks and other traditional financial institutions (Arner et al., 2016); in this way, banks can englobe from the outside some important factors that can improve their competitiveness, such as: access to data, technological advantage, access to funding, lack of regulation and lack of competition (Frost et al., 2019).

2.2. M&A in the banking industry

Merger and Acquisition (M&A) is a widespread operation in the financial industry, which significantly contributes to the reduction of the total number of financial institutions in the world (Nolle, 1995; Berger et al., 1995; Berger et al., 1999; Amel et al., 2004; Jones and Critchfield, 2005; Goddard et al., 2007a). In the corporate finance theory, the M&A operations follow three main "*internal*" reasons (firm-level motives) to make a takeover (Berkovitch & Narayanan, 1993; Pasiouras et al., 2011): Synergy Motive; Agency Motive; Hubris Hypothesis. The Synergy Motives are connected with Value maximization motives, which aim to increase then acquiring firm's value (Berkovitch & Narayanan, 1993). The concept of synergy refers to the ability of an acquisition to maximize shareholder wealth in both companies, producing gains to both sets of shareholders. The concept of maximizing run is in line with the Theory of Efficiency, according to which gains through synergy are the main reason for mergers and acquisitions (Trautwein, 1990). The theory of efficiency distinguishes three types of synergy:

- Operational synergies result from the combination of activities, products and markets (Sudarnam, 1996). The focus of these strategies is to produce cost savings. It is possible to distinguish economies of scale, in which the higher level of output is achieved through the minimum level of input, and it is typical in the horizontal mergers (same sector), from

economies of scope, which refers to the lowering of unit costs by producing a greater range of goods or services (Amel et al., 2004). Another important argument is correlated with risk diversification in terms of product and geographic diversification; the integration of two firms reduces the probability of bank failure (Pasiouras et al., 2011).

- Managerial synergies are obtained when one of the firms has better planning and monitoring abilities (Trautwein, 1990). Some mergers are driven by replacing the acquired firm's management due to inefficiency and the perception that the acquiring firm's management can better utilize the target's resources.
- Financial synergies are obtained when the merged firm's capital cost is lower than that of the individual companies (Pasiouras et al., 2005).

The relevance of the synergy incentive is supported by empirical research on bank merger motivations (Zhang, 1995; Grabowski et al., 1995; Rhoades, 1998; Wheelock and Wilson, 2000, 2004; Focarelli et al., 2002). The separation of ownership and control implies distinguishing the figure of the shareholders from the management; the focus here is on the non-maximisation of value, from which managerial reasons emerge in terms of problems of agency and arrogance. For Agency motives, M&A operations are driven by conflicts of interest between managers and shareholders; instead of maximizing shareholders' wealth, managers maximize their personal benefits in terms of compensation, power, wages, and prestige. These advantages are frequently linked to the larger firm size and increased sales rate from mergers. The crucial point is that the buyer's management has picked the target company as the one most fitted to boost the company's profitability (Berkovitch & Narayanan, 1993). Hubris Hypothesis maintains that acquisitions are motivated by managers' mistakes and no synergy gains (Berkovitch & Narayanan, 1993). According to Roll (1986), managers make the mistake of overestimating the worth of target businesses. Consequently, they can engage in mergers when there are no synergies. Connected with the internal factors, it is possible to underline the literature that suggests many relationships between financial requirements and the probability to be acquired in the banking contest. Starting from the assumption that banks have to diversify and increase their product portfolio and M&A operations offer a faster option to diversify compared to organic growth (Kannan, 1998). In particular, banks with low profitability, low capital-to-assets ratios, strong local market share, or that operate in cities are more likely to be purchased (Goddard et al. (2008) as suggested in the following works: Hannan and Rhoades, 1987; Amel and Rhoades, 1989; Moore, 1997; Hadlock et al., 1999; Hannan and Piloff, 2006). The effect of the acquisition is related to cost-saving (Rhoades, 1998), higher level of profitability (Spindt and Tarhan, 1992; Kumara and Satyanarayana, 2013; Omoye and Aniefor, 2016), an improvement in the post-merger returns (DeLong and DeYoung, 2007; Heywood and McGinty, 2007; Richey et al., 2008) and a cost-efficiency gains (Berger and Humphrey, 1992; Rhoades, 1998; Peristiani, 1997; Kaur and Kaur, 2010). Mergers and acquisitions involving comparable organizations are more likely to be profitable (Perry and Porter, 1985; Daughety, 1990; Huck et al., 2004; Heywood and McGinty, 2007). In the profitability field, return on capital employed, GP margin, and Debt Equity ratio show a considerable improvement after the merger operation (Khan, 2011), and also net profit and shareholders' equity to total assets were significantly impacted (Chadamiya et al., 2012). There are external factors that bring banks to complete an M&A operation. Some motives are connected with the necessity for a bank to respect the requirements of financial regulators in terms of minimum capital adequacy, other with deregulation and liberalization of financial services, globalization and of considerable importance are the industrial and technological developments, linked to the decrease in IT costs and progress in internet services (Badik, 2007).

2.3. Research hypothesis - FinTech M&A performance

Merger operations are seen as an important vehicle for the diffusion of the new technology (Mansfield, 1961; Damanpour, 1991, 1992). Mergers play a role in the diffusion process by speeding up the transmission of new information and spreading the risks associated with new technologies over larger output volumes. As aforementioned, the banking sector's competition has to cope with outside actors, as FinTech companies that emerged as providers of loans, savings products and investment products (Van Loo, 2018). The ability of FinTech businesses to service conventional bank clients without a banking license and associated regulation poses a significant competitive challenge to banks (Omarova, 2019). Technology removal of entry barriers opened the gate for new banks with high technology, and old banks could not compete with them, so they decided to complete a merge operation (Kress, 2020). The literature on the impact of FinTech-focused M&As is scarce and mainly concerns acquisition transactions before 2010. Kohers and Kohers (2000) found a positive abnormal return in the short term in the M&A operations due to the technological benefits; the authors added a suggestion connected with some market inefficiency in technological transactions, especially over three years (Kohers and Kohers, 2001). Traditional financial services are improved through M&A between the financial and high-tech industries on both a company and consumer level (Kohers and Kohers, 2000; Ahuja and Katila, 2001). Conn et al. (2005) discovered that acquisitions involving technical enterprises perform better in cross-border mergers and acquisitions in the long term. The latest works focus on analysing the impact in the cross-border transaction in which technology-oriented firms are present. On this line, a positive outperform is highlighted (Kohli and Mann, 2012; Yoon and Lee, 2016; Lusyana and Sherif, 2016) and is more confirmed in the domestic technological acquisitions. For Dranev et al. (2019), superior returns from technology M&A compared to non-technology M&A for companies from emerging countries in cross-border M&A emerged. Considering the lack of literature on FinTech M&A in the banking sector, the present work wants to investigate the effects of these operations on the banking financial performance. The positive relationship between financial innovation and capability to bring better saving and investment decisions (Frame et al., 2018), for which banks can improve their competitiveness (Frost et al., 2019), in line with the positive results highlighted by the M&A literature in the banking sector, cost-saving and efficiency (Goddard et al., 2008; Kaur and Kaur, 2010) and better profitability and return (Goddard et al., 2008; Richey et al., 2008; Kumara & Satyanarayana, 2013; Omoye and Aniefor, 2016), brings to the following research hypothesis:

- *HY: FinTech M&As have a positive relationship with the profitability of financial institutions.*

3. METHODOLOGY AND SAMPLE

In order to test the research hypothesis, the analysis is carried out on a pooled econometric model, on which tests for heteroskedasticity and collinearity are performed.

The econometric model used is:

$$\begin{aligned} \text{Profitability}_i &= \alpha + \beta_1 D_Year_Fin_Merge_i + \beta_2 Leverage_i + \beta_3 LIQ_i + \beta_4 CostInc_i \\ &+ \beta_5 Risk_i + \beta_6 Ln_Sis1Mln + \varepsilon_i \end{aligned}$$

The cross-sectional analysis is a consequence of the use of Propensity-Score-Matching (PSM), a widespread approach in the literature for constructing a control group (Behr and Heid, 2011, Levi et al., 2014). The control group produced via PSM has observable characteristics, and its propensity scores estimated via maximum likelihood are not different from the characteristics

of the treatment group on which the PSM was calculated (Rosenbaum & Rubin, 1983). More in detail, the PSM allows the construction of the control sample by selecting, for each observation of the treatment sample, the corresponding observation belonging to the control sample whose propensity score is the most similar to the observation of the treatment sample. The propensity score represents the value that identifies the probability of obtaining the treatment above. In the present work, PSM techniques allow replicating the characteristics of the individual identities of the treatment group (Merge) on the control group consisting of financial subjects who have not performed a FinTech merge. This balancing mechanism ensures that the two groups of financial institutions are relatively comparable in terms of covariates. The presence of financial institutions from 72 countries in the sample led to using a PSM matching strategy, using logit models, that considers Gross Domestic Product (GDP) and the inflation rate. This balancing makes it possible to eliminate from the analysis any distortions due to the country's growth rates, which may have influenced the financial company's performance, and inflation, which may have excessively influenced the performance of the institutions' core business, affecting the interest rates of that country. Furthermore, there is a positive association between GDP growth and M&A transactions because financial institutions engaged in acquisitions might take advantage of the favourable economic cycle to obtain the cost savings associated with economies of scale (Buch & DeLong 2004a). The use of GDP as a homogenization factor is further justified by its influence on the introduction of new technology. Countries with strong economic growth are ideal environments for creating innovative technology (Haddad & Hornuf, 2019). Inflation is another country-specific element to consider when making M&A investment decisions. The literature (Focarelli and Pozzolo, 2001) shows a negative association between inflation and the likelihood of becoming a buyer in unusual financing transactions. The reference currency has lost value, resulting in a greater transaction cost. In order to verify the correct functioning of the PSM, two significance tests of the differences in the averages were carried out between the group of financials that performed FinTech merge operations and the group that did not perform these operations. The first test was carried out before PSM and gave significant divergence between the averages of the two groups; the second test carried out after PSM showed that these differences had disappeared. This result is essential to verify the comparability of the two groups. Ordinary Least Squares (OLS) analysis is carried out on these data, as the PSM isolates the data for the two groups on a single year basis. This fact does not allow the use of panel models. The analysis was carried out using Stata software.

3.1. Variables

In this paper, the dimension of financial performance is broken down into three profitability ratios. The Return on Average Assets (ROAA) represents the profitability of a firm's assets and is calculated by considering net profit and average total assets. The indicator expresses the profitability of the average value of total assets intermediated by the bank (Aupperle et al., 1985; Simpson and Kohers, 2002; Van der Laan et al., 2008; Soana, 2011; Barnett and Salomon, 2012). Return on Average Equity (ROAE) measures a company's profitability. It can provide a more accurate picture of the financial institution's profitability than Return on Equity (ROE), particularly in situations where the value of equity has changed significantly during the financial year. ROAE reflects how effectively a bank's management is using its shareholders' funds (Pasiouras and Kosmidou, 2007; Sufian and Habibullah, 2009; Petria et al., 2015). The last financial indicator is the Net Interest Margin (NIM) calculated as Net Interest Income (the difference between a bank's interest income from lending and the interest it pays to depositors) on Total Assets. This ratio measures the quality of banking operations, the higher the ratio, the higher the margin the bank makes, or the cheaper the financial resources it raises. The higher this ratio, the higher the margin that the bank makes, or the cheaper the bank's collection of

financial resources (Hamadi and Awdeh, 2012; Busch and Memmel, 2015). The independent variable used (*D_Year_Fin_Merge*) is a dummy in which the value can be 1 if the finance company has merged in at least one year of the period considered, or 0 otherwise. Data on financial companies that have carried out extraordinary finance transactions are obtained from the SNL Financial LC database. Four bank-specific variables were used for the control variables: Leverage, is an indicator of bank capital adequacy (Pasiouras and Gaganis, 2007; Pasiouras et al., 2011; Beccalli and Frantz, 2010); Liquidity (LIQ) represents the liquidity profile of financial intermediaries, calculated through the ratio of the value of liquid assets (cash and bank borrowings, trading securities measured at fair value, loans to banks, repurchase agreements and cash collateral) to short-term loans plus total deposits (Pasiouras and Gaganis, 2007; Beccalli and Frantz, 2010; Pasiouras et al., 2011); Loan Loss Provision on the Net Interest Revenue % (Risk), the ability of a financial institution to cover its expenses using provisions for bad debts collected through interest; Cost-To-Income Ratio (CostInc), defined as the operating cost that is required to generate one unit of income (Focarelli et al. 2002; Molyneux, 2003; Pasiouras and Gaganis, 2007; Hernando et al. 2009). In addition, a country-specific control variable was inserted, belonging to the World Development Indicators (WDI). *Sis1Mln* (Secure Internet servers per one million people) represents the number of distinct, publicly-trusted TLS/SSL certificates found in the Netcraft Secure Server Survey. This indicator makes it possible to check the technological level of each country through the consideration made of the security of the servers used. Bank-specific financial variables were provided by BankFocus Bureau van Dijk. Prior to analysis, observations that occurred in the extreme tails of the 1% were winsorized.

Table 1: Variable definitions

Variable	Description	Source
<i>Dependent Variables</i>		
ROAA	(Net Income/Total Average Assets) %	Bank Focus
ROAE	(Net Income/Average Shareholder's Equity) %	Bank Focus
NIM	(Net Interest Income/Total Assets) %	Bank Focus
<i>Independent Variable</i>		
<i>D_Year_Fin_Merge</i>	Dummy = 1 in the year in which the Financial Institutions acquires a FinTech firm	SNL Financial LC
<i>Control Variables</i>		
Leverage	(Equity/Liabilities) %	Bank Focus
LIQ	(Liquid assets/Deposit and short-term funding) %	Bank Focus
CostInc	(Total Operating Expenses/ Total Operating Income) %	Bank Focus
Risk	(Loan Loss Provision/Net Interest Revenue) %	Bank Focus
<i>Sis1Mln</i>	Secure Internet Server for 1 million people	Netcraft's SSL Server Survey

3.2. Sample

The sample consists of 80,080 financial firm's observations distributed worldwide whose data were collected from 2010-2018. The sample is, in turn, divided into two subgroups (Table 2). The first subgroup consists of 106 companies that conducted at least one merge operation for FinTech purposes during the period considered (Table 3). The subsample includes only a few categories of financial players that can be classified as banks, special purpose lenders or savings banks. Table 4 shows that the countries with the highest number of FinTech merge transactions are the United States ($n = 37$), followed by France, Brazil, Japan and India ($n = 5$ each).

The second subgroup comprises active financial firms that did not merge FinTech operations in the period considered. This second subgroup consists of 8,886 companies whose total assets are at least equal to or greater than USD 4,000,000. The choice of this minimum threshold is in line with the lowest total asset value recorded for the subgroup that merged FinTech in the same period. The sum of observation for the second group is 79,974.

Table 2: Composition of groups in the sample.

MERGE	Frequencies	Percent	Cumulative
0	79,974	99.87	99.87
1	106	0.13	100
Total	80,080	100	

Table 3: Frequency of mergers over the years.

Year	Frequencies	Percent	Cumulative
2010	11	10.38	10.38
2011	9	8.49	18.87
2012	10	9.43	28.3
2013	3	2.83	31.13
2014	7	6.60	37.74
2015	12	11.32	49.06
2016	19	17.92	66.98
2017	19	17.92	84.91
2018	16	15.09	100
Total	106	100.00	

Table 4: Frequency of mergers by country.

Country	Frequencies	Percent	Cumulative
Australia	2	1,89	1,89
Austria	1	0,94	2,83
Bangladesh	2	1,89	4,72
Brazil	5	4,72	9,43
Canada	2	1,89	11,32
France	7	6,6	17,92
Germany	2	1,89	19,81
Iceland	2	1,89	21,7
India	5	4,72	26,42
Indonesia	1	0,94	27,36
Japan	5	4,72	32,08
Kazakhstan	1	0,94	33,02
Malaysia	4	3,77	36,79
Nepal	1	0,94	37,74
Netherlands	2	1,89	39,62
New Zealand	1	0,94	40,57
Norway	2	1,89	42,45
Philippines	3	2,83	45,28
Qatar	1	0,94	46,23
Russia	3	2,83	49,06
South Africa	2	1,89	50,94
Spain	3	2,83	53,77
Sweden	2	1,89	55,66
Switzerland	4	3,77	59,43
Taiwan	1	0,94	60,38
Thailand	1	0,94	61,32
United Arab Emirates	1	0,94	62,26
United Kingdom	3	2,83	65,09
United States	37	34,91	100
Total	106	100	

Table 5 shows the descriptive statistics for the dependent and independent variables divided into the two subgroup types. Furthermore, it should be reported that these statistics are carried out before the PSM. It can be seen that the number of observations for FinTech-merges is between 898 and 829, while for FinTech-non-merges between 77,595 and 54,366. In both cases, the lowest value of observations belongs to the control variable Risk. The highest values belong to the dependent variable Sis1Mln, with a mean of 12,969.72; for these reasons, the logarithmic of this variable (Ln_Sis1Mln) is used in the pooled regression. The other two dependent variables highlight a mean of 1.01% for ROAA and 9.66% for ROAE. Sis1Mln shows wide variability in implementing secure internet servers through the different countries included in the sample: the minimum values are 0.21 and 0.07 and maximum are 26,961.06 and 37,056.12. The last column on the right shows the p-values for the t-test on the statistical differences between the means of the two groups. The null hypothesis (Ho: diff = 0) is rejected at the 5% level for all treated variables, except for the NIM. This indicates a significant statistical difference between the averages of the two groups (FinTech merge and non-merge). Table 6 shows the correlation analysis. The analysis shows that the independent variable used is positively and significantly correlated with ROAE (5%) and LIQ (5%), negatively with the control variable Leverage (5%). ROAE is statistically correlated with significance greater than 5% to all variables used, with the exception of country-specific and the liquidity ratio. ROAA, in addition to ROAE (positive correlation significant at 1%), is significantly negatively correlated with Risk (1%) and CostInc (1%).

Table 5: Descriptive Statistics before PSM

FinTech-merge						FinTech-non-merge					T-test p-value
Panel A: Bank-specific Variables						Panel B: Bank-specific Variables					
Variable	Obs	Mean	St. Dev.	Min	Max	Obs	Mean	St. Dev.	Min	Max	
ROAA	898	1.01	1.11	-3.15	5.94	77,595	0.90	1.50	-1.84	10.65	0.038
ROAE	896	9.66	8.69	-33.10	29.83	77,490	6.39	7.37	-21.00	28.17	0.000
NIM	870	2,42	1,67	-0,74	8,13	54,985	3,35	1,10	0,40	9,51	0.357
Leverage	898	12.09	13.76	2.80	90.03	69,696	34.37	37.18	4.57	100.00	0.000
LIQ	869	37,31	34,32	2,06	186,96	55,291	16,05	16,48	1,35	99,49	0.048
CostInc	869	60.53	16.03	21.25	118.30	55,571	67.84	16.58	25.36	128.83	0.000
Risk	829	16.64	19.27	-19.01	103.38	54,366	7.26	12.72	-9.44	77.23	0.048
Country-specific Variable						Country-specific Variable					
Sis1Mln	987	12,969.72	26,961.06	0.21	123,980.00	79,020	24,399.92	37,056.12	0.07	277,330.60	0.000

Table 6: Correlation matrix

Variable	ROAA	ROAE	NIM	D_Year_Fin_Merge	Leverage	LIQ	CostInc	Risk	Sis1Mln
ROAA	1.0000								
ROAE	0.7037***	1.0000							
NIM	0.2486***	0.3027***	1.0000						
D_Year_Fin_Merge	0.1031	0.1671**	0.0690	1.0000					
Leverage	0.0317	-0.2595***	0.1216	-0.1726**	1.0000				
LIQ	0.0121	-0.0555	-0.3546***	0.1465**	0.0490	1.0000			
CostInc	-0.1927***	-0.3396***	-0.0992	-0.1192	0.0428	0.0798	1.0000		
Risk	-0.2422***	-0.2614***	0.2374***	0.0259	-0.1203	-0.0733	-0.1425*	1.0000	
Sis1Mln	-0.0100	-0.0267	-0.1543**	0.0178	0.0375	0.0365	0.0160	-0.2173***	1.0000

Significance: * p < 0.10; ** p < 0.05; *** p < 0.01.

4. RESULTS

The results of the three models are shown in Table 7. These results are derived from Ordinary Least Squares (OLS) regression because, as described above, the use of PSM meant isolating the data from the two subgroups on individual years. This made it possible to identify exactly the year in which a particular identity in the sample performed the FinTech merge. The results confirm the research hypothesis of this paper. In fact, the dichotomous variable *D_Year_Fin_Merge* seems to have a positive and significant relationship with all three dependent variables, specifically: with ROAA the significance is at 1% ($\beta_1 = 0.259$) (1); ROAE is positively associated with a level of 5% ($\beta_1 = 2.278$) (2); finally, NIM at 10% ($\beta_1 = 0.321$) (3). These results are in line with the literature inherent to merge operations in the financial sector (Zhang, 1995; Grabowski et al., 1995; Rhoades, 1998; Wheelock and Wilson, 2000, 2004; Kohers and Kohers, 2001; Focarelli et al., 2002) and those related to FinTech innovation (Conn et al., 2005; Kohli and Mann, 2012; Yoon and Lee, 2016; Lusyana and Sherif, 2016; Dranev et al., 2019). These results also confirm the positive relationship between financial innovation and the ability to bring better savings and investment decisions (Frame et al., 2018), whereby banks can improve their competitiveness (Frost et al., 2019). Regarding the control variables used, the Risk shows a positive and significant relationship at 1% with all dependencies: negative with ROAA ($\beta_5 = -0.012$) and ROAE ($\beta_5 = -0.142$), and positive with NIM ($\beta_5 = 0.014$). Similarly (1%) *Ln_Sis1Mln*: negative with ROAA ($\beta_6 = -0.078$), ROAA ($\beta_6 = -0.745$) and NIM ($\beta_6 = -0.139$). *CostInc* has a positive and negative relationship with ROAA ($\beta_4 = -0.014$; 5%) and ROAE ($\beta_4 = -0.175$; 1%). Leverage has a positive and significant relationship at 1% with ROAA ($\beta_2 = 0.075$) and NIM ($\beta_2 = 0.161$). There are 160 observations in all models, and the F-test is always above the threshold value of 10. The highest R-squared is recorded for NIM (39.5%), while for ROAE it is the lowest (25.7%). The R-squared for the first model is 0.348.

Table 7: Regression Analysis - Pooled models

Variable	ROAA (1)	ROAE (2)	NIM (3)
<i>D_Year_Fin_Merge</i>	0.259*** (0.100)	2.278** (1.056)	0.321* (0.182)
Leverage	0.075*** (0.022)	-0.159 (0.148)	0.161*** (0.036)
LIQ	-0.001 (0.003)	-0.0159 (0.025)	-0.016*** (0.003)
<i>CostInc</i>	-0.014** (0.006)	-0.175*** (0.062)	0.002 (0.006)
Risk	-0.012*** (0.005)	-0.142*** (0.054)	0.014*** (0.006)
<i>Ln_Sis1Mln</i>	-0.078*** (0.024)	-0.745*** (0.248)	-0.139*** (0.051)
Constant	1.599*** (0.398)	27.903*** (3.140)	1.922*** (0.635)
R-squared	0.348	0.257	0.395
Observations	160	160	160
F test	13.26	11.13	15.40
p-value F test	(0.000)	(0.000)	(0.000)

Significance: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$; the value of the error standard is shown in parentheses.

5. CONCLUSIONS

The undoubted impact created by FinTech has been the subject of research in recent years. The attention given to this issue is due to the extent of this phenomenon, characterising the process of innovation in the financial sector. Indeed, intermediaries worldwide have adopted or intend to adopt in their structures the most modern technological tools, which imply a restructuring of the organisational and governance structure across the board: from top

management to the lowest operational sector. The rapid expansion of the FinTech phenomenon is due to the emergence of new business opportunities, replacing the traditional form of financial intermediation. This is resulting in increased competitiveness in the sector. Excluding inertia, the two viable paths to eliminating the technology gap are internal development and horizontal expansion through financial M&A operations. However, internal development may be too costly, especially for smaller companies. On the other hand, mergers and acquisitions are advocated as a faster instrument for banks and other financial sector players to apply the industry's technology innovations. This paper aimed to verify whether such strictly FinTech M&A transactions benefit financial intermediaries' profitability. In particular, the research hypothesis, in line with the reference literature on Fintech and M&A issues in the financial sector, attributed a positive influence of FinTech M&A on the profitability of assets, equity quality of operations. The analysis was conducted through a comparison carried out through descriptive statistics, correlation, and regression analysis between the treatment and control groups. The latter was obtained through the Propensity-Score-Matching technique. The results from the empirical analysis revealed that financial companies that merged specifically for FinTech purposes in the period 2010-2018 also achieved profitability benefits in terms of ROAA, ROAE and Net Interest Rate. In line with the literature on both M&A and FinTech sides, the results obtained can be attributed to the synergies that M&A transactions manage to generate in collaboration with the rapid process of transferring technological expertise manage to produce cost reduction, better efficiency (Goddard et al., 2008; Kaur and Kaur, 2010) and better savings and investment decisions (Frame et al., 2018). As a result, better profitability and higher returns can be achieved (Goddard et al., 2008; Richey et al., 2008; Kumara & Satyanarayana, 2013; Omoye & Aniefor, 2016). The findings of this analysis back up the widely held view of the sector's prospects. The disruptive factors hitting the industry demonstrate the detrimental impact of the typical bank setup. Because most banking procedures can be carried out remotely via smartphones or other devices, branches are increasingly vanishing. The weight of profit margins from conventional operations will be reduced due to these dynamics, in favour of a fundamental reorganization of the economic balance of credit intermediaries. This study offers important insights for future research on the topic, as it contributes to merge two distinct outfits of literature, FinTech and M&A, into one that has been little addressed in the financial sector. The suggestion is to exploit merge samples with a larger size by including data from the last two years in the analysis; furthermore, it may be appropriate to focus the research on individual countries to eliminate any variance due to country-specific factors. From a practical point of view, the results obtained can be a starting point for managers of smaller institutions that are struggling with a decision to implement new technologies or are stuck in the path of inertia on the topic.

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THE ROLE OF INSTITUTIONAL CONTEXT IN YOUNG ADULTS' ENTREPRENEURIAL INTENTIONS FORMATION: AN EMPIRICAL INVESTIGATION

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ABSTRACT

Entrepreneurship is an important driver of economic progress and growth. In an effort to build an innovative economy, promoting youth entrepreneurship should be a priority. Younger individuals are in general more mobile, proactive, creative, innovative, willing to change and adaptable than older population and as such represent an important strategic resource of any national economy. To encourage the development of entrepreneurial intentions among young adults, it is essential to develop an understanding of their antecedents. The objectives of this research were to determine young adults' perceptions of the importance of formal and informal institutional factors in the context of a hypothetical decision to start a new business venture and to determine the impact of these perceptions on their entrepreneurial intentions. The primary survey was conducted in the Republic of Croatia via online survey questionnaire accessed by 301 respondents aged 18 to 30 years. Research results indicate that higher perception of formal and informal institutional factors' importance is related to higher entrepreneurial intentions score.

Keywords: *formal institutions, informal institutions, entrepreneurial intentions, youth entrepreneurship*

1. INTRODUCTION

Entrepreneurship, as economic activity contributes to a great extent to new jobs creation and introduces innovation underpinning growth process. In the lengthy process of new venture creation, first step always involves entrepreneurial intention (Gartner, 1994). Entrepreneurial intention represents cognitive action plan that individuals pursue in order to create new ventures (Fini et al., 2009). Entrepreneurial ideas often arise from inspiration or opportunity identification, but in order to act upon them entrepreneurial intention is essential (Delmar and Shane, 2003). In order to nurture entrepreneurial potential, deeper understanding of entrepreneurial intention creation is vital (Krueger, 2017) as well as more profound comprehension of context in which entrepreneurial process occurs including institutional context. Institutional context significantly shapes and determines new venture creation (Veciana and Urbano, 2008) whereas institutions represent formal and informal rules and norms within which people and organizations interact and perform that are formal and informal institutions (North, 1990, 1991). Formal institutions include constitution, laws, policies, rights and regulations enforced by official authorities (Leftwich and Sen, 2010) whereas informal institutions include culture, norms, unwritten shared rules and codes of conduct that are enforced by social norm rather than formal legal and regulatory framework (Boettke and Coyne,

2009). Institutional context comprises political, social and legal norms that set fundamental principles for all transactions. All individuals and organizations should adopt these principles in order to obtain support and legitimacy. Institutions reduce uncertainty and bring order (North, 1991). In this process, institutional context determines costs and benefits of different activities including entrepreneurial activities (Boettke and Coyne, 2009). It can be concluded that institutions enable entrepreneurial activity while in the same time pose restrictions to entrepreneurship (Smallbone and Welter, 2011). Institutional environment defines, creates and constrains entrepreneurial aspirations and intentions (Shane, Locke and Collins, 2003). Objective characteristics of institutional environment can differ from individual's subjective perception of those characteristics. Since entrepreneurial decision is set on individual level, individual's perception of institutional environment is of utmost importance (Verheul, Thurik and Grilo, 2006). Arenius and Minniti (2005) and Koellinger and Minniti (2006) emphasise the role of environmental perception since it affects significantly decision to start new business. Perception of favourable business environment exert significant influence on motivation to start new venture (Taormina and Lao, 2007; Fereidouni et al., 2010). Potential entrepreneurs aiming at starting own businesses consider environment very seriously and numerous researchers have contributed our understanding of the relationship between institutional factors and entrepreneurial intentions to a great extent (Engle, Schlaegel and Dimitriadi, 2011; Urban, 2013; Hadjimanolis, 2016; Turker and Selcuk, 2009). However, in the domain of individual perceptions of institutional environment and their influence on entrepreneurial intentions, a significant lack of studies and consensus is evident. Extensive literature overview indicated that there is a lack of studies focusing on young adults' perceptions of formal and informal institutional factors in the context of their decision to start new business in Croatia, so this paper aims at filling that gap. According to GEM Report (Singer et al., 2019) some institutional factors of Croatian entrepreneurial environment affect entrepreneurial activity destructively so deeper understanding of the relationship between perception of formal and informal institutional factors and entrepreneurial intentions of young adults is particularly important. Entrepreneurial intentions are found to be the most significant predictor of entrepreneurial activity (Shahid, Imran and Shehryar, 2017), so fostering entrepreneurial intentions within society is vital in order to assist economic development and growth. In that sense, expanding our knowledge on the influence of formal and informal institutional factors on young adults' entrepreneurial intentions is essential. To that end, the goal of this paper is to determine influence of the perception of formal and informal institutional factors on shaping entrepreneurial intentions of young adults, as well as to define institutional factors in entrepreneurial context in the Republic of Croatia.

2. LITERATURE OVERVIEW

Based on a large body of literature it becomes evident that formal institutions' impact on entrepreneurial activity has been heavily investigated. It has been shown that their efficiency significantly determines entrepreneurial activity (Spencer and Gomez, 2002; Stephen, Urbano and van Hemmen, 2005; Stenholm, Acs and Wuebker, 2013). Formal institutions increase or reduce the level of risk associated to new venture creation (Veciana and Urbano, 2008; Spencer and Gomez, 2002), determine the access to resources (Busenitz, Gomez and Spencer, 2000) and specify entrepreneurial accountability (Spencer and Gomez, 2002). However, the impact of formal institutions on entrepreneurial activity is not adequately empirically tested; in a relatively small number of empirical studies, contradictory findings are evident. Hadjimanolis (2016) and Urban (2013) have not found significant influence of the regulatory dimension of formal institutions on entrepreneurial intentions. Shahid, Imran and Shehryar (2017) found that there is no significant correlation between current economic situation, political stability and entrepreneurial intentions of students.

Results of Engle, Schlaegel and Dimitriadi (2011) give only limited support to proposition that there is a significant correlation between perception of formal institutions and entrepreneurial intentions (significant factors include tax policy, infrastructure, and import and export laws and regulations). Turker and Selcuk (2009) and Gelard and Saleh (2011) found that factors of educational and structural support affect students' entrepreneurial intentions significantly. Vidal-Sune and Lopez-Panisello (2013) found that entrepreneurship-oriented government policies and regulations, market dynamics, GDP, unemployment rates and inflation influence entrepreneurial intentions indirectly via perceptions of market opportunities. Begley, Tan and Schoch (2005) found that favourable perception of governmental regulation's efficiency, market opportunities and labour quality have positive influence on feasibility and attractiveness of entrepreneurship as a career option. Heavy load of administrative and bureaucratic procedures regarding entrepreneurial entry/exit discourages entrepreneurial intentions (Stenholm, Acs and Wuebker, 2013). Additionally, a part of the literature has focused on normative category of informal institutions; values, beliefs, attitudes and norms that promote social tolerance towards entrepreneurship and acceptance of entrepreneurship (Smallbone and Welter, 2011). Stenholm, Acs and Wuebker (2013) found that social norms, values and attitudes determine relative desirability of entrepreneurship as a career choice whereas the level of society's admiration of entrepreneurs can be assessed as a predictor of entrepreneurial activity (Spencer and Gomez, 2002). Positive attitudes towards entrepreneurs significantly shape individual's entrepreneurial intentions (Luthje and Franke, 2003). The theory of social learning (Bandura and Walters, 1977) emphasizes the importance of observing, modelling and imitating the behaviours, attitudes, and emotional reactions of others, so individuals coming from successful entrepreneurial background demonstrate higher levels of inclination towards entrepreneurship (Schindehutte, Morris and Brennan, 2003). Individuals whose parents have experience in entrepreneurship demonstrate higher levels of entrepreneurial intentions (Hadjimanolis and Poutziouris, 2011) and when parents' entrepreneurial experience is perceived as positive, individuals demonstrate higher levels of desirability and perceived feasibility of entrepreneurial career (Drennan, Kennedy and Renfrow, 2005). Above mentioned studies, there is a body of literature available investigating informal institutions influence, like social norms, subjective norms, previous family business (entrepreneurial) experience on entrepreneurial intentions (Stenholm, Acs and Wuebker, 2013; Spencer and Gomez, 2002; Hadjimanolis and Poutziouris, 2011; Luthje and Franke, 2003; Drennan, Kennedy and Renfrow, 2005). Objective characteristics of institutional environment can differ significantly from individual's subjective perception (Verheul, Thurik and Grilo, 2006) and can to a great extent influence decision-making process in entrepreneurial context (Koellinger and Minniti, 2006). Economic necessity is often assessed as motivator in the new venture creation setting and this phenomenon is recognized as necessity driven entrepreneurship reflecting the situation in which individual starts a business because no alternative employment is available (Engle, Schlaegel and Dimitriadi, 2011).

3. METHODOLOGY AND HYPOTHESES

The main goal of this research is to determine the role of institutional factors in young adults' entrepreneurial intentions creation. Institutional factors were classified as formal and informal and operationalized based on the constructs used in previous research. Factors were modified according to research scope as follows:

- Formal institutional factors (FIP): 18 items, representing tax policy, infrastructure, ease of starting and closing new business, corruption perception, employee policy, state of national economy perception (Engle, Schlaegel and Dimitriadi, 2011; Fuentelsaz, González and Maicas, 2019; Salimath and Cullen, 2010; World bank 2020),

- Informal institutional factors (IIF): seven items representing social norms related to entrepreneurship or degree to which society acknowledges innovation and entrepreneurship and economic necessity for becoming an entrepreneur (Busenitz, Gomez and Spencer, 2000; Urbano, Aparicio and Audretsch, 2019)
- Entrepreneurial intentions (EI): three items related to entrepreneurial intentions (Adrić, Stanić and Bilandžić, 2018).

In order to meet the research goal, two main hypotheses were created:

- H 1. Formal institutional factors have a positive impact on the entrepreneurial intentions of young adults
- H 2. Informal institutional factors have a positive impact on the entrepreneurial intentions of young adults

The sample of this research consisted of young individuals (from 18 to 30 years) with no prior entrepreneurial experience from Croatia. The questionnaire was organized into two parts. The first part focused on general information about participants. The second part consisted of questions about their perception of selected formal and informal institutional factors and their entrepreneurial intentions. The level of agreement with formal and informal institutional factors items was rated on a 5-point Likert scale ranging from 1 (totally unimportant) to 5 (totally important). The entrepreneurial intention was rated on a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). In total, 301 young adults fulfilled the online questionnaire from April to July 2020. Statistical analysis of the obtained data was conducted by SPSS software package through descriptive analysis, exploratory factor analysis and Kruskal Wallis nonparametric test due to collected data characteristic (non-normal distribution of data).

4. RESEARCH RESULTS AND DISCUSSION

4.1. Descriptive results and research scope

Table 1: General characteristics of young adults

	N	%
Gender		
Male	110	36,5
Female	191	63,5
TOTAL	301	100
Age		
18-22	44	14,6
23-26	157	52,2
27-30	100	33,2
TOTAL	301	100
Education		
Secondary	111	36,9
Tertiary	183	60,8
Postgraduate	7	2,3
TOTAL	301	100
Previous entrepreneurial experience		
No	242	80,4
Yes	59	19,6
TOTAL	301	100

Source: research

In the research sample of young adults, majority (63,5%) were female, aged 23-26 years (52,2%), with at least tertiary education level (60,8%). The majority of respondents have no previous entrepreneurial experience (80,4%).

These results confirm that sample was appropriate for further analysis of their perception of institutional factors and entrepreneurial intentions. Accordingly, descriptive analysis for all items related to research variables is shown in Table 2.

Table 2: Perception of institutional factors importance and entrepreneurial intentions descriptives

	CODE	N	Mean	Std. Dev.
FORMAL INSTITUTIONAL FACTORS				
Low rates of business tax and profit tax (TAX 1)	TAX 1	301	4,12	,955
Low contribution rates to employee salaries (pension, health, etc.) (TAX 2)	TAX 2	301	4,00	,900
Low total corporate tax revenues to government (TAX 3)	TAX 3	301	4,13	,891
Availability of water and telephone electricity to new businesses (INFRA1)	INFR 1	301	4,27	,922
Reliability and availability of roads, airports and rail services	INFR 2	301	3,99	,983
Ease of obtaining the permits needed to start a business	OPEN 1	301	4,39	,844
Low start-up costs and legal fees	OPEN 2	301	4,31	,861
Possibility to quickly close the bankrupt business	CLOSE 1	301	3,88	1,007
Low costs of quickly closing a bankrupt company	CLOSE 2	301	3,95	1,023
Security for creditors of companies in bankruptcy proceedings	CLOSE 3	301	3,98	,948
Little or no existence of corruption in everyday business	CORR 1	301	4,07	1,056
Little or negligible corruption of civil servants	CORR 2	301	4,08	1,096
No conflict of interest among civil servants who have their own business	CORR 3	301	3,99	1,015
Ease (low level of bureaucracy and speed) of hiring new employees	EMPL 1	301	4,04	,960
Possibility of independently setting flexible working hours for employees	EMPL 2	301	3,89	1,052
Simple regulatory framework for dismissal due to business circumstances	EMPL 3	301	3,72	1,031
Good state of the national economy	ECON 1	301	4,05	,944
Good economic status of the majority of the country's population	ECON 2	301	3,87	1,009
INFORMAL INSTITUTIONAL FACTORS				
In society, turning ideas into one's own business is viewed mostly positively	ENORM 1	301	2,78	1,017
In society, creative and innovative thinking is seen as a path to success	ENORM 2	301	2,69	1,108
In society, entrepreneurs are valued people	ENOMR 3	301	2,85	1,076
Society admires people who start their own business	ENORM 4	301	2,76	1,145
If diversity of well-paid jobs exists, I would not decide to open own business	PNEED 1	301	3,26	,945
If I could easily find a job, I would not decide to start own business	PNEED 2	301	3,33	1,093
If I had to start own business in order to survive, I would	PNEED 3	301	4,00	,981
ENTREPRENEURIAL INTENTIONS				
In future my professional career will be entrepreneur	EI 1	301	3,16	1,071
I will put all my effort in starting new venture	EI 2	301	3,29	1,104
My intentions to start new venture are solid	EI 3	301	3,39	1,112
Valid N (listwise)		301		

Source: research

Regarding formal institutional factors, the highest perception of importance is shown for items related to tax policy (mean value 4 and higher), while individual item highest mean is shown for ease of obtaining the permits to start a business (OPEN 1=4,39).

A simple regulatory framework for dismissal due to unexpected business circumstances has the lowest mean (EMPL 3=3,72). Generally, deviations in the mean value for all items related to formal institutional factors are relatively small, from 3,72 to 4,39. It can be concluded that respondents' perception about the importance of all formal institutional factors is high, presuming that all of them would consider their intentions to become entrepreneurs. The data for informal institutional factors show a different perspective of respondents. The highest mean value is shown for the necessity to start a new business to survive (PNEED 3=4,00), and all other values are below 3,5. Focusing on data related to entrepreneurial norms (ENORMS) it is clear that the desirability of entrepreneurship and entrepreneurial values have relative negative context in Croatia with no perception of their importance (all mean values below 3). Entrepreneurial intentions are not highly expressed but relatively neutral as mean value for all related items ranges from 3,16 (EI 1) to 3,39 (EI 3). According to all presented data, it can be concluded that formal institutional factors' perception of importance is higher than informal ones with neutral entrepreneurial intention among young adults in Croatia.

4.2. EFA research findings and discussion

Exploratory factor analysis (EFA) was conducted to create a framework to classify institutional factors and hypothesis testing. As a first step, all necessary tests were performed. No significant outliers were detected in the research sample, but the Kolmogorov-Smirnov test showed that data were not normally distributed (sig 0,000 for all items). The sample size was sufficient for EFA with more than 10 respondents per item (25 items representing institutional factors with sample size N=301) (Field, 2009). Due to sample characteristics, exploratory factor analysis was conducted using principal component analysis and Promax with Kaiser normalization rotation method. In the first iteration, Kaiser–Meyer–Olkin measure of sampling adequacy showed value KMO = 0,876, and majority KMO values for items above the limit of 0,5 (Field, 2009). Items OPEN 1, OPEN 2 and INFR 2 had KMO value for item below 0,4 and in the next step were excluded from the analysis. Accordingly, item INFR 2 was excluded from analysis as a part of scale that capture infrastructure importance. In the second iteration KMO value was 0,862; Bartlett's test of sphericity indicates that correlations between items are sufficiently strong and significant (Sig.=0,000). In the next step, the assumption that there are at least certain correlations between the variables was checked. A correlation matrix and an anti-image correlation matrix were calculated for all items that should enter EFA. In the correlation matrix, the existence of at least a few moderately strong correlations higher than the reference value of 0.3 was determined. All values on the diagonal of the anti-image correlation matrix were higher than the reference value of 0,5. In order to avoid the problems of multicollinearity and singularity, variables whose degree of correlation with other variables was more than 0.8 were excluded. Variables with a low degree of communality indicator were also excluded (<0.3, as these variables do not share common variance with other variables). The variables KOR1 and PNEED 3 were excluded based on these two criteria. The result of the final iteration is shown in Table 3.

Table 3: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,843
Bartlett's Test of Sphericity	Approx, Chi-Square	2686,976
	Df	171
	Sig.	,000

Source: research

The final iteration was run with Kaiser criterion (eigenvalues over 1) with five factors explaining 66,712% of the variance.

Since the scree plot showed inflexion that justifies the inclusion of more factors, seven factors were included explaining 75,825 % of the variance (Table 4).

Table 4: Total variance explained for final solution

Component	Extraction Sums of Squared								
	Initial Eigenvalues			Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6,396	33,665	33,665	6,396	33,665	33,665	2,576	13,560	13,560
2	2,543	13,385	47,050	2,543	13,385	47,050	2,346	12,348	25,908
3	1,529	8,049	55,099	1,529	8,049	55,099	2,332	12,271	38,179
4	1,136	5,979	61,079	1,136	5,979	61,079	2,201	11,585	49,764
5	1,070	5,634	66,712	1,070	5,634	66,712	1,724	9,071	58,835
6	,917	4,825	71,537	,917	4,825	71,537	1,618	8,514	67,349
7	,815	4,288	75,825	,815	4,288	75,825	1,610	8,476	75,825
8	,744	3,916	79,741						
9	,513	2,698	82,439						
10	,476	2,503	84,942						
11	,457	2,408	87,350						
12	,406	2,138	89,488						
13	,384	2,020	91,508						
14	,345	1,815	93,323						
15	,312	1,641	94,964						
16	,293	1,541	96,505						
17	,261	1,372	97,877						
18	,215	1,130	99,007						
19	,189	,993	100,000						

Extraction Method: Principal Component Analysis/Rotation Method: Promax with Kaiser Normalization

Source: research

The average of the communalities is 0,63 (11,885/19 = 0,5476) which is considered acceptable (Table 5).

Table 5: Communalities

Item	Initial	Extraction
TAX 1	1,000	,414
TAX 2	1,000	,489
TAX 3	1,000	,763
CLOSE 1	1,000	,753
CLOSE 2	1,000	,446
CLOSE 3	1,000	,477
CORR 2	1,000	,595
CORR 3	1,000	,709
EMPL 1	1,000	,699
EMPL 2	1,000	,392
EMPL 3	1,000	,484
ECON 1	1,000	,492
ECON 2	1,000	,470
ENORM 1	1,000	,601
ENORM 2	1,000	,623
ENOMR 3	1,000	,427
ENORM 4	1,000	,521
PNEED 1	1,000	,622
PNEED 2	1,000	,522
Total communalities extraction: 11,885		
Extraction Method: Principal Component Analysis		

Source: research

Final iteration for proposed seven institutional factors with factor loadings are shown in Table 6.

Table 6: Final iteration rotated component matrix

	Component						
	1	2	3	4	5	6	7
TAX 1			,859				
TAX 2			,776				
TAX 3			,750				
CLOSE 1		,825					
CLOSE 2		,861					
CLOSE 3		,646				,323	
CORR 2						,808	
CORR 3						,750	
EMPL 1				,649	,337		
EMPL 2				,826			
EMPL 3		,321		,771			
ECON 1					,765		
ECON 2					,839		
ENORM 1	,806						
ENORM 2	,830						
ENOMR 3	,711						
ENORM 4	,834						
PNEED 1							,867
PNEED 2							,881

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 6 iterations.

Source: research

According to the results, in total seven institutional factors were recognized. As the primary purpose of this study was to confirm presented contextual framework for institutional factors' classification liberal rules of thumb (higher than 0,3) for factor loading were applied. From Table 6 it is evident that three items, CLOSE 3, EMPL 1 and EMPL 3 have loadings on two factors, but differences in loadings clearly suggest their main orientation. For example, loading for EMPL 3 on factor 2 is 0,321 and on factor 4 loading is 0,771, which is as twice as much. Accordingly, items were classified by the highest loading criterion with all items' loadings higher than 0,6. Finally, extracted factors form a logical framework for institutional factor classification regarding EFA analysis, as explained in Table 7.

Table following on the next page

Table 7: Extracted factors summary

Factor	Name	Brief explanation
Factor 1	Entrepreneurial social norms ENORM	Informal institutional factor related to social norms and perception of entrepreneurship in society
Factor 2	Ease of closing business CLOSE	Formal institutional factor related to ease of closing business in need, provided that all debts and obligations are settled
Factor 3	Tax policy related to entrepreneurship TAX	Formal institutional factor related to tax policy toward entrepreneurship
Factor 4	Employment flexibility due to entrepreneurial needs EMPL	Formal institutional factor related to perception of flexibility in employment process and working hours formalization
Factor 5	General economic situation ECON	Formal institutional factor related to perception of general economic situation/state in national economy
Factor 6	Corruption impact on entrepreneurship and business CORR	Formal institutional factor related to impact of corruption in general and in public services on entrepreneurship activities
Factor 7	Entrepreneur-in-need PNEED	Informal institutional factor related to perception of desirability for entrepreneurship in necessity

Source: research

4.3. Hypothesis testing

In order to confirm extracted factors and proceed with hypothesis testing Cronbach's Alfa coefficient was calculated for all factors as well as for scale measuring entrepreneurial intentions (EI). Results are shown in Table 8.

Table 8: Cronbach alpha coefficient for all variables

Factor/scale	No. of	Cronbach's
Formal institutional factors		
TAX	3	0,831
CLOSE	3	0,858
CORR	2	0,746
EMPL	3	0,815
ECON	2	0,742
Informal institutional factors		
ENORM	4	0,811
PNEED	2	0,724
Entrepreneurial intentions		
EI	3	0,919

Source: research

In order to test proposed hypothesis, new variables were created as a mean of all corresponding factors. In addition, respondents were grouped in three groups based on their answers related to entrepreneurial intentions scale mean variable. Group 1 – negative toward entrepreneurship consists of respondents that evaluate their entrepreneurial intentions lower than 2,5 (on a scale from 1 to 5); Group 2 - neutral toward entrepreneurship consists of respondent with mean from 2,51 to 3,5 and Group 3 – wanna be entrepreneurs consist of respondents with mean higher than 3,51. Accordingly, descriptive analysis of means and standard deviations and Kruskal-Wallis H rank-based nonparametric test was conducted comparing groups based on entrepreneurial intentions. Descriptive for each formal institutional factor as well as determined significant difference according to Kruskal-Wallis mean rank, Chi square and degrees of freedom are presented in Table 9.

Table 9: Descriptives and Kruskal Wallis test significance results for formal institutional factors

Formal institutional factors	Group 1 Negative toward entrepreneurship				Group 2 Neutral toward entrepreneurship				Group 3 Wannabe entrepreneurs				KW test df=2	
	N	Mean	St. Dev	Mean rank	N	Mean	St. Dev	Mean rank	N	Mean	St. Dev	Mean rank	Chi-Square	Sig.
TAX mean	66	3,7424	1,12591	127,32	112	4,0804	,72458	147,71	123	4,2710	,53875	166,71	9,477	,009
CLOSE mean	66	3,6263	1,21038	136,02	112	3,9613	,74165	148,16	123	4,0786	,73314	161,62	4,026	,134
CORR mean	66	3,7273	1,27153	136,58	112	4,0580	,79623	147,35	123	4,1789	,81011	162,06	4,190	,123
EMPL mean	66	3,4949	1,18573	125,02	112	3,8780	,71449	145,19	123	4,0949	,71482	170,23	12,638	,002
ECON mean	66	3,6212	1,17689	129,09	112	3,9509	,75623	144,21	123	4,1585	,79268	168,94	10,538	,005

Source: research

All formal institutional factors have the highest mean for Group 3 – Wanna be entrepreneurs and the lowest one for Group 1 - Negative toward entrepreneurship. The highest mean ranks are for TAX (4,27) and CORR (4,18) factors in Group 3 and the lowest for EMPL (3,49) and ECON (3,62) in Group 1. Although results suggest that higher perception of formal institutional factors' importance is related to higher entrepreneurial intentions score, determined differences are significant for three factors: TAX, EMPL and ECON. Thus, proposed Hypothesis 1: Formal institutional factors have positive impact on entrepreneurial intentions of young adults, can only be partially accepted. Additionally, the analysis results for informal institutional factors are presented in Table 10.

Table 10: Descriptives and Kruskal Wallis test significance results for informal institutional factors

Informal institutional factors	Group 1 Negative toward entrepreneurship				Group 2 Neutral toward entrepreneurship				Group 3 Wannabe entrepreneurs				KW test df=2	
	N	Mean	St. Dev	Mean rank	N	Mean	St. Dev	Mean rank	N	Mean	St. Dev	Mean rank	Chi-Square	Sig.
ENORM mean	66	2,4583	,93909	117,77	112	2,8036	,80778	156,25	123	2,9065	,84773	164,05	12,914	,002
PNEED mean	66	3,3864	1,14286	165,41	112	3,5491	,71647	173,58	123	3,0163	,86113	122,71	23,105	,000

Source: research

Regarding ENORM factor similar trend as for formal institutional factors was determined. The highest mean is for Group 3, although mean values are relatively low (from 2,46 for Group 1 to 2,90 for Group 3). Relatively low mean can be explained with the social context in Croatia where negative examples of "entrepreneurs" are often over-emphasized in public, resulting in negative publicity and attitude toward entrepreneurship in general and especially among young adults. Not surprisingly, for PNEED factor discrepancy was determined. The highest mean (3,55) is determined for Group 2 – neutral toward entrepreneurship, and the lowest (3,02) for Group 3 – wannabe entrepreneurs. This can be explained by the nature of this factor describing circumstances that force someone to become an entrepreneur. For example, in critical life situations (like losing a job and having no other option for income while the whole family depends on that person), one's perception of entrepreneurial need as a way out from a desperate situation can be blurred. It can impact intentions differently in normal conditions (flight or fight reflex). On the contrary, without the pressure of urge, one can perceive the necessity of entering into entrepreneurship on a rational rather than emotional base. To summarize, results indicate that a higher perception of informal institutional factors' importance is related to higher entrepreneurial intentions score for ENORM.

In contrast, PNEED results are inconclusive, although determined differences are significant. Accordingly, proposed hypothesis 2: Informal institutional factors have positive impact of entrepreneurial intentions of young adults, can only be partially accepted.

5. CONCLUSION

This research examines the impact of institutional factors on entrepreneurial intentions of young adults, where institutional factors were classified as formal and informal ones. Generally, on a descriptive level, results show a higher perception of importance for formal institutional factors and indicate relatively indifferent entrepreneurial intentions among young adults in Croatia. Five formal and two informal factors were confirmed through exploratory factor analysis as a precondition for hypothesis testing. Although hypotheses are only partially accepted, they can contribute to the entrepreneurial body of knowledge and be a starting point for future research that could clarify this relationship. The reason for unclear results can be in sample characteristics – young adults were the focus of this research. Their perception and intentions are specific and might be shaped through various elements. Research limitation also lies in a relatively small sample of participants from one country, excluding psychological aspects that can determine one's entrepreneurial intention and social status of respondents. Additional variables regarding young adults' behaviour and attitudes could be included in future research and participants from other countries with different economic situations and degrees of entrepreneurship development. To summarize, due to the global relevance of entrepreneurship in economic development, all research contributing to the existing body of knowledge is needed. The fact that young adults will be the ones determining the future of the global economy, as entrepreneurs or employees, clearly indicates their importance and calls for better understanding of their attitudes and behaviours, especially those related to entrepreneurship.

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INFLUENCE OF MANAGERIAL COACHING ON MINDSET, EMPLOYEE THRIVING AND FLUCTUATION REDUCTION

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ABSTRACT

The purpose of this research was to explore the relationships between managerial coaching and certain employee's characteristics/attributes. Managerial coaching in this sense involves a manager who provides clear guidelines for achieving performance, which facilitates employee's learning and inspires progress at work. These attributes and characteristics, which were part of this research, are diverse and influenced by such managerial behavior. One of those characteristics is a psychological, a belief based on whether our intelligence and ourselves can change or not, which is embodied by the mindset theory, where the growth mindset marks a positive attitude towards this issue and fixed a negative attitude. The second characteristic is one of the measures of employee satisfaction, which implies thriving, reflected through learning and vitality. The last characteristic is more of an organizational nature, and it implies an employee's turnover intention. A research included 312 respondents from Bosnia and Herzegovina, mostly university educated young people. The research results show that there is a relationship between the growth mindset and managerial coaching, of a weaker intensity, but also a much stronger relationship between managerial coaching and thriving, as well as managerial coaching and turnover intention. Also, there is a relationship between the growth mindset and thriving, as well as a strong relationship between the thriving and turnover intention. Furthermore, it has been proven that a growth mindset influences the intensity of managerial coaching in relation to the thriving, which means the greater impact of coaching on thriving will be with people with a growth mindset. Similarly, there is a mediator relationship between managerial coaching and turnover intention through thriving at work, which implies that there will be a strong intent on staying in the organization thanks to managerial coaching for those who also have a sense of learning and vitality i.e. thriving.

Keywords: *managerial coaching, mindsets, thriving, turnover*

1. INTRODUCTION

The importance and role of managers in organizations is becoming ever more demanding and complex. Leaders' responsibilities are increasingly moving away from traditional supervisory and controlling task management, towards paying more attention to cooperation, growth, and motivation of employees. Since organizations and managers are facing growing internal and external requests, one of the biggest is increase in employee satisfaction. Therefore, the relationships between managers and their employees are getting closer and the role of managers demands more and more skills. Being one that facilitates the learning and work of employees, being a coach has become one of the basic qualities expected from a modern manager.

The coaching approach to leadership envisages managerial conduct which encourages the development of employees through clear guidance, enabling easier learning and inspiration toward success. Coaching is, obviously, the trademark of workspaces in the future (McCarthy and Ahrens 2011). Requests to managers to apply the “coaching style” in management is experiencing increased growth (Joo, 2005), and there are no signs of its decrease. The advances of using coaching have been acknowledged by the companies and managers in 1950s, where coaching, in the context of management, has been introduced into academic literature as the analogy to the managers in sports, where they have a task to develop employees they are supervising (Orth et al., 1987). From those times until today, the topic of coaching has been indispensable in broader research in the field of management and as Wanzel (2000) points out, this term has become the standard for describing a person in charge of a team or individual improvement in performance. Despite the growing recognition of the value of managerial coaching in the workplace, academic literature and studies on managerial coaching lag far behind the practitioners when it comes to management, as well as human resources professionals (Gilley et al., 2010). Research on the cause-and-effect relationships of all aspects of coaching in relation to employee performance is necessary, and this paper is an attempt to contribute to the validation and increase of the insight into the importance of coaching and other so-called 'soft' dimensions mentioned in the paper.

2. MANAGERIAL COACHING

Managerial coaching refers to the effective managerial practice that helps employees develop and improve their performance (Hahn, 2016). Managerial coaching, in this regard, contains three components: guidance, facilitation of learning, and inspiration, where guidance refers to communicating clear expectations, giving feedback and suggestions on how to improve results, while facilitation of learning refers to encouraging employees to explore new ideas and independently discover solutions to problems (Heslin et al., 2006; Hui et al., 2013). As Lawrence (2017) points out, although there is no generally accepted definition of managerial coaching, there is general agreement on the role of coaching in facilitating learning and improving performance, but there is less clarity about the very nature of the process. One part of the model favors the psychological dimensions of coaching by emphasizing the value of relationship building, inspiration, and facilitation, while other models include setting expectations and setting goals, as well as providing feedback to improve performance. Beattie et al (2014), in their review of the literature in this area, conclude that managerial coaching is essentially synonymous with facilitating learning and argue that coaching has evolved from something quite directive to something that facilitates learning/work.

3. POTENTIAL OUTCOMES OF MANAGERIAL COACHING

The implication of the paper is that it should provide empirical support to the hypothesis of the impact of managerial coaching on employee performance. Research results should offer evidence of potential untapped benefits/tools of managerial coaching. It could further be used to guide managers to effective behavior and to increase the mutual understanding and satisfaction of its employees.

3.1. Mindsets

The topic of the influence of mindsets on the performance of managers and employees is taken from social psychology and the incremental theory developed by the author Carol Dweck (2006). Mindsets embody people's assumption that their traits are changeable or unchangeable. A fixed mindset means that a person believes that one's abilities are permanent and essential, while a growth mindset implies that abilities are changeable and evolving (Heslin, 2010; Dweck, 2006).

The components of mindsets, in this sense, are the attitudes of the respondents towards the variability of intelligence and towards the variability of the essential nature of the man. In this paper we will focus on the impact of mindsets on business performance, where, according to Heslin (2010), the effects of it can be found in several areas: their desire for development, attitude towards work, psychological presence and interpretation of obstacles. People in a growth mindset do not see teachers/managers/other people as those who assess and evaluate them but see them as resources for their growth, learning, and development. Although the topic of mindset was started with the assumption that we believe that our intelligence is constant (fixed mindset) or that it can change (growth), further research has gone much further than that. A study by Alissa Mrazek et al (2018) proves the relationship between the growth mindset and high levels of self-regulation, which predict better academic achievement, greater professional success and income, stronger interpersonal relationships, greater fulfillment, and better health. Mindset theory originated and has long been used only in the fields of education and social psychology, but Heslin et al. (2005), using an interdisciplinary approach, extended the theoretical framework of mindset theory to the domains of organizational psychology and performance evaluation. Heslin (2010) emphasizes that managers who have a fixed mindset cannot properly recognize improvement in employees, especially when it is not direct, and thus demoralize and erode employee engagement. Positive or negative managerial behavior directly affects the development of the employee's mindset. As Dweck (2006) points out when managers become controlling and abusive, they put everything into a fixed way of thinking, where instead of learning, growing, and promoting the company, they think about how they are evaluated. Starting with the concern for the condemnation by the bosses, that concern is transferred to the condemnation by everyone, and in such an environment it is extremely difficult to maintain courage and innovation, as well as other elements of the growth mindset. Based on their previous research in the field of mindsets, as well as in coaching, Heslin, Vandewalle, and Latham (2006) created a scale/instrument of managerial coaching that describes the behavior of managers who have a growth mindset and strive to a growth mindset in employees, and respectively employee perception of such managerial behavior. One of the goals of this research is to assess the state of mindsets and establish relationships between fixed and growth mindsets in relation to negative and positive coaching behavior of managers. On the other hand, further research in this paper is focused on studying the impact of managerial coaching, as well as mindsets on one of the output measures of performance, on thriving of the employees.

3.2. Thriving

Thriving at work is defined as a psychological state composed of a simultaneous, combined sense of vitality and learning (Spreitzer et al. 2005). The first component of vitality involves a sense of liveliness and energy available for work, while learning, according to Carver (1998), is defined as the acquisition and application of knowledge and skills to develop individual abilities. Research conducted by Spreitzer et al (2012) shows that thriving is a key mechanism for increasing work performance while reducing burnout at work and improving employee health. According to these studies, those who thrive at work have better business performance, are 32% more committed to the organization, 46% are more satisfied with their work, and have 125% less burnout. People with a high thriving undertake initiatives to develop their careers through looking for opportunities to learn and grow, they are more resilient in difficulties and have better relationships with colleagues; they are less prone to stress and burnout and are much healthier in general. Through detailed research of the role and meaning of mindsets, a significant number of links between mindsets and thriving can be observed. The outstanding ones are: striving for influential and purposeful work, innovation for the purpose of growth, the way of providing and receiving feedback, as well as the entire process of learning for the purpose of improvement and growth.

Thriving is manifested as individual change and transformation, but it is not yet known how individuals create and maintain a sense of success (Seitz, 2009). According to the same author, as one of the tools of human development, positive psychology coaching could provide a methodology for advancement and transformation, where it is necessary to further explore the relationship between positive psychological teaching and thriving at the level of learners and employees. This paper is precisely the contribution to the closure of the mentioned gap. In this study, in addition to its role as a final/initial measure, thriving will be further explored through its mediating role between coaching and turnover intention.

3.3. Turnover intention

Turnover intention is the intention of an employee to leave their job (Meyer and Allen, 1984) and is directly related to the term fluctuation of employees. Although many studies are conducted on this topic, most researchers focus on the causes of employee turnover, but less on the sources of turnover and effects of it, as well as on devising different strategies that managers in different organizations can use to ensure employee continuity in their organizations to improve organizational competitiveness (Ongori, 2007). Employee departure is a major cost to the company, and in addition to the obvious consequences of losing investment in human capital, the cost of introducing and training replacements, there are many indirect and invisible fluctuation costs (Phillips, 1990). This is primarily a matter of loss of productivity in the inter-period, as well as inter-collegial relations and disruption of the established organizational culture. Many researchers argue that high employee turnover rates can have extremely large effects on an organization's stability if it is not managed properly through the turnover intention (Hogan, 1992; Wasmuth and Davis, 1993; Barrows, 1990). It is the commitment and support of employees that runs throughout this work, and all aspects of the work, such as coaching, mindsets, and thriving, are in the service of increasing employee satisfaction and reducing their turnover intention. Because the turnover intention measure is used in reverse, the interpretation of this construct will be that this is a turnover un-intention.

4. RESEARCH QUESTION

The overall purpose of this paper is to increase the understanding of the impact of managerial coaching, at the employee level, on the following outcomes: mindsets, thriving, and turnover intention. In addition, the research also focused on the role of mindsets as mediators/intermediaries in thriving and turnover intention. In this sense, mindsets are considered as a coaching tool. Also, the ultimate goal of the research is the role of thriving as a mediator between coaching and turnover intention. Previous research on the links between coaching and mindsets has shown that a growth mindset influences a manager's behavior as a coach, as well as that stimulating the growth of the mindsets affects the improvement of a manager's coaching performance. Respecting this fact as such, it was interesting to analyze the impact of coaching on the development of mindsets of employees, i.e. in which type of relationships are employees' perception of their coaching managers and the mindsets of these employees. A further focus of the research was on the impact of managerial coaching behavior on employee satisfaction, which is embodied in this paper in the "Thriving construct", which implies a sense of constant learning and liveliness. Finally, as a measure of the impact of coaching, we took the turnover intention of employees. In addition to the research of the relationship of perceived managerial coaching to these three measurements, it was interesting to analyze if the mindset itself affects the thriving and the turnover intention. For these reasons, the basic research question that led this study was: "How perceived managerial coaching affects the development of a growth mindset of employees, their thriving, and their turnover intention."

5. THE HYPOTHESIZED RESEARCH MODEL

Based on a review of the literature, the following hypotheses were developed for current study:

- **Hypothesis 1:** Perceived managerial coaching is positively correlated with a growth mindset.
- **Hypothesis 2:** Perceived managerial coaching is positively correlated with thriving.
- **Hypothesis 3:** Perceived managerial coaching is negatively correlated with turnover intention.
- **Hypothesis 4:** A growth mindset is positively correlated with an instrument of thriving.
- **Hypothesis 5:** A growth mindset is negatively correlated with turnover intention.
- **Hypothesis 6:** The feature of thriving is negatively correlated with turnover intention.
- **Hypothesis 7:** The relationship between perceived managerial coaching and thriving will be mediated by a growth managerial mindset.
- **Hypothesis 8:** The relationship between managerial coaching and turnover intention will be mediated by a measure of thriving.

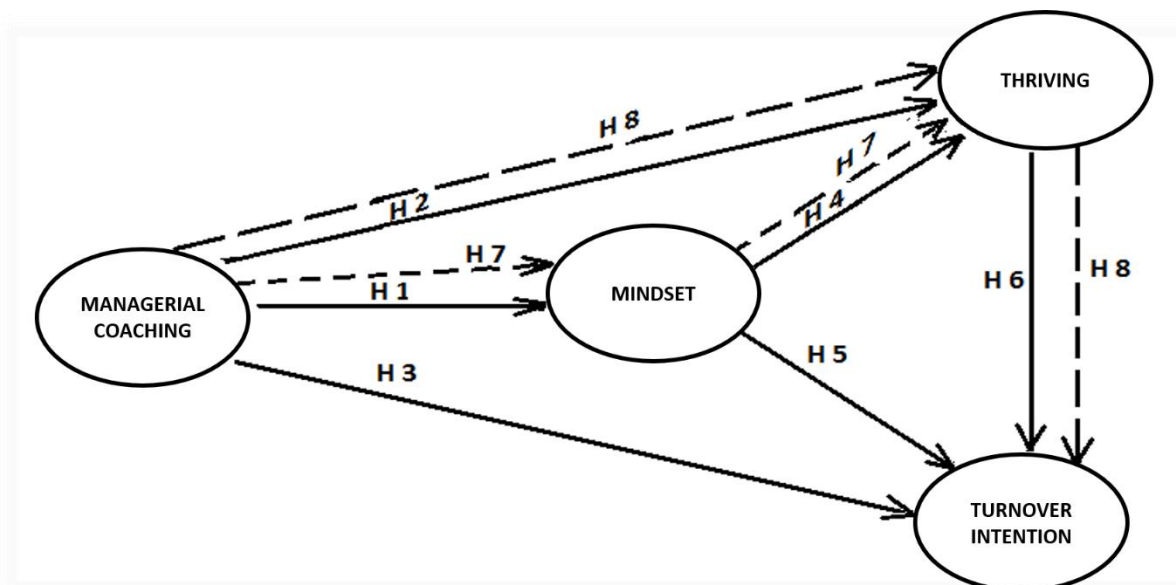


Figure 1: The hypothesized Research Model

6. MEASURES

When it comes to measuring coaching behavior, according to a review of the literature conducted by Hagen and Paterson (2014), there are 19 instruments/scales for coaching, which include managerial, executive, and coaching among colleagues. Ten of these scales are directly related to managerial coaching. The instrument used in this paper was *Employee Coaching Measure Scale*, developed by Heslin et al. (2006), which contains 10 variables grouped into three areas: Guidance, Learning facilitation, and Inspiration. The scale has a strong theoretical basis and spacious review of the literature, and one of the theoretical bases for developing this scale is the Implicit person theory, from which the theory of mindsets later developed.

Examples of the questions for each area are:

- Your manager provides constructive feedback regarding areas for improvement – Guidance,
- Your manager encourages you to explore and try out new alternatives – Learning facilitation,
- Your manager expresses confidence that you can develop and improve – Inspiration.

Cronbach alpha coefficient for this instrument was 0.93.

The instrument used to examine Mindsets- The implicit person theory, was developed by Ley and Dweck (1997), and it is used to assess implicit beliefs that underlie personality building. The instrument consists of eight statements/items, four representing an entity belief/fixed mindset, and four representing incremental beliefs/growth mindset. An example of a fixed mindset is the statement: Your intelligence is something very basic about you that you can't change very much; and an example of a growth mindset statement is: No matter what kind of person you are, you can always change substantially. Cronbach alpha coefficient is quite high for this measure, according to previous research, $\alpha = .93$ (Levy et al. 1998); $\alpha = .93$; (Heslin & VandeWalle, 2009), $\alpha = .86$ (Visser, 2013). Thriving was measured by an instrument developed by Porath et al. (2012) who created a scale of ten items/variables containing two dimensions: learning and validity. As part of extensive research, the authors conducted several studies to confirm this measure, and Cronbach's alpha coefficients for different research samples are quite high: 0.92, 0.88, 0.95, and 0.90. The measure also shows high composite reliability and validity. Each of the two dimensions contains five items/variables. An example for an item for the learning dimension is: At work, I continue to learn more and more as time goes by. While an example of vitality is: At work, I feel alive and vital. A Likert scale of five ranks was used, in which 1 means "I absolutely disagree", and 5 means "I completely agree." The last instrument, simply defined as turnover intention, was measured with five items/variables of the measure created by Kuvaas (2008), based on previously used measures Fahra et al. (1998) and Khatri et al. (2001). The instrument shows satisfactory reliability where its Cronbach's alpha is 0.88. Examples of questions for this measure are: I often think about quitting my present job; and I may quit my present job during the next 12 months. In this measure, an inverted Likert scale of five ranks was used, in which 1 means "I completely agree", and 5 means "I absolutely disagree." Although the reliability and validity of the instruments have already been proven in previous studies, we assessed these aspects, once again, in our sample.

7. DESIGN AND SAMPLE

The target of the survey were employees within companies in Bosnia and Herzegovina. Assistance in data collection was provided by several managers and employees in the HR departments of certain companies. The first part of the survey consisted of demographic and professional characteristics of respondents and the organization in which they are employed, while the second part referred to four instruments/scales for measuring the phenomenon of managerial coaching, mindset, thriving, and turnover intention. Of the 530 invited respondents, 374 responded to the questionnaire, of which 312 responded to the complete questionnaire. Thus, the number of cases for further analysis was concluded with 312 respondents. Analyzing demographic data, there is almost an equal representation of male and female respondents, with a slight predominance of females with a 50.3% share ($n = 154$). Regarding the age of the respondents, the largest number, 30.9% of them, are in the category of 26 to 30 years, and this category is followed by the one consisting of 31 to 35 years with a share of 28.6%. Comparing the data on education, it can be seen that the largest percentage of respondents belong to the category of bachelor's degree, 50.6% of them, followed by respondents with master's degrees with 27.7%. A total of 82.4% of respondents have university education. Data on income (net salary) show that most of them 18.3% ($n = 57$) have a minimum salary in the amount of 200 to 4000 EUR. Further behind them, with a percentage of 15.7%, 49 respondents have a salary ranging from 550 to 700 EUR. Of 312 respondents 13.1% didn't provide the answer. Most respondents work in the position of employees, 63% of them, while 30% of respondents work at various levels of management. When asked how long they have been working with the current manager, the largest number of them (26.3%) answered with „less than a year“. They are followed by responses at 1-2 years and 3-5 years, both with a percentage of 24.7%.

Two demographic characteristics of managers were also taken into account. Around 60% of respondents had a male manager, while the largest percentage of managers, 26% (n = 80), were in the age group of 41 to 45 years.

8. RESULTS

In this study, the number of respondents was 312, which is 9.45 participants compared to the number of original variables (33), and an average of 16.42 participants compared to the number of final variables (19). This sample is, therefore, quite satisfactory. For this research, the KMO test result is 0.911, which is an exceptional result and compact data >0.9, (Kaiser and Rice, 1974). The Barlett test should be less than 0.5 (Pedhazur and Schmelkin, 1991) which indicates that the sample does not have an identity matrix. In this case, the result is 0.00, which indicates that the sample met the adequacy and sphericity requirements required for factor analysis. Exploratory Factor Analysis (EFA) was performed using two methods: Principal Axis Factoring and Principal Component method, using the SPSS statistical package, but before the principal method, multicollinearity, significance, and correlation coefficient were tested. For this purpose, an initial correlation matrix was used in which the multicollinearity test was 9.108E-13, which is lower than the recommended value of 0.00001, which is expected for the initial matrix. The final correlation matrix would be retested. Due to the fact that there was a low determinant indicating that there are generally high correlations in the study, excluded variables have a correlation greater than 0.8. For this reason - too high correlations with other variables - eight variables were removed from further analysis. After checking the abovementioned themes, the Principal Axis Factoring method was initiated, and it aimed to link the variables into common factors. The analysis showed that the three variables have a load of less than 0.6 (> 60, Tabachnick & Fidell, 1996). Due to this fact, the variables TH8, TH9, and MS8 were eliminated from the further procedure. What needed special attention were variables that have a high load on more than one factor. Such variables in this sample are TH1 and TH2 which had high loads on two factors. These variables consequently excluded from the analysis. The variables TH3 and MS3 were close to the load limit, but were strongly related to the factor, so their status, through another combination of variables, was considered through other analyses. Furthermore, it was observed that the TH4 variable has a separate factor that does not bind to others, which is why it was eliminated. Then the Principal Component Factoring analysis was conducted, which confirmed the same way of factors creation. In addition, the commonality coefficient was checked, which was greater than 0.5 for all factors (> 0.3 Falk and Miller, 1992).

	Components				
	1	2	3	4	5
MC_7 Your manager encourages you to explore and try out new alternatives	0.868				
MC_1 Your manager provides guidance regarding performance expectations	0.856				
MC_10 Your manager supports you in taking on new challenges	0.854				
MC_2 Your manager helps you to analyze your performance	0.851				
MC_8 Your manager expresses confidence that you can develop and improve	0.828				
TO_5(R) I will likely actively look for a new job within the next three years		0.903			
TO_4(R) I do not see many prospects for the future in this organization		0.87			
TO_1(R) I often think about quitting my present job		0.857			
THR_7 At work I have energy and spirit			0.817		
THR_5 At work I have developed a lot as a person			0.816		
THR_10 At work I am looking forward to each new day			0.691		
THR_3 At work I see myself continually improving			0.608		
FM_3 You are a certain kind of person, and there is not much that can be done to really change that				0.819	
FM_4 You can do things differently, but the important parts of who you are can't really be changed				0.769	
FM_1 Your intelligence is something very basic about you that you can't change very much				0.723	
FM_2 You can learn new things, but you can't really change how intelligent you are				0.678	
RM_2 You can always substantially change how intelligent you are					0.843
RM_1 No matter how much intelligence you have, you can always change it quite a bit					0.773
RM_3 No matter what kind of person you are, you can always change substantially					0.609

Table 1: Principal Component Analysis

After eliminating the variables from the previous iteration, Exploratory Factor Analysis was conducted on the remaining 19 variables. The KMO and Barlett tests were at acceptable levels, this time as well. The redesigned correlation matrix-final version gives the determinant 1.084E-5, which is, at the recommended value, greater than 0.00001, so this test is within the statistical parameters, which means that there is no problem with multicollinearity for these data. After the component matrix rotation was conducted again, it was evident that each of the variables meaningfully and strongly correlates with one of the five examined factors. Furthermore, the eigenvalue method and the Scree Plot method were checked for factor extraction. The eigenvalue for each factor is greater than 1, and these five factors explain 72.8% of the total variance. From the previous few analyses, it was concluded that the data from this study show that five factors include all 19 variables. The construction of each of the factors is in accordance with the theoretical framework with which the process began, i.e., all variables belong to the initial framework of each topic. It can be concluded that all these findings confirm the strong constructive validity of all instruments.

Thus, the factors created by this analysis are:

- Managerial coaching,
- Thriving,
- Turnover intention,
- Fixed mindset and
- Growth mindset.

Reliability assessment was investigated for five factors using Cronbach's alpha technique. For this study, the results of Cronbach's alpha are shown in the table below.

Factors	Number of variables	Cronbach's alpha
Managerial coaching	5	0.931
Turnover intention	3	0.909
Thriving	4	0.853
Fixed mindset	4	0.766
Growth mindset	3	0.700

Table 2: Cronbach's alpha coefficients

The recommended value of this measure is at least 0.70 (Kline, 2005). As can be seen in the table, all factors meet the given condition, which indicates that at least 70% of the total variance is systematic and reliable. In order to investigate the interrelationships between the factors, the bivariate correlation r between them was examined within this analysis. The analysis of the data showed that eight correlations have a level of statistical significance p less than 0.05 (Spatz, 2001). Regarding the second condition for the analysis of these data, according to McMillan (2000), an absolute correlation coefficient below 0.3 (<0.3) represents a weak relationship, below 0.6 ($p < 0.6$) a moderate relationship, and 0.7 and above ($p > 0.7$) strong relationship. According to the above parameters, a relationship between Managerial Coaching and Thriving is the strongest positive moderate relationship (0.521) with significant correlation. The correlation between Managerial Coaching and Turnover (un)intention is significant as there is a positive moderate relationship (0.378). The correlation between Managerial Coaching and Fixed Mindset is significant, and there was a positive weak relationship (0.166), while a similar situation was with the correlation of Managerial Coaching and Growth Mindset, there is a significant positive weak relationship (0.174). Thriving and Turnover (un)intention have a significant correlation and positive moderate relationship (0.471), while the correlation between Thriving and Growth mindset is also positive moderate, and significant (0.318). Also, there is a significant correlation between Fixed and Growth mindset, but a weak negative relationship, as expected.

The correlations that are not significant are Turnover (un)intention and Fixed mindset, as is the same with turnover (un)intention and Growth mindset. Although these correlation tests alone do not provide a complete insight into hypothetical relationships, they generally support the expected pattern of results (Hahn, 2016). The correlation coefficient of Pearson's r values is given in the table below.

		Correlations				
		MC	THR	TO	FM	GM
MC	Pearson Correlation	1				
	Sig. (2-tailed)					
THR	Pearson Correlation	.521**	1			
	Sig. (2-tailed)	.000				
TO	Pearson Correlation	.378**	.471**	1		
	Sig. (2-tailed)	.000	.000			
FM	Pearson Correlation	.166**	.168**	.051	1	
	Sig. (2-tailed)	.003	.003	.371		
GM	Pearson Correlation	.174**	.318**	-.005	-.133*	1
	Sig. (2-tailed)	.002	.000	.930	.018	

Table 3: Correlations

To extract and confirm the latent factors from the previous analysis, a Confirmatory Factor Analysis (CFA) was conducted. The model was identified using the statistical software AMOS 16.0., estimating the following multiple fit indexes: Relative chi-square, CFI, IFI, and RMSEA index. The results of this study show that the Relative chi-index (χ^2 / df , CMIN / DF 420,096 / 142 where $p = 0.00$) of this model is 2,958, which is in accordance with both criteria, based on which we can conclude that the model describes real relationships between variables. The CFI, IFI, and TLI indices are greater than 0.9, which satisfies the conditions, as well as the RMSA index, which is less than 0.08.

9. HYPOTHESES TESTING

After exploratory and confirmatory factor analysis, the analysis of the hypothetical model presented at the very beginning of the work was performed.

- **Hypothesis 1:** Perceived managerial coaching is positively correlated with a growth mindset. The correlation between managerial coaching and growth mindset is statistically significant and positive (0.197 $p < 0.01$), which confirms the first hypothesis.
- **Hypothesis 2:** Perceived managerial coaching is positively correlated with thriving. The correlation between perceived managerial coaching and thriving is a statistically significant strong positive correlation (0.570 $p < 0.01$), which means that this hypothesis was confirmed.
- **Hypothesis 3:** Perceived managerial coaching is negatively correlated with turnover intention. The perception of managerial coaching is positively strongly correlated with turnover intention (0.418 $p < 0.01$). Considering the fact that the results of the turnover intention are reversed, the correlation between managerial coaching and the turnover intention is a strong negative correlation, which confirms this hypothesis.
- **Hypothesis 4:** A growth mindset is positively correlated with an instrument of thriving. The correlation between the growth mindset and the thriving is positive and significant (0.353 $p < 0.01$), which confirms this hypothesis.

- **Hypothesis 5:** A growth mindset is negatively correlated with turnover intention. According to the data presented below, the correlation between the growth mindset and the turnover intention is not a statistically significant correlation, therefore the hypothesis of the correlation between the growth mindset and the turnover intention was rejected.
- **Hypothesis 6:** The feature of thriving is negatively correlated with turnover intention. The correlation between the thriving and the turnover intention is a strong positive statistically significant correlation (0.552 $p < 0.01$). Furthermore, considering the fact that the results of the turnover intention are reversed, the correlation between the thriving and the turnover intention is a strong negative correlation, which confirms this hypothesis.

The first six hypotheses were analyzed using AMOS 16.0 software. The latter two hypotheses are somewhat different because they involve mediator effects and they will be analyzed using the SEM method as the most accurate method of estimating indirect effects (Shrout and Bolger, 2002). Within this method, the BC bootstrap confidence interval will be used, as suggested by Cheung and Lau (2007).

- **Hypothesis 7:** The relationship between perceived managerial coaching and thriving will be mediated by a growth managerial mindset. This hypothesis implies the view that managerial coaching affects the thriving through a growth mindset, or depending on the growth mindset.
- Following the testing whether mediation was statistically significant ($p < 0.01$) and whether indirect effects were significant ($p < 0.01$), we checked direct effects and relationships with indirect effects. The indirect effects of the growth mindset on the above two factors are 0.041, with a significance of 0.007. This proves that there is an indirect mediating effect of the growth mindset on the relationship between managerial coaching and thriving, thus confirming this hypothesis.
- **Hypothesis 8:** The relationship between managerial coaching and turnover intention will be mediated by a measure of thriving. The last hypothesis implies that managerial coaching will reduce the turnover intention, but only if the person is thriving. The results of the analysis show that this mediator effect is somewhat stronger than the previous one because the indirect effect is 0.196 where $p = 0.001$, and other conditions are also met. In this case, too, it is a matter of partial mediation, i.e. other factors affect the relationship between the two factors, in addition to thriving. And with this analysis, the last hypothesis was confirmed.

Hypothesis	Direct effect	P	Indirect effect	P	Result
MC-RMS-THR	0.48	0.001	0.041	0.007	Partial mediation
MC-THR-TO	0.18	0.007	0.196	0.001	Partial mediation

Table 4: Indirect/mediating relationships

10. SUMMARY AND DISCUSSION

The results of the research show that there is a correlation between perceived managerial coaching and growth mindset, which means that employees who have a growth mindset tend to rate their manager as a good coach. Assuming that perceived managerial coaching implies the actual coaching skill of a given manager, we can conclude that the improvement in managerial coaching behavior will be reflected in an increase in the growth mindset of employees. However, this correlation between managerial coaching and mindset is not so strong, but it is significant.

Managerial behavior as a coach has the strongest correlation with the employee's thriving, which means that the manager's attitude in which he provides guidance, facilitates learning, and inspires the employee, has a direct effect on employee satisfaction. Furthermore, another important characteristic of employee satisfaction is the turnover (un)intention, i.e. staying in the organization, with which managerial coaching also has a strong interrelationship. This means that those who have no intention of leaving the company mostly see a positive attitude and coaching of their manager. Thus, employees who have a growth mindset have a greater thriving, compared to colleagues with a fixed mindset. This information also implies that investing in a growth mindset will result in increased employee satisfaction, which will have a direct impact on other performances such as the intention to stay in the organization. Although a growth mindset does not have a direct impact on turnover, it does have an indirect impact through the direct mediating effect of thriving, which means that people with a growth mindset will remain in the organization that enables thriving. All this implies that the turnover intention is influenced by many other factors, not only the belief in the variability of intelligence and personality and that if other factors are not satisfactory, the growth mindset is not enough to keep an employee in the organization. These other factors, as shown by the results of this research, are the net salary, position in the organization, the sector in which it works, the type of ownership of the organization, but also managerial coaching and thriving. Additionally, we can see a very strong influence between thriving and turnover intention, which is logical to expect, since employees who feel vitality and desire to learn in the organization will intend to stay in it. The relationship between managerial coaching and thriving through the mediating effects of the mindsets was further explored. The existence of positive mediation in this regard implies that in general the strong influence of managerial coaching on the thriving will be even greater in people who have a growth mindset. The very strong influence between the coaching behavior of the manager and the intention to stay in the company, will have an even stronger influence through thriving. This means that those who want to stay in the company and have a coaching manager will have a much stronger desire to stay if they also have a strong thriving. In general, what makes this research even more valuable is that 49% of respondents rate the manager as a coach, i.e. agree or absolutely agree with all the statements of the questionnaire, in this specific field, while only 16% of respondents stated the opposite. Generally speaking, approximately 55% of the respondents have the highest number of characteristics of the growth mindset, while 33% of the respondents have a greater tendency towards the characteristics of the fixed mindset. The rest of the respondents (12%) have partial characteristics of both mindsets, i.e. the exact distinction between mindsets cannot be determined. As for the turnover intention, about 45% of respondents do not intend to leave the company, while 25% of them have active plans to leave. About 30% of them are in between, i.e. just thinking about it. Additionally, the positive note is the fact that 44% of respondents agree or absolutely agree with the statements about thriving, while 13% stated the opposite. The rest agree with some statements, but not with others.

11. IMPLICATIONS

For practitioners, this research provides empirical evidence of the impact of managerial coaching that could help them in their practice. The results of the research could be used to guide managers to effective behavior and increase the understanding and satisfaction of their employees. Special implications of this research exist for managers because this paper could help them decide on developing their own coaching approaches, as well as the general coaching culture of the entire organization. It is also important for human resources departments to organize such coaching training for managers who will transfer their coaching skills through managerial coaching to other employees. This is relevant for external coaching organizations to allow them to pay more attention to manager coaching because the focus on coaching one

man who has strong influence and daily communication will have far-reaching and synergistic effects, which can ultimately bring much more to one organization than individual occasional coaching sessions of each employee. Furthermore, this study is of a special importance for researchers in general, because in this area, especially in Bosnia and Herzegovina, there is almost no data on the vast majority of all mentioned variables and relationships. One of the limitations of the research is that most of the data were collected in one region - Sarajevo Canton of the Federation of BiH, among similar respondents, because most respondents belong to the younger population, with a high level of education and average to slightly higher net salary. Thus, the data from this research cannot be taken as exemplary/representative for the whole society, i.e. the state. This could only be done by considering the three characteristics listed above. Future directions of the research could be steered in the way of assessing the mindset of the manager, following which the coaching perception of his employees would be assessed, and then their mindset. Further research and interventions on the impact of mindsets on other employee performance are also needed, as well as direct interventions and education on the growth mindset within organizations. In addition, further consequences of the development of thriving on other employee performance are expected and necessary. It would also be interesting to explore more factors that influence the onset of this feeling, as well as how much it contributes to other personal and professional characteristics of employees. Then, it would be useful to further investigate the causes and sources of thriving and its connection with the financial performance of employees, as well as the possible difference between certain personality types and aspirations towards a particular mindset. The above research results show that improving managerial behavior can influence the development and improvement of employees' performance and that managerial coaching can be an effective strategy to facilitate the development of the entire organization in a constantly changing environment. Therefore, managerial coaching can be a tool for promoting employee satisfaction and their loyalty to the company, thus creating a stable organization, and managerial coaching and organizational culture towards it can be used as a sustainable competitive advantage of the company.

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THE RELATIONSHIP BETWEEN INDEPENDENCE OF THE AUDIT COMMITTEE AND COMPANIES' MARKET PERFORMANCE IN THE CONTEXT OF THE NEW CORPORATE GOVERNANCE CODE

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ABSTRACT

The adoption of the new Corporate Governance Code is an indicator of the ongoing efforts to improve corporate governance in the Republic of Croatia. Among the characteristics whose importance is emphasized in the context of investors' trust and the functioning of the capital market is the independence of many aspects of corporate governance, and especially in the context of the audit committee. The aim of this scientific paper is to examine the intensity of the relationship between the majority independence of the audit committee and corporations' share prices after the adoption of the new Corporate Governance Code in relation to the period preceding its adoption. It was assumed that the link between these variables should be positive and stronger in the period after the adoption of the Corporate Governance Code due to favorable reactions of investors to corporations' announcements about the majority independence of the audit committee.

Keywords: *audit committee, share price, corporate governance code*

1. INTRODUCTION

The role of corporations in the world economy is growing. The largest corporations are organized as joint stock companies and as such are listed on stock exchanges. The focus of interest of corporate owners is their successful business, ie making a profit. Equally important to them is the stability and growth of their stock prices in a regulated market. These are the key motives that motivate investors to invest in such organizational forms. Achieving these goals requires proper corporate governance. In this regard, appropriate models (Anglo-American and continental) and mechanisms (external and internal) of corporate governance have been developed in practice in order to meet the expectations of corporate owners, but also their management structures and other stakeholders. That is why improvements in the corporate governance system are constantly being sought at all levels. In this sense, independence is increasingly being promoted as the key word of this system. In this regard, each segment of corporate governance can make its appropriate contribution. This, of course, is also expected from the audit committee, which has an important role to play in communicating with corporate governance oversight mechanisms - internal and external audit as protectors of the interests of the corporation and the public. Auditors are expected to be honest and objective in their work. Their honesty and objectivity stem from their independence. Given that the key to the success of any audit engagement lies in the independence of those who conduct those engagements, it is logical that the audit committee - which has special responsibilities in monitoring the work of internal and external audit - exudes independence. The new Code of Corporate Governance in the Republic of Croatia strengthened the messages on the independence of this committee, which were present in the previous version. Therefore, the aim of this paper is to investigate the intensity of the relationship between the independence of the audit committee and change the share price of corporations after the adoption of the new Corporate Governance Code and compare it with the period preceding its adoption. In this regard, the following hypothesis of this research is established: *"The intensity of the positive relationship between the majority independence of the audit committee and changes in share prices increases after the adoption of the new Corporate Governance Code."*

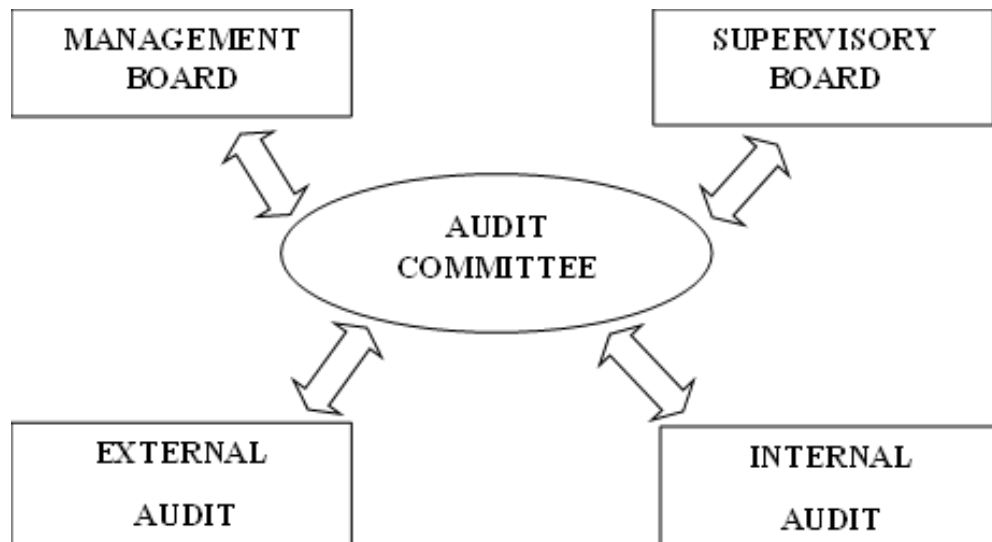
2. AUDIT COMMITTEE, SHARE PRICE AND CORPORATE GOVERNANCE CODE

Improvements in the corporate governance system in the Republic of Croatia, which are also manifested in more advanced versions of the corporate governance code, are reflected - among other things - in the more successful operations of corporations. Raising the independence of the audit committee undoubtedly contributes to the improvement of this system. All this ultimately results in, as a rule, a higher level of corporate share prices on the regulated market of the Zagreb Stock Exchange.

2.1. Independence of the audit committee

The Audit Committee may be established as an independent committee, or it may be the committee of the supervisory board or the board of directors of the audited entity.¹ "Members of the audit committee are appointed among the members of the supervisory board and / or non-executive members of the board and / or other members appointed by the general shareholders assembly of the audited entity, or in the case of non-shareholders other members appointed by the same body."² "Most members the audit committee must be independent from the audited entity. A person is considered independent if he or she does not have any business, financial, family or other close relationship with the audited entity, its majority shareholder or management, or if there are no other circumstances that may question the independence."³ Independent means "not only a lack of conflict of interest but also an attitude, such as a willingness to ask complex questions, review existing policies and propose changes where necessary."⁴ The Audit Committee is a communication channel (Carmichael, Willingham, 2000, pp. 508) of the supervisory or management board with internal and external auditors (Figure 1).

Figure 1: Audit Committee as a communication channel between management structures and external / internal audit



Source: Filipović, 2009, pp. 161.

¹ According to: Audit Act, Art. 65 para. 1, Narodne novine d.d., Zagreb, No. 127/2017.

² Ibid., Art. 65, paragraph 2

³ Ibid., Art. 65, paragraph 6

⁴ Republic of Croatia, Ministry of Physical Planning, Construction and State Assets (July 2021). *Guidelines for the work of audit committees in legal entities of special interest to the Republic of Croatia, as well as in other legal entities whose shares, business shares and founding rights, as a legal representative, are managed by the Center for Restructuring and Sales.*

Available at:

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Given that the Audit Committee, which is independent in its work ⁵, has open communication with the Management Board and the Supervisory / Management Board and with external and internal audit, the independence of its members is a prerequisite for successful performance of the following prescribed tasks:⁶

- 1) Reports to the Supervisory Board or non-executive members of the Board of Directors on the outcome of the statutory audit and explains how the statutory audit has contributed to the integrity of financial reporting and explains the audit committee's role in this process
- 2) Monitors the financial reporting process and submits recommendations or suggestions to ensure its integrity
- 3) Monitor the effectiveness of the internal quality control system and the risk management system and, if applicable, the internal audit, in terms of financial reporting, without compromising its independence
- 4) Monitors the performance of legal audits of annual financial statements and annual consolidated financial statements, taking into account all findings and conclusions of the Ministry of Finance
- 5) Examines and monitors the independence of the audit firm, and in particular the suitability of providing non-audit services
- 6) Is responsible⁷ for the selection process of the audit firm and proposes its appointment in accordance with Regulation (EU) no. 537/2014.

In the Anglo-American corporate governance model, the audit committee is composed of independent board members, while in the continental corporate governance model with a two-tier governance structure, the supervisory board appoints an audit committee to perform the prescribed tasks. "Whether it is an Anglo-American or a continental model, the key requirement is that there should be adequate involvement of independent, non-executive directors in examining the processes of financial reporting, internal controls and risk management" (Tušek, 2007). Soltani (2009, pp. 97) considers that independence is "difficult to define and even more difficult to achieve, and therefore it is necessary to use all means to ensure the honesty and objectivity of the members of the audit committee" in carrying out their tasks.

2.2. Share price as the market performance of a corporation

"Shares are long-term securities without a predetermined maturity or return on investment. A share is a set of all rights and obligations related to membership in a joint stock company. The shares of the joint stock company provide its basic (own) business capital. They provide the owners with a share in the business result (profit) of the joint stock company (Baletić, 1995). The motives for investing in shares are usually stated (Lovrinović, 1997, pp. 148): "1) the desire to own part of the company and influence business policy, 2) earnings through dividends and 3) earnings on the difference in share price on market." Corporations that accept and apply corporate governance principles have a number of benefits. One is to show greater interest in corporations that follow such principles. The capital market, investors, but also all stakeholders pay more attention to such corporations, which inevitably has a positive effect on the price of their shares (Klačmer Čalopa, Cingula, 2009, pp. 189). The share price reflects the value of the corporation. In this regard, there are three values of the share - nominal, book and market.

⁵ Audit Act, op. cit., art. 65, paragraph 9

⁶ Ibid., Art. 66.

⁷ If the audited entity has a nomination committee in which shareholders or members have significant influence and whose task is to make recommendations for the selection of the auditor, Member States may allow that committee to perform the functions of the audit committee. See: Regulation (EU) no. 537/2014 of the European Parliament and of the Council of 16 April 2014 on specific requirements regarding the statutory audit of public-interest entities and repealing Commission Decision 2005/909/EC, Art. 16 (8), available at: <http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX%3A32014R0537> [25.3.2022.].

While the nominal value represents the value of the share at the time of its issuance, the carrying amount of the share, which may increase and decrease, reflects changes in corporation's equity. The market value of a share is a consequence of the supply and demand for that financial instrument. BeniĆ (1999, pp. 207) points out that the share price discounts its future returns, which means that it is equal to the present value of expected dividends. Regardless of the fact that "realized profit is an extremely important element in assessing the value of a company" only on the basis of a complete picture of a corporation investor can (or at least believe they can) assess the company's value "(Altaras Penda, 2017, p. 34). Valuation is based on a detailed analysis of all available information as well as forecasting future events related to the corporation. Numerous corporate governance factors, including the independence of the audit committee, have a prominent place in this mosaic of information that affects the market value of a stock.

2.3. New Corporate Governance Code

"On April 4, 2007, the Croatian Financial Services Supervisory Agency and the Zagreb Stock Exchange presented the Corporate Governance Code to the public. The aim of the Code is to protect, primarily investors, but also other stakeholders, through good and responsible management and supervision of business and management functions of joint stock companies." (Tipurić, 2008, pp. 249). This Code was last updated in 2010. In 2019 Croatian Financial Services Supervisory Agency and the Zagreb Stock Exchange presented a new Corporate Governance Code due to significant changes that took place in Europe and Croatia regarding corporate governance regulations and practices. All this required the harmonization of the new Code with these changes. Listed companies apply the new Code from January 1st, 2020 and through new questionnaires they are obliged to report on their corporate governance practices starting from January 1st, 2019. "The purpose of the Code is to promote effective management and accountability in companies whose shares are listed on the regulated market of the Zagreb Stock Exchange. The new Code seeks to harmonize the standards expected of listed companies with standards in other European countries with similar capital markets, while reflecting the special circumstances in the Republic of Croatia. The adoption of standards from the Code by companies should show investors that they can invest in the Croatian market with confidence. The Code provides an incentive for all listed companies to recognize it as an opportunity to improve long-term results and to show their investors and other stakeholders that they are committed to high standards of corporate governance."⁸ The Code is intended for the corporation that apply continental model of corporate governance. The most listed companies on the Zagreb Stock Exchange do apply such model of corporate governance, and companies that apply the Anglo-American model of corporate governance are required to act in accordance with the provisions of this Code.

3. METHODOLOGY AND RESEARCH RESULTS

The research was conducted on a sample of companies whose shares are listed on the Zagreb Stock Exchange. Due to the use of the variable "change in share price" ($= P_n / P_{n-1}$), the sample included 47 companies whose shares were traded before and after the public announcement of their compliance questionnaire for the previous business year in 2021 and their annual corporate governance questionnaire for the previous business year in 2019, while all companies that did not meet this condition, as well as those with missing data, were not included in the sample. A t-test of independent samples was performed and a regression analysis was performed to determine the relationship of the observed variables. Data on share prices and audit committees used in the analyzes were collected from the Zagreb Stock Exchange website.

⁸ Corporate Governance Code (2019). Croatian Financial Services Supervisory Agency and Zagreb Stock Exchange d.d., Zagreb, pp. 7.

Table 5: Group statistics in the year following the adoption of the new Corporate Governance Code

	Majority independence of the audit committee in 2020	N	Mean	Std. Deviation	Std. Error Mean
Share price change in 2021.	Yes	27	1,074353616516974	,297061401547515	,057169493383102
	No	20	1,360270623956454	,573290335596283	,128191616123696

Source: Author's calculation

Table 6: T-test of independent samples in the year after the adoption of the new Corporate Governance Code

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Share price change in 2021.	Equal variances assumed	1,832	,183	-2,225	45	,031
	Equal variances not assumed			-2,037	26,542	,052

Source: Author's calculation

Table 1 shows that companies with majority independence of the audit committee had a smaller increase in share price compared to those without majority independence of the audit committee ($M = 1.074$; $SD = 0.297$ - $M = 1.360$; $SD = 0.573$). Table 2 shows that the difference in share price increases between the mentioned samples after the adoption of the new Corporate Governance Code is statistically significant.

Table 7: Group statistics in the year before the adoption of the new Corporate Governance Code

	Majority independence of the audit committee in 2018	N	Mean	Std. Deviation	Std. Error Mean
Change in share price in 2019	Yes	25	1,223804050041496	,410423704601686	,082084740920337
	No	22	1,171841832017501	,553145033507652	,117930917392380

Source: Author's calculation

Table 8: T-test of independent samples for the year before the adoption of the new Corporate Governance Code

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Change in share price in 2019	Equal variances assumed	,001	,975	,369	45	,714
	Equal variances not assumed			,362	38,392	,720

Source: Author's calculation

Table 3 shows that companies with majority independence of the audit committee had a higher increase in share price compared to those without majority independence of the audit committee ($M = 1.244$; $SD = 0.41$ - $M = 1.171$; $SD = 0.553$). Table 4 shows that the difference in the share price increase between the mentioned samples before the adoption of the new Corporate Governance Code is not statistically significant.

Table 9: Variables included in the regression^a

Model	Variables Entered	Variables Removed	Method
1	Majority independence of the audit committee 2020. ^b	.	Enter

a. Dependent Variable: Change in share price in 2021.

b. All requested variables entered.

Source: Author's calculation

Table 10: Overview of the regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,315 ^a	,099	,079	,435608303981598

a. Predictors: (Constant), Majority Independence of the Audit Committee 2020.

Source: Author's calculation

Table 11: ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	,939	1	,939	4,950	,031 ^b
Residual	8,539	45	,190		
Total	9,478	46			

a. Dependent Variable: Change in share price in 2021.

b. Predictors: (Constant), Majority independence of the Audit Committee in 2020.

Source: Author's calculation

Table 12: Coefficients^a of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,360	,097		13,965	,000
	Majority independence of the audit committee in 2020.	-,286	,129	-,315	-2,225	,031

a. Dependent Variable: Change in share price in 2021.

Source: Author's calculation

The coefficient of the regression model in Table 8 shows that the contribution of the majority independence of the audit committee to the regression model is statistically significant. However, the value of the coefficient is negative ($B = -0.286$), ie audit committees with majority independence of the audit committee had a lower increase in the share price in the year after the adoption of the new Corporate Governance Code.

Table 13: Variables included in regression^a

Model	Variables Entered	Variables Removed	Method
1	Majority independence of the audit committee 2018. ^b	.	Enter

a. Dependent Variable: Change in share price in 2019.

b. All requested variables entered.

Source: Author's calculation

Table 14: Overview of the regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,055 ^a	,003	-,019	,482311582212927

a. Predictors: (Constant), Majority independence of the Audit Committee 2018.

Source: Author's calculation

Table 15: ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	,032	1	,032	,136	,714 ^b
Residual	10,468	45	,233		
Total	10,500	46			

a. Dependent Variable: Change in share price in 2019.

b. Predictors: (Constant), Majority Independence of the Audit Committee in 2018.

Source: Author's calculation

Table 16: Coefficients^a of the regression model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,172	,103		11,396	,000
Majority independence of the audit committee in 2018.	,052	,141	,055	,369	,714

a. Dependent Variable: Change in share price in 2019.

Source: Author's calculation

The coefficient of the regression model in Table 12 shows that the contribution of the majority independence of the audit committee to the regression model is not statistically significant in the year before the adoption of the new Corporate Governance Code.

Comparing the results from Table 8 and Table 12, it can be concluded that the research hypothesis is rejected because the ratio of majority independence of the audit committee and changes in stock prices is negative after the adoption of the new Corporate Governance Code, while before the adoption it is positive but not statistically significant.

4. CONCLUSION

Continuous improvements in the corporate governance system are the framework for the long-term sustainability of corporations. The greater the independence of the numerous segments of this system are the prerequisites for the success of these business entities. In this sense, the audit committee has an important role as an independent committee or a supervisory board, which should be dominated by independent members. These are also the requirements of the new Corporate Governance Code, which insists on the majority independence of that board, regardless of which corporate governance model the corporation applies. All this should be reflected in higher stock prices of corporations listed on the Zagreb Stock Exchange. In addition, greater acceptance of the standards of the new Code will increase the interest of investors to invest more in the market of the Republic of Croatia. In this study, it is assumed that the intensity of the positive relationship between majority independence of the audit committee and changes in share prices will increase after the adoption of the new Corporate Governance Code, but the hypothesis was rejected and it can be concluded that the positive reaction of investors to announcements absent. Moreover, the relationship is negative which is why further research should be conducted to determine why this is so.

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ENTREPRENEURIAL SPIRIT AND SMART CITY CONCEPT: THE CASE STUDY OF ZAGREB

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ABSTRACT

The primary goal of this paper is based on the analysis of the current situation and examples from practice, aiming to offer smart solutions for the City of Zagreb. The goal is also theoretically systematized knowledge about the concept of a smart city based on technological innovations, and the analysis of selected examples from practice and the current situation and possible smart solutions for the City of Zagreb. The expected contributions of the work stem from the fact that the concept of a smart city is still little known, as well as the real possibilities that smart solutions can offer to the City of Zagreb in terms of infrastructure. The primary data sources in this research are available statistics, publications and strategies whose analysis leads to the objectives of the research. Based on the research and detailed analyses, the smart solution proposed to the City of Zagreb is a centralized portal that combines the achievements so far and continues to develop. A prerequisite is certainly a holistic approach and the concept of open data where the data would be available to stakeholders, the city government, public and private companies, universities and researchers, as well as all citizens. A holistic approach and integration should become an integral part of the development of smart Zagreb. This approach enables the growth of the economy, solving basic urban problems such as traffic, air pollution and the like, creating new jobs and strengthening citizen participation.

Keywords: *innovation, smart city, Zagreb, technology*

1. INTRODUCTION

Over the last years, technological innovations have flooded the world, and since they represent a prerequisite to development, they have become an important part of the economic development for many countries. Technological innovations have been finding their place in urban areas as well, and they are also given special attention from the business point of view since they represent a strategic factor for business. Development of technology and trends, together with rapid urbanization, has made cities face new challenges of the 21st century. Smart solutions have been developing more and more, with the aim of solving some of the most intricate issues modern cities have to deal with. Competitiveness and sustainability of each city are essential, and they are possible to achieve only with the integration of different developmental dimensions like economy, environmental care, mobility, people and city management. This kind of integration is possible only with the introduction of the concept of a smart city. The topic of this paper is smart city as the infrastructural solution for the City of Zagreb. The paper provides an insight into the concept of a smart city and its dimensions, and the introduction to the bases of technological innovations. The paper also analyses the current state of smart solutions in the City of Zagreb.

2. THEORETICAL OVERVIEWS OF INNOVATION

In order to define the term “technological innovation”, it is first necessary to define the very term of “innovation”. The Latin word “*innovare*” means “*to do something new*” (Costello and Prohaska, 2013). This leads us to conclude that innovation refers to the replacement of old, i.e., existing concepts or products are replaced with new ones. Looking at the history of innovation theories, the literature offers different definitions of the term. According to Urabe (1988), innovation suggests generating a fresh idea and its implementation in a new product, procedure or service, which leads to a dynamic growth of national economy and increased employment, as well as creating of clear profit for an innovative business organization. Schumpeter (1934), who can be considered generally as a founder of the theory of innovation in economy, considered innovation an economic effect of technological changes, and sees innovation as the use of new combinations of the existing production resources for resolving business issues (Kogabayev and Maziliauskas, 2017). Table 1 displays some of the most wide-spread theories of innovations ordered according to the authors.

Table 1: Theories of innovation

Author	Definition
Joseph Schumpeter (1930)	<ul style="list-style-type: none"> • Presentation of a new product or redesign of an existing one • New processes of innovation in the industry • Discovery of a new market • Development of new sources for the supply of raw material • Other changes in the organization
Peter Druker (1954)	<ul style="list-style-type: none"> • One of two basic functions of an organization
Howard and Sheth (1969)	<ul style="list-style-type: none"> • Any new element offered to the customer, regardless of whether it is a new customer or not
Mohr (1969)	<ul style="list-style-type: none"> • Level at which changes are introduced in the organization
Davenport (1991)	<ul style="list-style-type: none"> • Finish development in a radically new way
Evans (1991)	<ul style="list-style-type: none"> • Ability to uncover new relationships, to consider things from a different angle and to create new combinations from the existing concepts
Business Council Australia (1993)	<ul style="list-style-type: none"> • Adoption of new or considerably improved elements for creating added value to the organization directly or indirectly for its customers
Rogers (1998)	<ul style="list-style-type: none"> • Includes creating skills and expanding the existing knowledge
The European Commission Green (1999)	<ul style="list-style-type: none"> • Successful production, assimilation and using novelties in the economic or social environment
Boer and During (2001)	<ul style="list-style-type: none"> • Creating a new product-technology-organization combination

Source: compiled by the authors according to Popa, I. L., Preda, G. & Boldea, M., 2010. Theoretical approach of the concept of innovation. Managerial Challenges of the Contemporary Society, 6 (1), p. 152

Table 1 clearly shows how different researchers use different approaches to defining innovation. Innovation, as a result of an innovation process, is deeply impacted by the way organizations define the term. Accordingly, some authors define innovation focusing of the effects, not their attributes (Popa et al., 2010). Finally, “innovation is considered the result of a process that begins by generating an idea and continues with its materialization“ (Diaconu, 2011). Walker, Avellaneda and Berry (2011) put technological innovation in the subcategory of process innovations and link them to the application in physical equipment, techniques and organizational systems. The terms “product innovation” and “process innovation” were used later on in the Oslo Manual (2005) as types of technological innovations. Following to that, technological innovation of a product is a result of production and commercialization of new products or enhanced-performance products, while technological innovation of the process corresponds with the execution or implementation of a new or improved production product. Table 2 displays the typology of innovation according to the Oslo Manual, presenting the degree of novelty of the product and the process.

Table 2: Typology of innovation

			Innovations			No innovations
			Maximum	Medium	Minimum	Already exists in the organization
			New in the world	New in the country/region	New in the organization	
Technological innovation (product or procedure)	Technological novelties	Product				
		Production process				
		Delivery process				
	Significant technological improvement	Product				
		Production process				
		Delivery process				

Other innovations	New or improved	Purely organization				
No innovations	No significant changes, changes without novelties or any creative improvements	Product				
		Production process				
		Delivery process				
		Purely organization				

□ - technological innovations □ - other innovations ■ - no innovations

Source: OECD, 2005. Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data. [Online] Available at: <https://www.oecd.org/science/inno/2367614.pdf> [21 March 2021]

Today, it is almost impossible to develop any type of business or activity without technology. Technological innovations have become commonplace, from those smaller ones that change the micro-environment of an organization or a city, to those global that literally change the world. Therefore, development of new technologies often becomes the main basis for development of a product or a service. According to the OECD (2012), technological innovation can have a considerable positive effect on solving developmental problems on the global scale, such as access to drinking water. The connection of technological innovation to the progress of countries, regions and business enterprises was already recognized by the early authors who looked into innovations, like Schumpeter, 1934; Gerschenkron, 1962; Kim, 1980; Rosenberg, 1982; Freeman, 1987; Fagerberg, 1988; Perez and Soete, 1988; and many more. Current theoretical discussions have recognized technological innovations as being an engine of growth and bringing huge potential for achieving developmental effects, and more and more studies have proven the value of technological innovations as the drivers of socio-economic transformation and rapid progress and development (Kraemer-Mbula and Wamae, 2010).

2.1. Urban technological innovations

Urban population throughout the world has been significantly growing in the last decades, and there are predictions that, by the year 2050, around 70% of the world population will live in urban areas. Accordingly, the entire world is facing an extremely fast urban development which causes overloads to the urban infrastructure because it has to meet the demands of the citizens for energy, water, transport, education, health and safety (Milošević et al., 2019). Although cities occupy only about 5% of the total world land mass, the people in urban areas spend 75% of all-natural resources and produce 70% of greenhouse gas emissions. This is the reason why urbanization creates serious problems like air pollution, traffic congestions, inadequate resources, waste management issues, health issues, decaying infrastructure, and also causes natural disasters (Shahidehpour et al., 2018). Moreover, the expansion of urban areas to create more space for the population, streets and businesses has resulted in several issues in rural areas like poor balance of the natural habitats, heavier traffic, noise and pollution (Han et al., 2012). Following to that, recommended solutions to the above-listed issues can be found in urban innovation which implies the integration of multiple innovations for the development of the urban infrastructure. Urban innovations are very well perceived in the countries all over the world in the 21st century. They are there to connect and integrate important urban infrastructure (including the city management, traffic, energy and water, health, information and communication technologies, education and public safety) and make them more effective and efficient (Naphade et al., 2011). Urban innovation deals with the shortcomings concentrated on a certain geographical area that is densely populated and filled with a variety of social functions. Many of these shortcomings are directly linked to each other, and the solutions to one problem can have a direct impact on other areas (Meijer and Thaens, 2016). Urban technological innovations are defined as implementing technologies for improving the system of urban infrastructure that will be interconnected, intelligent, effective and efficient (Phuong Nguyen and Moehrle, 2019). However, the literature offers different viewpoints on how to define urban innovations, and each definition depends on the importance of the factors of urban innovation according to the specific author, as presented in the table below.

Table following on the next page

Table 3: Different perspectives of urban innovation

Authors	Important factors of urban innovation
Washburn et al. (2009) Naphade et al. (2011)	Technology Integration of mutually connected systems within the city in a closed process
Komninou (2009)	Technologies (intellectual properties), people and knowledge
Han and Hawken (2012)	Technologies, firms, social identity, culture
Meijer and Bolívar (2016)	Technologies, policy, processes, smart cooperation, government policies etc.

Source: *Phuong Nguyen, N. U. & Moehrle, M. G., 2019. Technological Drivers of Urban Innovation: A T-DNA Analysis Based on US Patent Data. Sustainability, Volume 11, p. 3.*

Scientists like Washburn and others (2009) focus on technologies and believe that urban innovation refers to the application of technologies for the development of urban infrastructure and services. This is similar to the idea put forward by Naphade and others (2011) that also deem technologies, especially the ICT, as essential in urban innovations. Technologies are used for city management – a system of infrastructure and services in a city that are improved through a closed process. However, since urban technological innovations should ensure the overall benefit for the citizens and the environment, Han and Hawken (2012) suggest that only technologies by themselves are not enough to cover all the economic, social and environmental areas. The authors emphasise interaction between people and technologies as the most important factor. Meijer and Bolívar (2016) are on the same track, adding a couple of other factors influencing urban innovation, like the appropriate accessing processes for smart cities, political know-how and government policies for creating economic and public values.

2.2. Smart cities – concept and meaning

The concept of “smart cities” was born at the end of the 20th century, and then, it referred only to those initiatives that used digital innovations and the innovations based on the information-communication technologies with the aim of improving the efficiency of city services and creating new economic opportunities in cities (OECD, 2020). The context behind the smart city concept depends on the country, the government, IT, communications, natural resources and other capacities that countries and cities have at their disposal. This leads to suggest that there is no general agreement on the definition of the concept of smart cities. Due to the fact that cities differ regarding their size, resources, infrastructure and other capacities, there is a need for a comprehensive framework that conceptualizes different components of a smart city, integrates the measures and explains the strategic steps that are to be followed (Dudzevičiūtė et al., 2017). The literature overview shows that the majority of the definitions of the concept of smart cities focuses on the infrastructure. Hall et al. (2000) define the concepts as “a city that monitors its critical infrastructure, including roads, bridges, tunnels, rail, subway, airports, seaports, communications, water and energy supply, and even large buildings. In this way, the city can better optimize its resources, plan the activities of preventive maintenance and monitor safety aspects while maximizing the level of services for its citizens”. Giffinger et al. (2007) suggest that smart city is “A city with a successful economy, people management, mobility, environment and living in a progressive way, built upon a smart combination of infrastructure and activities of independent and aware citizens.” Washburn and others (2009) give the following definition “The use of smart technologies to make the critical infrastructure and city services more intelligent, interconnected and efficient.” Scientists agree that smart cities are intelligent and creative, but they differ according to the balance of the technology, the institutions and the citizens.

The concept of smart cities integrates formal leadership and democratic participation in an urban eco-system based on information technology (Letaifa, 2015). Smart cities look forward, they are progressive and save money, providing high quality of life at the same time. They promote social and technological innovations and connect the existing infrastructure. They include new concepts of energy, traffic and transport that leave impact on the environment. Their focus is on new formats of management and the participation of the public (Mohanty, 2016). Every city has specific characteristics regarding the size, the degree to which its environment is developed, the financial resources and many other features. These differences influence the ability of the cities to manage smart technologies and attract investments in smart solutions. Different physical characteristics can also influence the degree of the applicability of certain digital technologies. Nilssen (2019) qualifies smart cities according to four types of smart urban innovations: (1) technological innovations with new practices and services, (2) organizational innovations that happen internally in the public organizations, (3) collaborative innovations that combine efforts and resources based on the triple helix model and (4) experimental innovations through the citizen-oriented approach. Smart development of cities is manifested through several ideas of urban development: economy, people, living, mobility, environment and management. The approach to the smart cities solutions is based on the actions directed at the reduction of carbon dioxide emission, and the efficient use of energy in all domains while, at the same time, improving the quality of life of their citizens. Furthermore, smart cities are based on partnerships created to stimulate progress in areas where production, distribution and energy use, as well as mobility, traffic and advanced technologies are closely connected and offer better quality services, together with energy savings, reduced exploitation of other resources, and limited emission of greenhouse gases (Letaifa, 2015). Giffinger and others (2007) developed a hierarchical structure based on six features of a smart city. Each feature is defined by a series of factors, and each factor is described with indicators. The authors have developed a model with 33 factors describing six features. There are 74 indicators measured within the 33 factors. The following table provides and insight into the six characteristics and their appointed factors.

Table 4: Dimensions of smart cities according to Giffinger et al.

<p>SMART ECONOMY (competitiveness)</p> <ul style="list-style-type: none"> • innovative spirit • entrepreneurship • economic background and “trademarks” • productivity • flexibility of the work market • transformation ability • international cooperation 	<p>SMART PEOPLE (social and human capital)</p> <ul style="list-style-type: none"> • level of qualification • propensity for lifelong learning • social and ethnic pluralism • flexibility • creativity • openness (cosmopolitanism) • participation in public life
<p>SMART MANAGEMENT (participation)</p> <ul style="list-style-type: none"> • participation in decision-making • public and social services • transparent management • political strategies and perspectives 	<p>SMART MOBILITY (transport and ICT)</p> <ul style="list-style-type: none"> • local mobility • international mobility • availability of the ICT infrastructure • sustainable, innovative and safe transportation system
<p>SMART ENVIROMENT (natural resources)</p> <ul style="list-style-type: none"> • pollution • environmental protection • sustainable resource management • attractiveness of natural resources 	<p>SMART LIVING (standard of living)</p> <ul style="list-style-type: none"> • cultural events • health conditions • housing quality • educational institutions • tourist appeal • social cohesion

Source: Giffinger, R. et al., 2007. Smart Cities - Ranking of European medium-sized cities, Vienna: Vienna University of Technology, p. 12.

Finally, smart economy is measured in the city's entrepreneurship and productivity, adjustability to changes, work market flexibility and international cooperation. Smart mobility is perceived in the availability of the ICT infrastructure through the development of a sustainable, innovative and safe transportation. Smart environment is measured with the attractiveness of the natural environment, degrees of pollution, activities for environmental protection and modes of resource management. Smart people are characterized with the level of qualification, lifelong learning, social and ethnic diversity, creativity, openness and participation in public life. Smart living is measured in the existing facilities, living standards (health, safety, housing), educational institutions, tourist appeal and social cohesion, while smart management is expressed in the transparency of city management, social engagement, level of public services and implementation of development strategies (Winkowska et al., 2019).

3. ANALYSIS OF THE POSSIBILITIES OF SMART INFRASTRUCTURE SOLUTIONS FOR THE CITY OF ZAGREB

Zagreb is a city of rich history, dating back to Roman times. The oldest settlement in the city's vicinity was the Roman Andautonia which existed between the 1st and the 5th centuries AD which is today the village Šćitarjevo. The name "Zagreb" was first recorded in 1134, with reference to Kaptol, recorded as early as in 1094. The etymology of the name of Zagreb is vague. It was first used as the name for a united town only in 1852, but it had also been used to refer to the Zagreb Diocese since the 12th century. It came to be used frequently as the name of the town itself in the 17th century (Zagreb City Museum, 2021). Zagreb is the capital city and the largest city in the Republic of Croatia, and it spans the area of 641.32 *km*². It lies in the northwest, by the river Sava, on the southern slopes of Medvednica mountain. According to the population census from 2011, 790,017 people lived in Zagreb then, and the estimation for 2018 was 804,507, which comes close to one fourth of Croatia's total population. 70 settlements belong to Zagreb administratively (City of Zagreb, 2019). Zagreb enjoys a special status in the Croatian administrative division, and it is the only city-county in Croatia (City of Zagreb). As the city-county, it is separated from Zagreb county and administratively divided into 17 city districts. Most of them are located on low elevation alongside the river Sava, with northern and north-eastern districts, like Podsljeme and Sesvete, lying at the foothills of Medvednica. The city stretches over 30 kilometres east-west and around 20 kilometres north-south. It is the centre of the country's government and almost all the ministries. The majority of high-profile companies, media centres and scientific institutions have their head offices in the city. Zagreb is the most important transportation hub in Croatia, where Central Europe, the Mediterranean and South-eastern Europe meet, making Zagreb area the centre of road, rail and air traffic network. The city is well-known for diverse economic endeavours, high living standards, museums, sporting events and entertainment. The most developed industries are the high-tech industry and the service sector (City of Zagreb, 2019). In 2019, the Framework Strategy for Smart City of Zagreb was presented. In this document, the vision for the City of Zagreb until the year 2030 was presented: "Zagreb as a European metropolis, regional leader of south-eastern Europe, standing side-by-side with the largest cities of Europe. Complete business digitalization and cooperation with the citizens will ensure an enviable quality of living and numerous savings, and completely new models of business management and economic growth which will ensure high living standards for the citizens. With the implementation of the measures and activities from the Framework Strategy, the City of Zagreb will distinguish itself on the digital map of Europe as the regional digital innovation centre, featuring: available highly educated staff; positive investment climate and well-developed infrastructure; enviable business culture; development platforms that create space for innovation and progress; and easy availability of open data and robust mechanisms for their safety and protection" (The Assembly

of the City of Zagreb, 2019). The most important part of the Framework Strategy are the measures, i.e., the activities that are necessary to create and fulfil the goals of the strategic areas. Altogether 27 priority measures have been specified and grouped according to their respective strategic areas, as shown in the table below.

Table 5: Priority measures from the Framework Strategy grouped according to strategic areas

Digital infrastructure	Smart public administration and citizen involvement	Smart energy and utilities management	Education	Economy	Sustainable urban mobility
Integrative Smart City platform	Digital public services and technologies and involvement of citizens	Smart management of the electrical grid	Introduction of modern ICT into schools	Development of entrepreneurial skills	Increasing the attractiveness of public transport
Cadastre of power lines and infrastructure	Interoperability	Smart management of CTS	Organization of competitions for students	Financial instruments for early stages of entrepreneurship development	Improving the traffic management system
Broadband infrastructure	Business processes and organizational structure	Smart management of water supply and sanitation	Organisation of teacher courses and educational and promotional activities for citizens	Platform for testing innovative solutions	Improving cycling and pedestrian traffic
Narrowband sensor infrastructure	Reference architecture and standardization	Smart management of the gas network			Innovative propulsion systems (electromobility)
	Fostering a culture of innovation	Smart management of public lighting			
	Development of local spiritual data infrastructure	Integration of smart buildings and infrastructure			
	Continuous improvement of the service quality				

Source: The Smart City of Zagreb Framework Strategy – Zagreb Smart City, Vision until 2030

The Framework Strategy is the starting point and provides the guidelines for future development of the Smart City of Zagreb in an open, flexible and sufficiently clear way to support concrete project solutions in practice. The Framework Strategy focuses primarily on the application of the ICT and digitalization and the stimulation of the development of the smart city concept, and it is therefore a complementary document to other strategic and implementing documents of the City of Zagreb, such as the City of Zagreb Development Strategy for the period up to 2020, the Zagreb Urban Agglomeration Development Strategy, the Sustainable Energy and Climate Action Plan - the SECAP and the Master plan of the Transport System of the City of Zagreb, Zagreb County and Krapina-Zagorje County (The Assembly of the City of Zagreb, 2019).

3.1. Analysis of the current smart solutions

Zagreb shows a considerable potential for developing into a smart city. The environment and the green surfaces, recreational zones, drinking water supplies and the degree of the ICT implementation in all of its sectors supports this claim. Many business enterprises that have their head or branch offices in Zagreb, deal with development and application of smart solutions, apps and devices with the emphasis on the ICT (e.g., HT - a Croatian telecommunication company, IBM, Microsoft, Odašiljači i veze - a Croatian terrestrial television and WiMAX operator, and many other smaller and medium-sized enterprises). In addition, citizens' inclusion in the decision-making is also an important prerequisite to realise the full potential of the smart city concept. Aiming at engaging all the citizens, the Assembly of the City of Zagreb has launched a series of initiatives and projects that use the ICT and represent examples of already tested solutions (e.g., MojZagreb – the central point of access to the e-services that the City of Zagreb makes available to the citizens, the pilot project Zagreb – innovative city etc.). Outlined below are the implemented projects and activities in the context of a smart city. The outline has been divided into the following thematic areas (The Assembly of the City of Zagreb, 2019):

- Living standards – smart education, social care and citizen inclusion (dimensions: smart people and smart living)
- Economy (dimension: smart economy)
- Smart city administration –management and informing (dimension: smart management)
- Sustainable urban mobility – transportation (dimension: mobility)
- Environmental protection and fight against climate change (dimension: smart environment)

From April to May 2017, the City of Zagreb conducted a pilot project Zagreb – Innovative City with the aim of developing a system of innovation management in the City of Zagreb administration, Zagreb Holding Ltd. and all the municipal services. In addition, the goal of the project was to improve communication with the citizens and ensure them more engagement and, consequently, better efficiency of all the administrative bodies and organizations. Through the Model project – the Crowdsourcing platform (Facebook platform), there are three ways that enable innovations: getting feedback from the citizens on certain issues and projects, conducting contests for best ideas and collecting opinions from the citizens. In this way, ideas and suggestions are pooled together, debates are encouraged, ideas and suggestions are evaluated and, finally, projects are realized. Via these and similar platforms, citizens have the opportunity to actively propose new projects and ideas for innovative solutions with the aim of upgrading city services, commenting, assessing and monitoring the execution of the ideas (Gradska skupština Grada Zagreba, 2019). Economy: encompasses the following projects: 1) ZICER: Zagreb Innovation Centre Ltd. -the centre for providing support to innovative entrepreneurs, 2) Private initiatives: *HUB385*, *Impact Hub*, *Founder Institute* etc. There are other smart projects that have been realised at the City level (zagreb.hr, 2021):

- 1) e-Pisarnica - an application which enables checking the progress of your filed request (e-Request) with the city offices, the validity of an e-document (e-Document Check), the application for downloading of the issued e-Document and turning in the available e-Requests (e-Documents), turning in and keeping track of the applications for the public tenders for financing the programmes and projects of the associations from the City of Zagreb Budget, turning in applications for financial aid for the new-born babies and the applications for passing the Acts on spatial planning, construction and use based on the Law on spatial planning and the Law on construction.
- 2) e-Permit intended for passing the Acts on construction i.e., leading the procedures based on the Law on spatial planning and the Law on construction.

- 3) City Assets, the base providing an insight into the entire assets of the City of Zagreb, including residential properties, business facilities and land
- 4) utility bills that serve for the overview of the current state of utility bills and services that users pay for residential and garage space: rent, utilities (communal charges, waste management, water)
- 5) open budget that offers a transparent insight into the budget of the City of Zagreb

Sustainable urban mobility – traffic comprises 1) The Master Plan of the Traffic System as a part of the Integrated Passenger Transport project in the area of the City of Zagreb, Zagreb County and Krapinsko-zagorska County and 2) The project for the System for Automatic Traffic Management in the City of Zagreb that should have been finished in 2020, but its completion is still on hold. Regarding environmental protection and fighting climate change, there is the ZagEE - Zagreb Energy Efficient City project which includes the reconstruction of 87 public buildings and parts of the public lighting system where the planned savings would be almost 34 GWh annually. So far, the City of Zagreb has implemented a series of smart solutions, but the main problem here is detected in the form of inconsistencies, i.e., levels of services are not connected which makes their use more complicated. The ZG Geoportal is an excellent example of an integrated solution, leading the path to consolidating the data and information from all aspects of smart development. The following table displays the key features and shortcomings of smart solutions on the selected examples (Zagreb in relation to Amsterdam, Bratislava, Hangzhou and Chicago).

Table 6: Features of smart solutions of the selected cities

	KEY FEATURES OF THE SMART CITY	DETECTED SHORTCOMINGS
Amsterdam	<ul style="list-style-type: none"> • One of top smart cities in Europe • 2016 – European capital of innovation • Holistic approach: administration + companies + universities and research institutions + citizens • Smart growth, <i>start-ups</i>, social inclusion, quality of living • <i>Amsterdam Smart City</i> central platform (400 organizations and over 5,000 individuals) – ideas and projects • <i>Open data</i> concept 	<ul style="list-style-type: none"> ○ No strategies for further medium- and long-term development
Bratislava	<ul style="list-style-type: none"> • <i>Smart Twins</i> cooperation with Vienna • Holistic approach: local players + foreign and domestic experts 	<ul style="list-style-type: none"> ○ Desired results not achieved ○ Traffic congestion ○ Lack of residential facilities ○ Corruption ○ Lack of green areas ○ Air pollution
Hangzhou	<ul style="list-style-type: none"> • <i>City Brain</i> system – development towards an intelligent city: including traffic, city administration and healthcare management; based on gathering and processing data 	
Chicago	<ul style="list-style-type: none"> • <i>Array of Things</i> – urban seasonal network (a part of the <i>Open Data portal</i>), open data based on strategic partnership between the City of Chicago, Chicago University and Argonne National Laboratory • <i>OpenGrid</i> system – access to data available to all citizens 	

Source: compiled by the authors

The key common feature of all the smart solutions in the examples above is in the centralized open-access platforms. As can be seen in the table, only Bratislava does not have a centralized platform, nor has the development of smart city solutions gone in that direction. With its strategy, Bratislava has not achieved the desired goals, and the problem can be lying exactly in the fact that the city lacks a centralized place where all the players can work together and solve critical problems of the city like traffic congestion and air pollution. Bratislava has faced another issue – the lack of residential space, lack of green areas and corruption. However, regardless of the shortcomings, Bratislava has achieved certain progress in the period from 2019 to 2020, according to the smart cities index. Comparing the indicators among the countries, Slovakia recorded the HDI of 0.857 in 2018, which is slightly lower than in the Netherlands and Illinois. The GNI of Slovakia also drops a bit under the values of the other two countries. Here, Amsterdam is surely the best example, because its *open data* concept central platform gathers over 400 organizations and over 5,000 individuals that work on smart solutions ideas and projects. The only downside detected in the example of Amsterdam is that there is no medium- and long-term strategy and the city definitely has potential to follow the Chinese examples of smart solutions. By all means is Amsterdam one of top smart cities in Europe, which has been confirmed by the research. According to the smart cities index, Amsterdam took the high ninth place in 2020, thus moving up two places in relation to the year before. The basic parallel indicators at the country level suggest that the Netherlands has the highest HDI value, while its GNI places it right behind Illinois. A similar concept of development of smart cities solutions as in the example of Amsterdam is evident in Chicago, where smart city solutions are also based on an *open data* portal. The open system is based on the strategic partnership between the City of Chicago, Chicago University and Argonne National Laboratory, which has turned out to be a very good practice. The research has not revealed any visible shortcomings of this smart solution. The smart cities index positioned Chicago as the 41st in 2020, which was a considerable jump from the 53rd place from the year before. The basic indicators at the country level, like in the case of the Netherlands, show high degree of development. The Chinese city of Hangzhou cannot here easily be compared to other cities and systems because China as a whole goes a step further in its solutions for smart cities and has been developing and working towards the concept of intelligent cities. However, as the analysis has shown, the basis of a smart city lies also in the *big data* technology. So, despite the progress, the smart cities index ranked Hangzhou as the 65th in 2020, which was a considerable fall from the 44th place the year before. The reason for this can be found in the fact that “new” smart cities are developing faster and this level Hangzhou has already achieved. It is an interesting fact that basic indicators at the level of the whole China show poorer development degree than all the observed countries and cities, respectively. Based on the parallel analysis of the successful and less successful examples of the smart city solutions, it is possible to identify the critical prerequisites for the development of the smart city of Zagreb. As evident from the analysis of the current smart solutions, Zagreb has the strategy leading it towards becoming a real smart city, however, it lacks the detected key ingredient – a centralized portal with open access to data and a holistic approach directed at all the involved parties, the government, companies, university and citizens. Amsterdam is definitely the example to follow, offering the solution in the form of the central platform called the *Amsterdam Smart City* which pools a significant number of organizations and individuals that work together to develop smart solutions. By all means, this kind of a centralized platform is the basic prerequisite and a potential for development of a smart city, without which it is hard to achieve any serious goals. For now, it can be concluded that the smart solutions applied in the case of Zagreb are similar to those of Bratislava, which is not good considering that Bratislava has not reached the desired goals and still has not found suitable solutions for the crucial urban issues, like traffic congestions, pollution and corruption.

4. CONCLUSION

Theoretically, the smart city concept integrates formal leadership and democratic involvement in the urban eco-system based on the information technologies. Common features of smart cities are infrastructure development, development of competitive and sustainable environment and the involvement of all the parties – local government, public and private sector and citizens. Development in the direction towards a smart city is evident in the economy, the people, the living standard, the mobility, the environment and the management. Regarding the institutional framework at the level of the European Union, the development of smart cities is stimulated with the Europe 2020 Strategy: the strategy for smart, sustainable and inclusive growth, and with the INSPIRE initiative and other documents supporting the concept. In Croatia, there are several strategic documents dealing with the concept of smart cities: The traffic development strategy in the Republic of Croatia and the e-Croatia 2020 strategy. There is also the Framework Strategy for the Smart City Zagreb. From the theoretical overview and the analysis of the examples and practice, and the analysis of the topic of this paper, the smart city solutions for Zagreb, there are visible discrepancies in the perception and the level of development towards the smart city. It can be said that the concept of smart cities is not the future, it is the present, and it is an essential prerequisite for the sustainable development of urban areas. Zagreb, being the capital city of the Republic of Croatia aspires to introduce smart solutions, however, there is one detected crucial shortcoming, the centralization of all the smart solutions visible in all the global examples. Of course, Zagreb cannot be compared to the cities like Hangzhou or Chicago, but the closer Amsterdam can certainly be an excellent referent point for future development. On the other hand, Bratislava, that is similar to Zagreb regarding the direction it is taking towards being a smart city, has not achieved its desired results, which can be taken as the example of the direction that should be avoided. Although smart cities exist here in the present, from the perspective of the analysis of smart city solutions in the City of Zagreb, it is evident that the city is going to invest considerable effort to achieve the goals and the features and dimensions that make a city smart. The basic downside in the approach has been detected in the segment of unavailability of the data that would enable further progress, first and foremost in the private sector. There are many private business enterprises interested, but also the individuals that wish to develop smart city solutions. However, they lack systemic support in the form of information availability and communication and coordination with the city government and the public enterprises. City administration is the one that should provide development in the desired direction and stimulate the private sector and the citizens to create solutions together. A holistic approach and integration should become a crucial part of the development of the smart city of Zagreb. This approach enables the growth of economy, resolving the critical city issues like traffic, air pollution etc., creating employment and strengthening the inclusion of the citizens. Here we should take a look at the global trends and the fact that in the future, more and more people are going to live in urban areas. In line with that, within the framework of the smart city development, the accent should be placed on the residential areas, infrastructure and the environmental impact. Another event that has marked the life dynamics of the city in newer history is the earthquake from the year 2020. The recovery and the reconstruction will take years, but this can too be seen as an opportunity for smart solutions in the segments of the quality of living and sustainable urban mobility. The analysis of the current smart solutions in the City of Zagreb points to the fact that the city has the potential for smart development, and the projects that can be categorized as smart city solutions. In other words, Zagreb is on the right path towards developing into a smart city. The fields that are on the right track are environment and the share of green areas, recreational zones, drinking water supply and the level of the implemented ICT in all the sectors. Zagreb has the strategy to become a smart city, but it lacks the detected key segment – the centralized portal with the open access to data and a holistic approach directed at all the players, from the government,

through the companies and the university and all the citizens. The key common characteristic of the examples presented in the paper that leads to the desired goals for development is evident in the form of centralized open data platforms. Amsterdam is by far the best example, since its open data concept platform pools over 400 organizations and over 5,000 individuals that work together on the ideas and projects for smart solutions.

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NECESSARY LEADERSHIP COMPETENCIES IN CHANGING HEALTHCARE SYSTEMS

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ABSTRACT

Healthcare leadership has become an increasingly important issue in both public and private sectors in most countries around the world. This is due to a number of different reasons, but the main ones are the growing complexity and sophisticated structure of healthcare systems, rapidly evolving technological and medicinal opportunities and challenges, and changing financial models and needs. To cope with such issues an extensive set of competencies is needed. In this paper we will describe the main competencies and values needed for present-day healthcare leadership. Furthermore the paper will define main characteristics describing needed modern competencies in contemporary health care leadership. For the purpose of real-life input an anonymous questionnaire was conducted amongst the medium-level clinical managers (N=75) in North Estonia Medical Centre. Participants were asked to evaluate their everyday activities and their importance in relation to leaders' duties. Additional information about relevance of different values was gathered with the survey. The main findings of this survey are outlined in the paper as well as their importance in relation to the main competencies previously characterized. The results of this study will be part of the competency model design for North Estonian Medical Centre. Financial literacy is the most needed and underrepresented competency, but equally important are talent and team management skills, organizational and system awareness and communication skills, all of which are relatively insignificant within medical curricula.

Keywords: *health care leadership, medical leadership, competency-based leadership, value-based leadership, competency model*

1. INTRODUCTION

Healthcare management is a complicated concept that deviates from the usual logic, combining both management and medical principles and existing outside classical management paradigms. Despite its complexity more and more attention is being paid to the development of health care management in the world for a variety of reasons, be it higher quality of care, better teamwork, cost-effectiveness or patient-centeredness. The main bottleneck is the sparse background of management education or skills among doctors and its insufficient acknowledgment in both medical training and in the acquisition of a specialist profession despite the fact that in Estonia, as elsewhere, a significant majority of the heads of clinical units are physicians. Expanding the background and looking more closely at the management of clinical units in all types of hospitals in the Estonian health care system, almost 100% of the leading positions of all clinical units in the medical line (i.e. excluding nursing) are filled by physicians. At the same time, administrative responsibilities often involve a large amount of financial and managerial activities that do not play any role in medical training. The aim of this article is to describe the main competencies and values needed for present-day healthcare leadership and compare them with the contemporary analogues in Estonia.

To achieve this aim the authors have described main characteristics of healthcare leadership, conducted a research in Estonian Regional Hospital, North Estonia Medical Centre and compared main modern competency models.

2. CHARACTERISTICS OF LEADERSHIP IN HEALTH CARE MANAGEMENT

To discuss the specifics of management in clinical units, we must first define what is healthcare leadership or in other words, medical management in general. Only then will it be possible to move on to the specificities that make health care management a challenge. Clinical leadership refers to the engagement and guiding role of physicians in health system improvement. This role extends further than their involvement in formal leadership positions, indicating an active role of doctors in activities for healthcare improvement that goes beyond their immediate clinical duties and responsibilities in delivering care to patients (Dennis & van Gestel, 2015). Regardless of the role played by the medical director, it is usually dual identity. On the one hand this role must include a wide range of different leadership and management activities, and on the other hand that person has to be able to successfully balance the clinical and administrative worlds (Berghout et al. 2017; Fitzgerald et al., 2006). In many cases, the need to maintain a significant proportion of clinical work is exacerbated by both the need to maintain credibility in the eyes of colleagues (Witman et al., 2011) but also in the interest of future careers as significant percentage of healthcare managers are reluctant to continue as managers (Fitzgerald et al. 2006). Expressing expectations and abilities in a slightly different way one can say that a physician is suitable to play the role of a medical manager because he/she is at least theoretically able to acquire knowledge of the management world, but a non-medical manager is never able to acquire medical knowledge (Llewellyn, 2001). Physicians have the best ability to integrate different aspects of health care, but the needs of medical management are beyond the traditional identity of the physician - thus posing a significant challenge to the self-identity of the health care manager (Andersson 2015). A physician health care manager always identifies himself first as a physician and only then as a leader (Witman et al., 2011; Quinn & Perelli, 2016). Different factions have separate views on medical management. In one prospect we see that medical leadership is described as a formal leadership role performed by a physician (Berghout et al. 2017). In the second case management and leadership are already partially integrated into the individual work of the physician, forming an important part of the medical competence and daily work (Baker & Denis 2011; Edmonstone 2009). A considerable part of the informal, clinical manager's view is patient-centeredness and quality of service as it is part of medical training and thinking. In the career model view the movement of physicians to leadership roles is usually beyond the principle of career advancement and mainly through the choice to defend or advance their clinical field (Edmonstone, 2009). Even in cases where a medical manager is elected by management, their relationship with colleagues is usually non-hierarchical on an equal footing, with a focus on achieving change through debate, persuasion, and negotiation (Edmonstone, 2009). Von Knorring, de Rijk and Alexanderson have described in detail the challenges and problems of managing a healthcare organization without a medical background. In their article they describe two categories of claims made by senior management about the management of physicians in health care organizations. The first category describes the behavior of physicians from the perspective of the organization's leader; the second category summarizes strategies for dealing with physicians. The statements in the first category can be summarized as follows: "Doctors have a high status and an expert role, but they know very little about the system and do what they want". Leaders with a non-medical background see physicians as highly self-esteemed, highly educated professionals who are accustomed to being admired and listened to. Despite the very high level of the professionalism physicians have little knowledge of the health care system and its role in society or other sectors. They are very autonomous, less motivated to follow the general rules, and mostly shape their own activities.

The general opinion among managers was that the self-directed manner of physicians is part of the professional culture and does not depend on management strategies or behavior (von Knorring et al., 2010). The second category includes strategies for dealing with doctors. Although almost all senior executives describe physician management as a 'complex task', the strategies used are divided between general management strategies and physician-specific strategies. General strategies include control mechanisms, motivational strategies to correct behavior, or control through the immediate supervisor. Organizational segregation (for example separate meetings for doctors), "arguing and nagging", compensation or "relying on the role of the doctor" were identified as strategies specifically for physicians. Relying on the role of physician means that many senior executives find that lower-level managers who are physicians themselves have easier control and direction than executives from different backgrounds (von Knorring et al., 2010). In this context, the strategy assumes that a leadership role is not sufficient to manage physicians, and a physician in a leadership role, rather than a leadership role *per se*, is needed to change physicians' behavior (von Knorring et al., 2010; Witman et al., 2011).

3. IMPACT OF PHYSICIANS IN HEALTH CARE MANAGEMENT

The involvement of physicians in health care management and its potential positive and negative effects has been the focus of various discussions for some time. Additional research and meta-analyses in recent years provide an opportunity for a slightly more in-depth analysis but are not conclusive (Sarto & Veronesi, 2016; Clay-Williams et al. 2017; Keijser & Martin 2020). Healthcare and medical management are addressed differently in different countries, making it difficult to draw parallels between systems. The problem as mentioned earlier is largely the lack of systematic teaching of management skills and knowledge in medical education (Hartley 2016; MacCarrick, 2014; Blumenthal et al. 2012; Ackerley et al. 2011). In a systematic review conducted in 2016, Sarto and Veronesi have provided a more in-depth assessment of the impact of clinical managers in hospitals. In their report, they say: "our analysis overwhelmingly supports the assumption that greater clinical presence is beneficial for hospital decision making processes, which clearly has important implications for policy and practice". And while there is a growing body of evidence to support this conclusion there are also reasons to question the assumption that the influence will necessarily be positive (Sarto & Veronesi, 2016). In the same review Sarto and Veronesi (2016) also bring out the main possible reasons behind the positive effects of the physicians' greater involvement. Mainly the availability of greater critical knowledge ensures an improvement in the overall quality of decision making; increases the involvement of medical staff in controlling costs and pays more attention to patients' needs due to medical ethics and professional standards (Sarto & Veronesi, 2016). Other researchers have reached a similar but even more ambitious conclusion in the past, finding that by combining leadership skills with clinical knowledge these leaders have the potential to become influential and strong leaders. The combined broad background allows them to see new opportunities, inspire others, and create and realize a new vision in health care (Satiani et al. 2012). However, the impact of physician leaders on the organization is not always positive (Sarto & Veronesi 2016; Clay-Williams et al. 2017; Kaiser et al. 2020). The negative impact on financial resource management and overall hospital outcomes is likely to be related to increased conflicts between physician-managers and other managers; an increase in role conflicts among managers who need to protect clinical decisions at the expense of financial performance; the lack of managerial and accounting knowledge of medical managers and conflicts of interest for doctors in private clinics in leading positions (Sarto & Veronesi, 2016). Too large a proportion of physicians on the board has a negative effect on the hospital's financial performance, but the participation of physicians (in an optimal proportion) on the board is essential to ensure medical expertise (Chen et al. 2021).

4. INTERNATIONAL HEALTH CARE LEADERSHIP COMPETENCY MODELS

Competence refers to the ability to perform an activity effectively. A commonly used definition of competence is the set of knowledge, skills and attitudes that enable a task to be performed. Competence is also defined as person-specific characteristics (traits, beliefs, abilities, or attitudes) that distinguish one person from another and explain differences in job performance (Banfield & Kay, 2012). Competence can also be explained as a combination of knowledge, skills and abilities with motives and affective dispositions, with each person having an individual disposition to self-organization that includes a cognitive, affective, intentional and motivational element (Rieckmann, 2012, 131). In this work, a set of knowledge, skills and attitudes which enables effective modern health care management is used as a definition of healthcare management competence. A set of competencies is called a competency model, and it allows an organization to focus on work-related information and the skills of an employee to lead others (Campion et al., 2011). The competency model is also defined as a set of sub-competencies that are necessary for satisfactory or exemplary performance in the context of a person's tasks, responsibilities and relationships in the organization and in its internal and external environment (Dubois, 1993). Competence development and qualification should operate as a continuous improvement cycle: competence development identifies the required competencies and helps to reveal critical gaps while qualification is necessary to address and close these gaps. Competency model can be used add transparency and comprehensibility to the process. (Hecklau et al., 2016). An additional advantage that competency models offer is that they provide a basis for the development of integrated personnel systems (for example personnel, training, promotion, succession planning and performance management) (Horváthová et al. 2019). In addition to enabling the assessment of an individual's strengths and weaknesses, competence models can also assess the overall human potential and highlight areas that need further development. Thus, competence models become the basis for education and training and together with remuneration or feedback schemes models are important in managing and modifying people's behavior (Škrinjarić, 2022). There are risks to the use of competency models so generic competency models should not be taken lightly. Often models of general competencies may be too comprehensive or even irrelevant to the job. Even if the competence itself is important it doesn't necessarily mean that all the parts or levels are relevant. In addition to that most positions today require unique competencies, and many workplaces require the use of a combination of unique competencies simultaneously (Megahed, 2018). For the health care leadership purposes, it is also useful to pay attention to the following questions: what are the consequences of individual competency profiles, career mapping and counseling? What are the potential applications for job and productivity analysis? Could the competency model be used to assess, certify and select public health managers and if so, then how? How to use competency standards to assess and explain current knowledge and methodologies for public health management and to identify areas for educational assessment and resource development? (Wright et al., 2000). Three recognized health management models from different organizations have been used as a basis of this research. These are the National Healthcare Leadership Model 3.0, the International Hospital Federation Model and the Dutch Framework for Medical Leadership 1.0. The model of the National Center for Healthcare Leadership (NCHL) consists of four action competency domains and three enabling competency domains. Action competency domains are related to direct management tasks and have been updated compared to the previous model as the domains of Execution, Relationships and Transformation remain, but the category of Boundary Crossing has been added to draw attention to the importance of interdepartmental and interorganizational relations. The enabling domains include competencies that enhance the sub-competencies of the action competency domains; these are health system awareness and business literacy, self-awareness and self-development and values (NCHL Health Leadership Competency Model, 2021).

The domains of the International Hospital Federation (IHF) competency model are derived from the Healthcare Leadership Alliance Competency Directory. These competencies have been developed based on the results of job analysis surveys, which mapped the main tasks to be performed by health managers. This model can be used to show the depth and breadth of knowledge healthcare managers need to know for the effective operation of the organization and the health care system. The domains of the IHF competency model are classified into five key areas: communication and relationship management, professional and social responsibility, health and healthcare environment and business, the fifth domain being leadership which interacts with all the previous four (International Hospital Federation, 2015). The Dutch Framework for Medical Leadership (FML) has been developed to define the principles of healthcare management for physicians. The framework is aimed primarily at doctors and students, giving them an overview of the knowledge and skills needed to manage health care. At the same time, the framework can also be used for training and learning activities and as a basis for planning management training modules. The Dutch FML is in line with the 2015 CanMEDS (Canadian Physician Competency Framework) main domains, which describe the competencies required by physicians. As the principles and development of medical governance vary from country to country, the existing CanMEDS framework has not been translated into a framework, but the CanMEDS model has been used as a basis for bringing the new framework into the Dutch healthcare context with added research and validation. The Dutch FML consists of twelve areas of competence that can be presented in three overlapping dimensions. These dimensions denote those specific competencies that focus on either the 'individual', 'others' or 'society' in general (Keijser et al., 2019). All existing models overlap to some extent pointing on one hand to the fundamental similarities of health management in all national health systems and on the other to the importance of raising awareness and skillfulness of key competences across different systems.

Table following on the next page

Table 1: Comparison of NCHL model 3.0, IHF model and Dutch FML, version 1.0.

NCHL model 3.0		IHF model		Dutch FML model	
Categories	Sub-competencies	Categories	Sub-competencies	Categories	Sub-competencies
Boundary spanning	Community collaboration Organizational awareness Relationship & network development	Health and the healthcare environment	Health systems and organizations Health workforce Person-centered health Public health	Takes responsibility	Demonstrates social accountability Accountable for own actions and decision-making. Actively takes on joint responsibility in decision-making Is able to initiate and facilitate shared decision-making processes
				To exert influence	Knows the organization, is able to communicate at various levels. Actively seeks for possibilities to exert appropriate influence. Employs own influence
Execution	Accountability Achievement orientation Analytical thinking Communication – writing Communication – speaking & facilitating Initiative Performance measurement Process & quality improvement Project management	N/A	N/A	Sustainable use of resources	Knowledge of direct and indirect costs of healthcare Recognizes and prevents waste Strives to deploy available resources in a sustainable manner. Is able to gauge short and long-term effects of the use and distribution of resources.
				Improving healthcare quality	Has knowledge about healthcare quality, quality systems and improvement methods. Critically examines healthcare quality, continuously in search for opportunities for improvement. Actively contributes to initiating, implementing and sustaining quality improvements Makes healthcare quality measurable and transparent
Relations	Collaboration Impact & influence Interpersonal understanding Talent development Team leadership	Communication and relationship management	Relationship management Communication skills and engagement Facilitation and negotiation	To connect	Is able to have people and groups collaborate in an engaging manner. Creates and sustains safe work environment. Sets clear and realistic goals in collaborations. Takes differing interests and views into account, is able to recognize conflicts and resolve them.
				Coach and direct individuals	Has social and communication skills which enable to create, convey and receive trust. Is able to coach others in their roles and duties in healthcare processes. Interacts based on a personalized, stimulating and engaged attitude. Creates and sustains an optimal climate for learning.
Transformation	Change Leadership Information Seeking innovation Strategic orientation	Leadership	Leadership skills and behavior Engaging culture and environment Leading change Driving innovation	Entrepreneurship and innovation	Ventures to be progressive and a pioneer in own work. Encourages an innovative work climate, seeks and initiates innovations in healthcare Is aware of opportunities to attract resources for innovation
				To lead with vision	Development of personal and common vision. Creating mutual interest within the organization for the vision. Integrates personal and shared vision into daily activities.
Values	Professional & social responsibility	N/A	N/A	Visibility	Accessible and approachable Is recognizable as a 'leader'. Assertive if necessary Is able to act as an ambassador.
Health system awareness and business literacy	Financial skills Human resource management Information technology management	Business	General management Regulations Financial management HRM Organizational dynamics Strategic planning Information management Risk management Quality improvement Systems thinking Supply chain management	To organize	Possesses the relevant knowledge, skills and experience required for organizing processes in healthcare, for example financial reporting, effective meetings, information technologies, human resources and health administration. Takes on an active role in managing healthcare processes. Is focused on goals and performance and is able to contribute to an optimal operational process. Is able to oversee and analyze complex care processes, for improvements and, if necessary, to recruit additional expertise
Self-awareness and self-development	Self-awareness Self-confidence Well-being	Professional and Social responsibility	Personal and professional accountability Professional development and lifelong learning Contributions to the profession Self-awareness Ethical conduct and social consciousness	Personal development	Capable of recognizing and regulating own emotions and behavioral styles Works on personal qualities and challenges Organizes feedback concerning own attitude and behavior Healthy work/life balance
				Role model	Strives for credibility, integrity, authenticity, high moral and ethical awareness, empathy, consistency in word and actions, making and observing realistic agreements, having patience, resilience and flexibility, even in stressful situations.

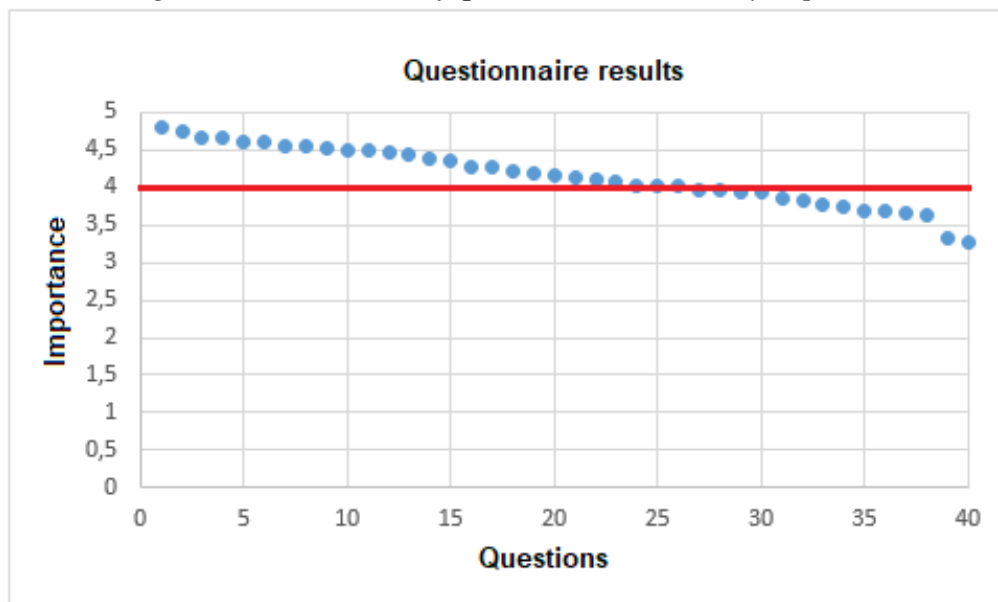
5. METHODS

For the purposes of defining the main sub-competencies and domains in Estonian healthcare system we used an online non-personalized questionnaire. The questionnaire was compiled by the authors of the study and reflects the three previously discussed international healthcare leadership competency models. The questionnaire consists of two complementary parts. The first part comprises of 40 activity-based questions. All questions reflect daily work activities, allowing the respondent to quickly and easily decide on exposure and relevance. The parts of the questionnaire reflect the sub-competencies or scales of the skills used in the above-mentioned competence models, allowing the theoretical models to be combined with today's day-to-day work. The second part consists of 10 statements about values, adding a dimension of attitudes to the scale of skills and knowledge. The questionnaire was validated in an expert group interview that included representatives of 5 clinical disciplines. The web-based anonymized questionnaire was sent to the middle managers of the clinical departments of North Estonia Medical Centre (NEMC). Questions and statements could be answered on a scale from 1 to 5, the scale reflecting the importance of the activity or attitude by respondent's opinion (1 - not important at all, 5 – extremely important). Based on the questionnaire results it is possible to compile a list of competencies that reflects and summarizes the daily activities for today's health care manager. Based on the ranking of activities, the activities are grouped according to the competencies they describe, forming a list of competencies and sub-competencies together with an impact assessment. According to the importance and ranking, together with the reflected values and attitudes, the initial structure for the base of Estonian healthcare leadership competency model is formed.

6. RESULTS AND DISCUSSION

For the questionnaire results a cut-off line of 4 (quite important) was set. 26 results are above the cut-off line, therefore they can be used for further analysis.

Figure 1: visualization of questionnaire results by importance



Those 26 questions represent different domains and competencies outlined in Table 1. Business awareness and financial literacy are important, as are communication and team leadership, quality development, innovation and leadership, systems and organizational awareness, and self- and professional development.

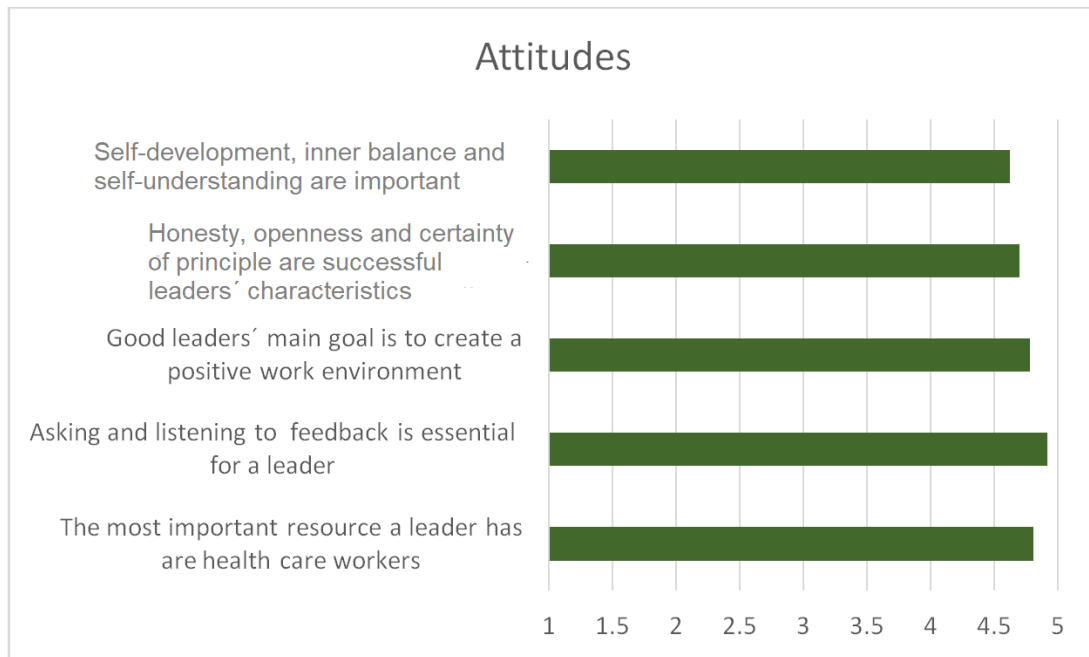
As a combination the sub-competencies form 6 different domains, which include relations and communication, goal and quality orientation, professional and personal development, organizational and healthcare environment, business and finally leadership and innovation.

Table 2: Needed domains and sub-competencies in Estonian healthcare leadership.

Domains	Sub-competencies
Relations and communication	Talent management Communication Team management Counseling and negotiations Cooperation Conflict management Creating an optimal learning climate Building trust
Goal and quality orientation	Process management Quality development Project management Performance measurement Goal orientation Initiative
Professional and personal development	Professional development Lifelong learning Role model Personal responsibility Self - awareness
Organizational and healthcare environment	Organizational awareness Community cooperation Person-centered healthcare Healthcare workforce Systems and organizations
Business	Understanding the dynamics of the organization Strategic planning Personnel management Financial management General management Legislation and regulations
Leadership and innovation	Skills and behavior required for leadership Creating and developing a vision Change management Finding and initiating innovation in healthcare

Sub-competencies shown in Table 2 are grouped into domains according to previous models and expert interviews. Some sub-competencies can be included in several domains as it is expected that domains will have overlap to some extension, but for the sake of simplicity in the model one sub-competency is only represented once (for example initiative could also be part of leadership and innovation domain but in the Table 2 is only represented within goal and quality orientation domain. In addition to the domains and sub-competencies the results of the questionnaire also defined important attitudes needed for the health care leadership. Respondents agreed that the most significant attitudes are asking and listening to feedback, creating positive work environment, honesty, openness and certainty of principle with self-esteem and inner balance and valuing employees as shown in Figure 2.

Figure 2: Relevance of different attitude-expressing statements amongst NEMC clinical managers



Overall the results are in accordance with previous research, but there are some areas and details that need further discussion. Firstly, it was seen that all the actions in the questionnaire were evaluated by respondents with a higher average than 3, indicating that all the actions named were at least somewhat important. This is confirming our previous knowledge and hypothesis that all the main overlapping domains in the modern healthcare leadership competency models are of significant value and cannot be excluded. Furthermore, it corresponds well with the assumption that general competency models can be used as basis (as Dutch FML has done and as IHF recommends) but they have to be modified to suit local healthcare setting and peculiarities. Nevertheless, it worthwhile to keep in mind when reforming local on national healthcare leadership – are all the actions and tasks done by healthcare managers important and is it possible to include all those tasks into the time given for the job.

7. CONCLUSION

Medical leadership is seen as one of the key characteristics for the success of a healthcare organization, be it private or public, hospital or other. Even so there is a noticeable lack of comprehensive systems and analysis to describe the content of this construct. To define medical leadership competencies both clinical skills and organization management skills should be taken into account, focusing on the understanding that the model needs to include several general leadership competencies which are nowadays the prerequisites of any higher-level job position. But for different reasons neither general nor specific management competencies are often taken into account when hiring people for the position of manager in healthcare organization. With the help of competency models some clarity can be brought into this complicated field. Existing competency models and their domains offer valuable basis for further development and it relies on the shoulders of each healthcare system to make the suitable modifications or improvements as is best for the local setting. The results of this study confirm the importance of already known domains from previous competency models, bringing out six categories of leadership competencies with their sub-categories which are important in the work of any healthcare manager, but are most suited in Estonian healthcare system.

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CHALLENGES OF TECHNOLOGY TRANSFER IN THE VACCINE DEVELOPMENT PROCESS

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ABSTRACT

Technology transfer accelerates successful adoption of innovations. In doing so, it seeks to make the knowledge and technology developed in its public laboratories available to public and private entities in a variety of ways. Technology transfer is a key factor that strongly influences economic growth, both short-term and long-term. Structural changes to the entire economy are almost impossible without effective technology transfer and a well-defined innovation system of the country. The transfer of vaccine technology can have a huge impact on vaccine access and subsequent health improvements. Although vaccines against COVID-19 have developed rapidly, all steps have been taken to ensure their safety and efficacy. It can be concluded that vaccines against COVID-19 were rapidly developed and distributed to help combat the pandemic. The following COVID-19 vaccines are currently approved in the European Union, including the Republic of Croatia - Comirnatym (Australia), Spikevax (Spain), Vaxzevria (UK) and COVID-19 Vaccine Janssen (Belgium). It can be concluded that in all countries producing vaccines for COVID-19 there has been an increase in gross domestic product which can be linked to the interest of countries in procuring the appropriate vaccine to finally bring the pandemic to an end.

Keywords: *technology transfer, vaccines, COVID-19, end of the pandemic*

1. INTRODUCTION

Technology transfer is a dynamic, complex and multiphase process. It implies one of the ways of acquiring technological knowledge on the global level with the help of which new products and services are developed or the existing ones are updated and improved. Technology, by default, means a product, a process or a service that is protected as intellectual property and has the potential of being commercialized. Technology providers are given the opportunity to, by using technology transfer, share their research findings with third parties in order to achieve excellent results, while technology receivers obtain ready-made technological solutions and enjoy business success without investing their own resources. Technology transfer offices strive to offer support to researchers in all phases of technology implementation, starting with the idea, identifying the market potential, protection process and intellectual property commercialization. The process of developing a new vaccine or drug takes time. In this process, technology transfer has a significant role evident in information transfer, information intake, adjustment to current needs and learning new ways of production. Due to the current pandemic caused by the coronavirus, the process that usually takes a long time to complete, had to offer precise solutions and results in a short period of time. Finding connection between technology transfer in new vaccine development process is the topic of this thesis.

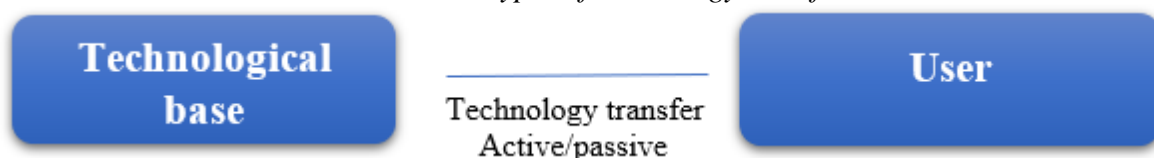
This paper explores the specific vaccine manufacturing, the advantages, possible disadvantages and the question of how the information shared among everyone in the pharmaceutical industry would help enhance specific vaccine efficacy. Furthermore, the gross domestic products of the countries that produce the vaccines have been analysed and the conclusion on the economic growth or drop has been presented. Finally, the main goal of this paper is to outline the significance of technology transfer during unusual events and to explore how legitimate information can help improve both life standard and economic growth.

2. THEORETICAL DEFINITION OF TECHNOLOGY TRANSFER

Technology transfer is a complex process that includes many non-scientific and non-technological factors and many different participants. Good or high-quality research results are not enough for a successful technology transfer – general awareness and readiness at both the organizational and individual level, as well as skills and capacities connected with specific aspects, like the access to risk financing and intellectual property management, are also essential components of this transfer. WIPO (World Intellectual Property Organization) provides a more complete definition and defines technology transfer as a series of processes for sharing ideas, knowledge, technologies and skills. However, with the aim of considering the policy measures directed at the influence of international technology transfer, it could be more useful to think of technology transfer as actions that technology providers consciously undertake to share or implement their technology in exchange for a certain compensation in a new context or environment. In this context, it is important to distinguish technology transfer from technology spillover – the latter referring to the information that others have acquired and absorbed (including the competition) in a way that the benefits do not entirely, or not at all, belong to the owner of the technology. Technology spillover is the source of market externalities, where the value of the technology in developmental technologies can be a lot lower than its value in the society (Maskus, 2004). Barton (2007) defines technology transfer as a complex process of transferring knowledge, skills, technology, methods and manufacturing patterns and objects through which the research findings created within leading organizations, companies or academic research contribute to the development of new or enhanced products and services. Other definitions of technological transfer have been provided by some authors. They agree that technological transfer refers to the movement of knowledge, skill, organization, values and capital from their providers to those who would make use of them (Mittleman and Pasha, 2016). Technology transfer is usually the first step in the commercialization of technology. This also implies that the technology, which is not actually applied, is not successfully transferred and will not in fact serve the public interest. In general terms, technology transfer activities can be divided into three phases: preparation, installation and application. These three phases are further influenced by technological, organizational and environmental factors. Technology transfer is an important part of the process of technological innovation, as it promotes scientific and technological research and related skills and methods in the society on a larger scale and on the market as well. Technology transfer enables research development from the point of discovery of new technologies in the value chain to the disclosure, evaluation and protection of these discoveries. From that point on, marketing, licencing and further development of the product enable the research to become a product, a process or a service that has impact on the society. Moreover, the financial yield from a successful product can be reinvested in future research and so start a new cycle all over again (Andonova, 2017). According to Ramanathan (2008), technology transfer can be classified as a vertical and a horizontal technology transfer. The vertical or internal transfer includes the process of the transfer beginning with the initial, primary research through practical application of the research, the development and, finally, to the manufacturing process.

It encompasses activities starting with the fundamental scientific research, through the execution and realisation resulting in the specific product or process. In this way, technology develops and flows from one life-cycle phase to another. This type of transfer can occur between two separate organizations, for e.g., a manufacturer and a research institute, or within the very organization (Ramanathan, 2008). Technology and innovation are some of the key determinants of a long-term per capita productivity and gross product growth. In global economy characterized by the growing competition and geographically scattered and mobile manufacturing activities, knowledge and innovation are also becoming essential sources of sustainable competitive advantage (Pilat and Nolan, 2016). Knowledge transfer includes only general knowledge of the processes, products, principles and software, while technology transfer implies knowledge that is sold through documentation on the competitive product that can be marketed. Certain technology will not be transferred completely without the transfer of knowledge because knowledge is the key for technology control. Although there are distinctions in their application, knowledge and technology are inseparable because during the dissemination of a technological process, knowledge on which the specific system is based is transferred, too. The key features of technological knowledge are evident through its transferability and the ability to be infinitely mobile (Bozeman, 2000; Buterin, 2018). Financing is an important dimension of an acceptable technology transfer. As such, practical issues connected with technology transfer are addressed and a wide range of mechanisms and approaches are explored. Therefore, the initiatives have to be carefully adjusted to relevant conditions and goals (Mansley et.al., 2000). Investment in companies will depend on whether the governments and private investors will be convinced that they would justify – according to the criteria that are applied – the costs. This is the financial reality that supports all the processes of investment in technology and transfer. However, financial perspective can vary considerably, depending on the project, the technology and business activities, and even the investor. Therefore, governments can offer a range of financing options that can radically differ from the private sector – and each of them also offering their own series of diverse options (Buys and Le Grange, 2012). Technology transfer can occur in the field of knowledge, skills or equipment. Le Grange and Buys (2002) state how the types of technology transfer can be divided into two categories that relate to the level of activity in the application of technology during the transfer process: active and passive technology transfer (Picture 1). The authors point out that in the passive mode, only a part of technology knowledge is transferred, without the practical skills necessary for an efficient technology application. On the other hand, in the active mode, along with the knowledge, the processes needed for an active application of technology are transferred and the main goal is to train the user in technology in the way that a system is installed which is then demonstrated to the users in detail.

Picture 1: Types of technology transfer



Source: Le Grange, L. I., & Buys, A. J. (2002). A review of technology transfer mechanisms. South African Journal of Industrial Engineering, p.87.

The introduction of new technology in a country usually requires investment, as well as the expansion of the technologies that are already in use in this particular country. The adjustment of technology can be very challenging, requiring considerable investment in design and/or manufacture. Financing is also often necessary (and particularly difficult to ensure) in the early, developing phases of the project or the business activity aiming at technology transfer.

Without financing, there is very little investment in technology or transfer. Financing is possible if those who hold financial resources – the governments or the private sector – are convinced that the projects and the companies that are carrying them out justify the financial support or the investment (Mansley et.al., 2000). Technology transfer, included in the technological dissemination Schumpeter refers to in the trilogy of innovations (invention, innovation and dissemination), can be observed as a simple exchange, transfer of techniques or even the change of ownership; however, it is called a process, which is an important definition that implies certain concepts (Kaya, 2015). Technology transfer can therefore be described as a process in which all the parties involved exchange information, knowledge, costs and benefits. The procedure of transfer consists of the invention, the patent, the licencing, the commercial use and, ultimately, the copyright. Managing technology transfer at universities and research institutes has the goal of understanding the ways in which those who proliferate aim at research environment and the ways researchers can unintentionally help the programmes for spreading the weapons of mass destruction (WMD). By raising consciousness and providing proper training for the academic and research staff on the importance and the modes of trade and technology control, this project tries to prevent universities, research institutes and the very scientists and researchers from infringing international and national regulations (Michell and Ruechardt, 2020). International transfer of technology by which a party from one country gets access to information held by a foreign party and successfully absorbs them in their own manufacturing process (Maskus, 2004), is an important element of technological progress and dissemination. The traditional view of the international technology transfer is based on the perceived technological divisions among the companies in developed countries that are owners of the most developed global technologies and the developing countries that are looking to access these technologies. For that reason, international technology transfer is considered one of the most effective ways of increasing productivity and an important complement to domestic sources of productivity in developing countries. Dissemination and absorption of effective technologies that can be provided by international transfer of technology is a significant political goal for all the countries, regardless of which level of development they currently are in. Technological dissemination between the developed countries that own the majority of advanced technologies and the developing countries suggests that acquiring and disseminating foreign technologies can help the latter catch up (Grossman and Helpman; 1994; Romer, 1994; Eaton and Kortum, 1995). Foreign technology adoption can also have a crucial role in the reallocation of seldomly used resources to a more useful production and alleviating structural or economic transformation that is recognized as an important contribution to economic growth in developing countries. The question is how those transfers occur and what role governments hold in influencing them. Traditionally speaking, technologically more advanced countries that have also been direct investors, have mostly been focusing on the openness of trade and investment and the protection of intellectual property rights as key elements for protecting the existing intellectual ownership and investment in research and development, and as the contribution to a balanced technology dissemination and transfer. Those developing countries that are less technologically advanced are trying to focus on the policies directed at fostering technology dissemination and transfer (Sampath and Roffe, 2012).

3. TECHNOLOGY TRANSFER IN THE PROCESS OF VACCINE DEVELOPMENT

When technology transfer of the pharmaceutical products is addressed, it is often difficult to provide hard evidence that it has impact on the local approach to the product. In the case of vaccines, this is easier to prove. There are numerous examples of technology transfer to developing countries that have resulted in fresh approaches to vaccine production and improved the health of the population.

From the beginning of the 20th century to its middle, the technology of many basic vaccines was transferred to a number of developing countries to serve their national supply (Barton, 2006). As the result of those technology transfers, at the moment, 64% of all the basic vaccines on the EPI list bought by the agencies at the United Nations are being produced by the manufacturers from developing countries. However, there are many, newer examples where technology transfer for contemporary vaccines has shown a better approach. Several situations can be observed (World Health Organization, 2011):

- the disease is of global significance, but only a small number of manufacturers from industrially developed countries, with limited capacities, make the vaccine; increased capacities through the manufacture in developing countries makes the vaccine become available at lower price; the examples include the Hib and the HBV vaccines; at the moment, 42% of all UNICEF Hib and HBV vaccines are being bought by the manufacturers in the developing countries,
- the disease is of no greater importance in the industrially developed countries; not many doses of the vaccine are available; no production at low prices by the manufacturers from the industrialized countries and there is no interest shown by the manufacturers from the industrialized countries to produce the vaccine especially for the population of the developing countries.

The transfer of vaccine technology can have a huge impact on the access to vaccines and future health improvements. However, there have been few rigorous approximations of how many technology transfers have occurred, who the donors are, who the receiving parties are and, most importantly, of the initiators and obstacles. Pinpointing them could contribute to better identification of future contributors and receivers of the technology and promote a successful technology transfer that leads to a better local or regional access. Responding to this matter, WHO has launched a project to identify main challenges and obstacles to technology transfer and local production in developing countries and provided points for considering feasibility and sustainability of such production. This project has been carried out in cooperation with the United Nations Conference on Trade and Development and the International Centre for Trade and Sustainable Development and with the financial support from the EU. The entire project looks into each separate case of medication, diagnostics and vaccine. Regarding the vaccines, where prior knowledge, not the intellectual property, has been the main obstacle to local manufacture, the project has been carried out through three research activities (World Health Organization, 2011):

- the analysis of the environment of the initiatives and trends in technology transfer,
- the analysis of the case studies,
- the analysis of the workshops and participants.

Technology transfer is an exchange of knowledge coming from those who possess it to those that do not. It is modelled by many factors, including the ability of the countries that receive the technology to absorb knowledge and transfer it into vaccine production. In many areas, a simple licence for protected technology is called “technology transfer”. For the purpose of the report, such licences were not considered technology transfer, unless they were connected with the training the receiver gets in technology use and technical support. In the report, the term “technology transfer” therefore refers to the activities that include the component of building the capacity in the receiver’s area with the aim to enable the receiver to manufacture the vaccine. For many of the analysed technology transfers, the very process is still ongoing because the receiver has not yet gained approval for production and marketing. This especially applies to technology transfer for the rotavirus and the flu vaccines, for which the procedures have been initiated only in the last five years.

The analysis has also showed that vaccine technology transfer is exercised through technologies at different levels of the receiver's maturity, ranging from the experimental in the research and developmental phase, through the pilot phase, to the transfer of the big production turnkey processes (World Health Organization, 2011). Furthermore, there are other different transfer mechanisms used, ranging from a single-time transfer of the production standard, including all the connected technologies, followed by the gradual process over the course of a couple of years, starting with the quality control and distribution of the imported vials, processing and distribution, to full local manufacturing. The identification of different technology transfer models has revealed two new trends: the trend of transferring technology from industrially developed countries into developing countries in the form of joint investments, acquisitions or setting up full-ownership subsidiaries, and the trend of technology transfer ensured in the public sector by enabling the use of centralized hubs or platforms for technology transfer where the technology has been introduced and a number of users can undergo the training. Vaccines are considered to be the best chance to beat COVID-19 and many governments are counting on them to ensure the economy bounces back. However, in order to vaccinate people globally as soon as the vaccines are approved, the pharmaceutical industry will have to expand quickly and on an unprecedented scale. Available global manufacturing capacities will play a crucial role there. Technology transfer – the transfer of knowledge and the ability to manufacture vaccines from the point of development to the process of production – will determine how quickly this will come to be (O'Sullivan, Rutten and Schatz, 2020). The transfer of the new COVID-19 vaccines will imply the increase, where the instruments are used for the first time, which establishes a great demand for the development of the process and the experts in the manufacturing science and technology. Commercial transfers often require changes to the equipment and the adjustments of the process, which just adds to the complexity. Also, the quality standards for vaccines are strict, since they are administered to healthy people. Therefore, quality controllers demand quality checks in the form of records and statements – chemistry, manufacturing, control (CMC) – that enable the controllers to establish whether the manufacturers and programmers are undertaking the appropriate precautionary measures. The production of data is a process that requires a lot of effort. In a way, a pandemic situation resembles wartime. The regular team setup is perhaps not fast nor effective enough. Companies could think about introducing nerve centres with higher management access, like division directors, for managing bottlenecks and making quick decisions. Collective knowledge of the pharmaceutical industry should be enough for managing any issue. However, the history of communication among the functions within the organizations, and especially among different companies, has not been smooth. A joint process and mutual understanding will probably have to happen in order to reach a desirable level of cooperation and respond quickly to the pandemic (Kituyi, 2020).

3.1. COVID-19 vaccines: development, assessment, approval and monitoring

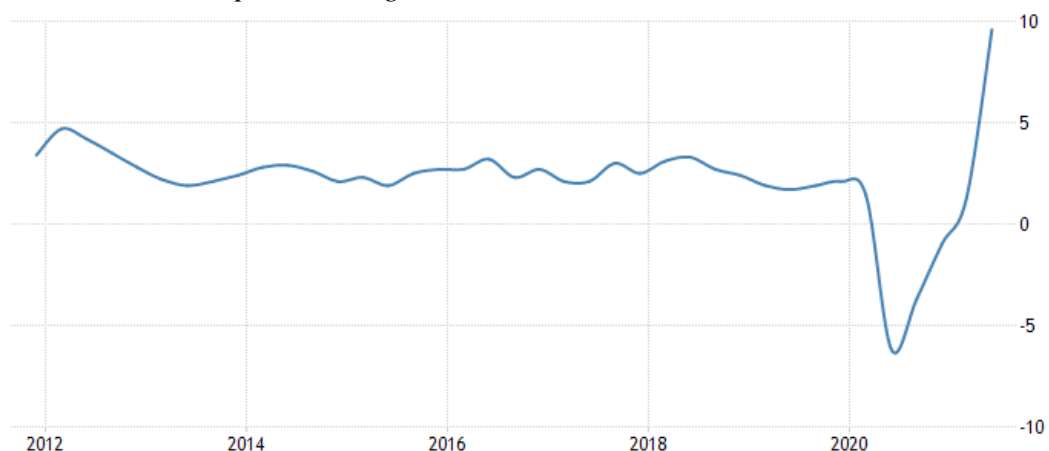
Bringing a new vaccine to the public involves many steps, including the vaccine development, clinical trials, approval and distribution. Many different public organizations and private firms have been working together to make COVID-19 vaccines available to the public. Although the COVID-19 vaccines have been developing quite quickly, all the steps for ensuring their safety and efficacy have been followed. New vaccines are first developed in laboratories. The scientists have been working on the coronavirus vaccines for years, like those that cause the Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS). SARS-CoV-2, the virus that causes the COVID-19 disease, is connected to other coronaviruses. The knowledge acquired by previous research of the coronavirus vaccines has helped accelerate the initial development of the current COVID-19 vaccines (Centers for Disease Control and Prevention, 2021).

After the initial phase of development, vaccines go through three phases of clinical trials to be verified as safe and effective. For other vaccines that are applied routinely in the United States, the three phases of the clinical trials are conducted one by one. During the development of the COVID-19 vaccines, these phases have overlapped in order to speed up the process and the vaccines could be used as quickly as possible so as to stop the pandemic. Not one phase of the trials has been skipped. The clinical trials for the COVID-19 vaccines have included tens of thousands of volunteers of different age, race and nationality. The clinical trials compare results (e.g., how many people develop the disease) between the vaccinated and the unvaccinated. Since COVID-19 is still so widespread, the clinical trials of the vaccines have been conducted more quickly than for those vaccines developed for the diseases that are not so present globally. The results of these clinical trials have shown that the COVID-19 vaccines are effective, especially in prevention of more serious conditions, hospitalization and death (Centers for Disease Control and Prevention, 2021). The clinical trials have not shown any serious safety concerns within eight weeks after the shot is administered. This is a significant finding because it is uncommon for negative effects caused by the vaccines to manifest themselves after that time point. Now, when the COVID-19 vaccines are available to the public, the CDC and the FDA continue to monitor their safety, warning the public about any health issues that arise after the vaccination. As the vaccines have been distributed outside the clinical trials, some monitoring systems continue to observe them to ensure their safety. Many people have reported the usual side effects after the COVID-19 vaccination, like pain or a swelling where the shot has been administered, headaches, chills or fevers. These reactions are common and usual signs that body is building protection. There are very few reports of serious side effects of the shot. It can be concluded that the COVID-19 vaccines have been developed quickly and distributed to help fight the pandemic. During the process, every step has been taken to ensure their safety and effectiveness. It is therefore recommended that most people get vaccinated as soon as possible and so protect themselves and others.

3.2. Comparative analysis of the GDP of vaccine producing countries

So far, 47.4% of the global population has received at least one dose of COVID-19 vaccine. Globally, 6.64 billion shots have been administered and now, 21.41 million is administered daily. Only 2.7% people in low-income countries have received one dose (Our World in Data, 2021). In line with that, the GDP of Australia, Spain, the UK and Belgium will be analysed. Graph 3 shows the growth rate of the GDP in Australia from 2012 to 2021.

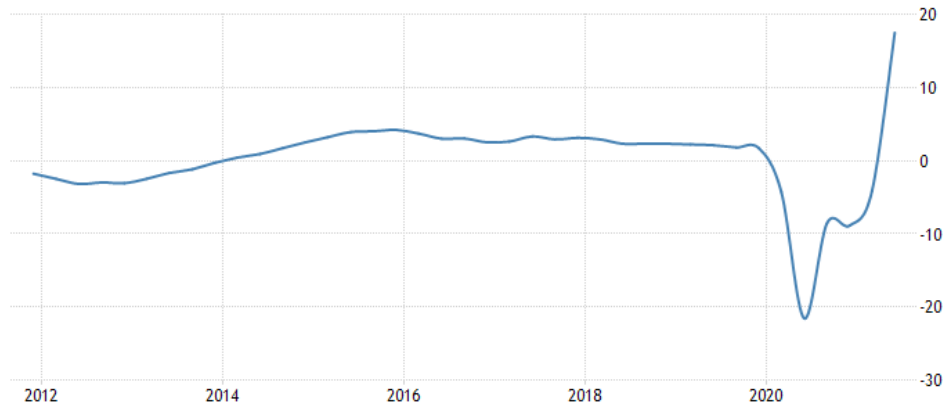
Graph 1: GDP growth rate in Australia 2012 - 2021



Source: Trading Economics - <https://tradingeconomics.com/australia/gdp-growth-annual> (accessed on 6 October 2021)

As evident from Graph 1, the gross domestic product (GDP) in Australia increased by 9.60% in the second trimester of 2021 in relation to the same period the year before. This can be connected with the outbreak of the COVID-19 pandemic and generating income with vaccine production. Graph 2 shows the GDP growth rate for Spain from 2012 to 2021.

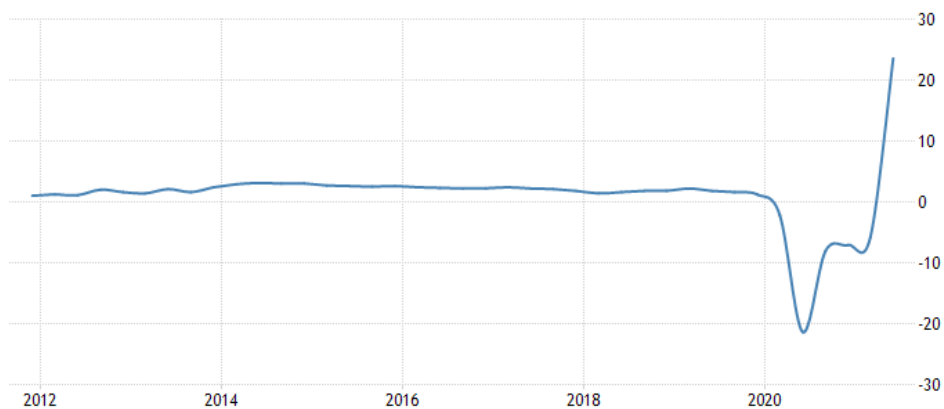
Graph 2: GDP growth rate for Spain 2012 - 2021



Source: Trading Economics - <https://tradingeconomics.com/spain/gdp-growth-annual> (accessed on 6 October 2021)

Graph 2 shows that the gross domestic product (GDP) in Spain increased by 17.50% in the second trimester of 2021 in relation to the same period the year before. Like in the case of Australia, this too happened after the outbreak of the COVID-19 pandemic and introducing and selling the vaccine on the global market. Graph 3 displays the GDP growth rate for the UK from 2012 to 2021.

Graph 3: GDP growth rate for the UK 2012 - 2021

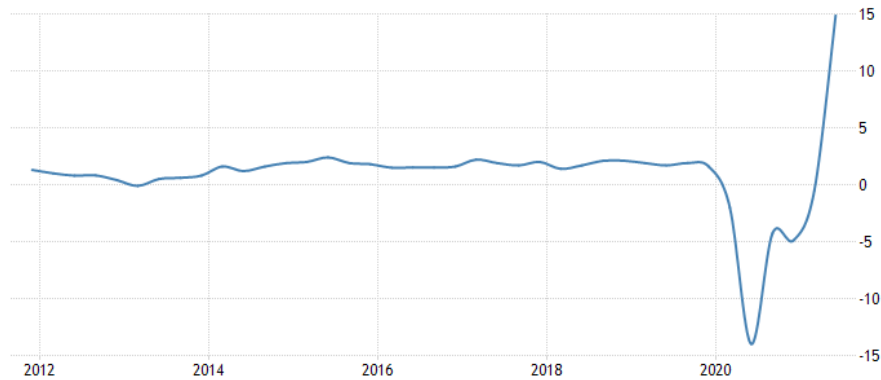


Source: Trading Economics - <https://tradingeconomics.com/united-kingdom/gdp-growth-annual> (accessed on 6 October 2021)

As clearly evident from Graph 3, in the second trimester of 2021, the British economy grew by 23.6% on the annual level, over the initial estimations on the increase of 22.2% and the recovery from the drop of 5.8% in the previous period. It is a new record growth rate, after the coronavirus restrictions were eased, and after the record drop of 21.4% a year earlier, when the coronavirus crisis hit the economy hard. The current GDP level is 3.3% lower than before the pandemic. In 2020, the UK's GDP was £1.96 billion, which reflects the drop of approximately £216 billion in relation to the year 2019, when the economy grossed to £2,17 billion.

This can be connected to the UK leaving the European Union. However, the vaccination production has been facilitating the recovery and considerable growth has been recorded. Graph 4 displays the GDP growth rate for Belgium from 2012 to 2021.

Graph 4: GDP growth rate for Belgium 2012 - 2021



Source: Trading Economics - <https://tradingeconomics.com/belgium/gdp-growth-annual> (accessed on 6 October 2020)

Graph 4 suggests that the gross domestic product (GDP) in Belgium grew by 14.90% in the second trimester of 2021 in relation to the same period the year before. It is a considerable growth rate, one such that had not been recorded in the previous years, before the development and distribution of the COVID-19 vaccine. In line with all of the above-mentioned, the conclusion can be made that in all the countries that produce COVID-19 vaccines the gross domestic product has grown, which can be linked to the interest the countries have shown regarding the procurement of the right vaccine to finally end the pandemic. A number of millionaires have invested great financial assets to help speed up vaccine development, including Bill Gates. The Bill & Melinda Gates Foundation has donated \$120 million to facilitate the access to the tested antivirus drug for the low-income countries as a part of their efforts to respond to COVID-19. The funds have been allocated based on the consultations with the partners, supporting a series of activities necessary for the development and manufacturing of the generic drugs. As follows, due to the pandemic outbreak of COVID-19, the pharmaceutical industry has been recording huge inflow of financial resources, becoming one of the richest global domains.

4. CONCLUSION

Technology transfer is a complex process that involves many non-scientific and non-technical factors and a range of different participants. Good and high-quality research findings are not enough for a successful technology transfer – general awareness and readiness at the organizational and individual level, as well as the skills and capacities connected to specific aspects, like the access to risk financing and intellectual property (IP) management are also vital components of this transfer. Technology transfer is usually the first step towards technology commercialization. This also implies that, unless the technology is actually used, it has not been successfully transferred and will not, ultimately, bring any benefit to the public. “Technology” can mean an invention, a prototype, a ready-made device or knowledge. Simply put, technology transfer accelerates successful adoption of innovations. In doing so, it seeks to make the knowledge and technology developed in its public laboratories available to public and private entities in a variety of ways. Technology transfer is a key factor that strongly influences economic growth, both short-term and long-term. Structural changes to the entire economy are almost impossible without effective technology transfer and a well-defined innovation system of the country.

The concept of intellectual property relates to the fact that certain products of human intellect should be given the same protective rights that apply to physical property referred to as material assets. Most developed economies have legal measures protecting both forms of property. The importance of technology for boosting productivity and life standard has long been recognized. Innovations and technological progress can increase productivity by introducing new goods (especially the capital and intermediate products), by improving the existing goods and reducing the production costs. International transfer or technology dissemination refers to the process by which a firm in one country gains access and employs technology that has been developed in another country. Some transfers occur between the willing partners via voluntary transactions, but many of them also happen through non-market transactions or spillovers. Vaccines contain small fragments of organisms that cause diseases or the outlines for the production of those small fragments. They contain other ingredients that make them safe and effective. Those ingredients have been the components of most vaccines and have been used in billions of doses for decades. In the first phase, the vaccine is administered to a small number of volunteers to assess its safety, confirm whether it provokes an immunological response and to specify the right dose. During this phase, the vaccines are tested on young, healthy adult volunteers. After this phase is successfully ended, the number of volunteers participating in the testing grows to further assess the safety and ability to build immunological response. The participants in this phase have the same characteristics (like age, gender) as the group of people the vaccine is intended for. In this phase, there is usually more testing because of the estimation of various age groups and different vaccine formulations. After the second phase is successfully finished, again, the number of volunteers grows to determine whether the vaccine is effective against the disease it was first developed for and to examine its safety on a much larger group of people. Most testing processes in the third phase are conducted over more countries and on multiple sites in the country to ensure that the results of the vaccine effectiveness are applied to different populations. The transfer of vaccine technology can have a huge impact on the access to vaccines and future health improvements. However, there have been few rigorous approximations of how many technology transfers have occurred, who the donors are, who the receiving parties are and, most importantly, of the initiators and obstacles. Pinpointing them could contribute to better identification of future contributors and receivers of the technology and promote a successful technology transfer that leads to a better local or regional access. Although the COVID-19 vaccines have been developing fast, all the necessary steps have been taken to ensure their safety and effectiveness. It can be concluded that they have been developed and distributed quickly to help combat the pandemic. All the steps have been followed to ensure their safety and effectiveness. It is therefore recommended that most people vaccinate against COVID-19 as soon as possible to protect themselves and others. At the moment, in the European Union, and the Republic of Croatia, the following COVID-19 vaccines are approved: Comirnatym (Australia), Spikevax (Spain), Vaxzevria (the UK) and COVID-19 Vaccine Janssen (Belgium). It can be concluded that all the countries that produce COVID-19 vaccines have experienced the growth of their gross domestic product, which can be linked to the growing interest showed by countries to procure the vaccines to finally end the pandemic.

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IMPORTANCE OF INTEGRATED MANAGEMENT SYSTEMS

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ABSTRACT

The dynamic environment most companies are facing today requires a systematic approach to all business processes. Enterprises, if they wish to survive and be successful, cannot place focus only on the internal issues, but rather direct their attention to all the participants and continuously monitor the changes on the market. Following that, it is the integration of the management system i.e., connecting the systems for the protection of the environment, the quality and the safety into one unique system has become an important factor in achieving competitive advantage. An integrated management system can be the basis for building business excellence, and the benefits of such a system are substantial. The benefits of an integrated management system are linked to the quality, the environment and the safety, but also to the improvement of the company's image and building a better system for risk management, and the interaction with all the parties involved. The integration of the management system inside of an enterprise also stimulates innovations.

Keywords: *management systems, system integration, ISO guidelines, PAS 99*

1. INTRODUCTION

The environment in which most business organizations operate today is extremely dynamic and highly competitive (Hernandez-Vivanco, Cruz- Cázares and Bernardo, 2018). Many companies are trying to find a method for surviving on the market and successfully respond to the pressures exerted by their growing competition. It is the integration of management systems that represents a way for successfully tackling this dynamic atmosphere and adopting a model that would bring many benefits. There are many business enterprises unaware of the standard management practices that are trying to adopt various management system standards. The integration of management systems allows for the synergy to happen, or, in other words, for the optimization of resources, unification of audit and increased efficiency (Talaptra and Santos, 2019: 86). An integrated management system aims at unifying strategies and operations by achieving that all the sections of the company speak the same language and strive to pursue the same goals (Rahman, Zahid & Muhammad, 2022). The integration of management systems carries many advantages for the organization, some of them being: improved problem-solving skills, better waste management, more effective communication and increased productivity (Sá et al., 2020). Integration of management systems is an internally oriented practice that can, together with open innovation, which is an externally oriented management practice, stimulate innovation (Hernandez-Vivanco, Cruz- Cázares and Bernardo, 2018). Bearing in mind all the above-mentioned, especially the fact that in today's dynamic business environment it is the integrated management systems that represent the road to building competitive advantage, the goal of this paper is to present the benefits of the implementation of integrated management systems. After the introductory section, integrated management systems and the specifications during the integration are explained in more detail. The third section of the paper looks into the internal and external benefits of integrated management systems. The conclusion is presents in the fourth section.

2. MANAGEMENT SYSTEMS AND SPECIFICATIONS DURING THEIR INTEGRATION

Management systems offer a business framework inside of which companies achieve the desired results efficiently and effectively (Britvić, 2011:72). In the following chapter, we are taking a closer look into management systems, while the second subchapter analyses the specifications necessary for management system integration.

2.1. Characteristics of the management systems and integration

The International Organization for Standardisation defines management as a system that enables an organization to manage the parts of their business that are interconnected to achieve their goals. Those goals can relate to a series of different issues, including the quality of the product or a service, operational efficiency, ecological efficiency, health and safety at workplace etc. The level of complexity of a system depends on the specific context of each enterprise. While in some enterprises, usually the smaller ones, it implies that the owner is completely in charge, pointing out precisely what is required of each employee, at larger companies i.e., more complicated organisational structures, it entails detailed documentation and control with the aim of complying with the regulations, and fulfilling organizational goals (International Organization for Standardization, N/A). Management systems are models that help the management to adequately define who does what, when and what each individual employee should do to follow the plan (Britvić, 2011: 72, according to Lareau, 2003: 21).

If a company wishes to establish an effective management system, they have to (Drljača, 2011: 73):

- 1) Monitor whether the organization is achieving and maintaining an adequate level of performance and
- 2) Observe the progress to ensure continuous improvements in the system.

Today, there are different types of management systems that cover different areas, and companies should choose the systems that suit their business best. Alongside the implementation of each single management system, the practice shows a trend of using integrated management systems (Britvić, 2011: 72). An integrated management system includes the following management systems (Milčić, Donevski and Banić, 2008: 64):

- Quality management system,
- Environmental management system,
- Health and work safety management system.

The aim behind the integration of those management systems is to adopt a uniform policy that encompasses all aspects of quality, environmental and health and work safety management systems (Milčić, Donevski and Banić, 2008: 64). As the number of individual management systems increases, there is more overlapping of the standards in certain areas. As follows, an idea has emerged to integrate the existing systems into one single – integrated management system (Lazibat, 2009). A business organization introduces an integrated management system when they want to combine different norms, thereby reducing the amount of paperwork, the time spent on evaluation and the costs connected with the establishing and maintaining the systems (Zambelli, Rajić and Burić (2015: 191). Companies are forced to think about a systematic and professional organisation of their business due to increased competition. This is exactly the reason why most companies are introducing integrated management systems, and mostly with the intention to include the three valuable elements of management: quality, environmental protection and health and work safety (Milčić, Donevski and Banić, 2008: 63).

2.2. Specifications for the integration of management systems

The very process of introducing an integrated management system is in fact difficult both for those that are implementing them and those who are a part of them, be them the employees or individual organizational sections. Before the integration process even begins, it is necessary to carefully analyse the state the company finds itself in and, very often, to modify certain adopted ways of thinking (Mileković et al., 2004). There are two types of management systems necessary for the integration process. First type is the management system all companies have, and it consists of: Quality Management System (QMS – ISO 9001), Information Security Management System (ISMS – ISO 27001), Occupational Health and Safety Assessment System (OHSAS – 18001) and Environmental Management System (EMS – ISO 1401). Second type of the management system relates to the so-called special systems of management that are directly linked to the business activity the specific organization is involved in. This integration system relates to the mode of integration according to the ISO Guide 72 – the guidelines that represent a structural framework for further application of system integration in practice. These documents have formalised the rules for development teams and enabled the introduction of a targeted overlapping of certain standards connected to the norms for management systems. In line with that, these guidelines are not intended for the final users of the specific norms. Their purpose is to offer support to the development teams while new management system norms are created (Baković and Dužević, 2014: 156). This is a guide that enables the assessment of validity and development of the management system norms. The ISO 72 guidelines are an addition to the procedures for technical work and methodology for the development of the international standards determined by the ISO/IEC directives, including (International Organization for Standardization, 2001: 1):

- 1) The guidelines for the assessment of the proposed standard with the aim of also evaluating the relevancy for the market.
- 2) The guidelines for the methodology (processes), development and maintenance of the management systems, with the aim of ensuring compatibility.
- 3) The guidelines for the terminology, structure and mutual elements of the management systems to ensure compatibility and the ease of use.

The very system integration should run independently, regardless of the number and type, and can be based on the **PAS 99**¹ issued by the British Standard Institution (BSI), which enables the improvement of the business focus, a better holistic approach to risk management, fewer clashes between the systems, reduction of duplication and bureaucracy and more effective internal and external evaluation (Adelsberger, 15 March 2009). This specification is, first and foremost intended for those companies that are implementing two or more standards and its purpose is therefore to simplify the introduction and usage of multiple standards (British Standard Institution, N/A). PAS 99 represents the first specification in the world that is used for the integration of the management systems i.e., enables the fulfilment of all the requirements of the standards that the organization has implemented according to a set of rules and procedures. The integration of systems will bring financial savings and the economy of other resources, improve global efficiency and provide a clear definition of the employees' roles and responsibilities with the emphasis on common goals. An integrated management system implies the integration of all the management systems and processes into one complete business environment, and, in so doing, it enables the organization to function as a unique entity with unique goals (British Standards Institution, N/A). There are many specifications on the market which can be used for the integration of management systems, but PAS 99 is by far the most widely known.

¹ Publicly Available Specification 99.

Coordinating business according to the requirements from PAS 99 represents the basis for integrating several management systems into one framework, and the very configuration of PAS 99 encompasses the following components (British Standard Institute Group, N/A):

- Context of the organization,
- Leadership,
- Planning,
- Support,
- Action,
- Performance evaluation and
- Improvement.



Picture 1: Identification of shared elements through PAS 99

(Source: author compiled according to British Standards Institute Group (N/A). PAS 99 Integrated Management. Make you management systems work in harmony. Product Guide, pp. 4-5)

Since many requirements in different norms for management systems are shared, they can be placed inside one management system. That is why the shared elements are accumulated into one basic common system (Picture 1), while the specific requirements of all other management systems are upgraded into the mutual system. This type of integration is supported by the fact that it is recognized by PAS 99 (Svijet kvalitete, 23 September 2014). This specification was first drafted with the aim to provide help to the organizations to reap benefits from system integration, such as (Svijet kvalitete, 23 September 2014):

- Better business focus;
- A more systematic application of the holistic approach to business risk management;
- Fewer conflicting situations between the systems;
- Reduction of unnecessary repetitions and bureaucracy;
- More effective and efficient internal and external audit;
- Simpler adoption of the requirements of each norm of the management system that the organization has the intention of introducing.

Baković and Dužević (2014: 159) point out that PAS 99 is applicable to all companies, regardless of the size and type and the only prerequisite is that they have to adopt at least two standards for the integrated management system. Besides the standards that are outlined in the PAS 99 framework, business organizations can, if necessary, also adopt national and international standards that complement the characteristics of their business.

3. BENEFITS OF INTEGRATED MANAGEMENT SYSTEM

The fact that more and more companies are implementing integrated management systems suggests that they have recognized the advantages they bring (Britvić, 2011: 72). Literature overview also supports this and presents more evidence that integrated management systems

unquestionably bring numerous benefits. Talapatra and Santos (2019) suggest that the benefits of integrated management systems are definitely linked to the quality, environment and safety, but that they also help improve the external image and relationship with the stakeholders. This paper presents the benefits of integrated management systems which are divided into internal and external, as analysed in the following sections.

3.1. Internal benefits of integrated management systems

Internal benefits are the benefits the company enjoys internally – inside of the organizational framework (Psomas, Fotopoulos and Kafetzopoulos, 2011: 517). Milčić, Donevski and Banić (2008: 66-67) list the following benefits of an integrated management system:

- optimal implementation of the system,
- organizational improvements and business rationalization,
- simplified communication inside the organization,
- policy uniformity, paperwork uniformity and
- identifying the requirements in all three aspects (quality, environment and health and safety of the employees).

Baković and Dužević (2014: 146) state that internal reasons and the benefits of the management system integration include organizational and financial benefits and the benefits for the employees. They also point out that the reasons for management system integration can be the pursuit of cost reduction, better allocation of resources, more advanced planning and risk management. Sanz-Calcedo et al. (2015: 145) emphasize the following benefits of an integrated management system:

- Duplication of efforts is reduced, and, consequently, so are the costs;
- Achieving balance between the conflicting goals;
- Elimination of conflicting relationships and responsibilities;
- Practice coordination and optimization;
- Achieving consistency;
- Improving communication;
- Facilitating training and development;
- Better communication;
- Focusing on the most important aspects in the organization, since individual management systems have a tendency to direct their attention only towards their goals and not the goals shared by the entire organization.

The British Standards Institute Group (N/A: 6) highlights these internal benefits of integrated management systems: cost reduction, better risk management, reduced paperwork, fewer conflicting situations between the systems, time management savings, improved internal communication, better focus, increased motivation and higher level of moral with the employees and internal revision optimization. Mileković et al. (2004) state that the introduction of a uniform management system facilitates the realization of considerable advantages for the company. Introducing order inside the enterprise ensures optimal use of resources, reduction of costs and better coping with every-day challenges, and especially those unpredictable situations. The company that chooses an integrated management system actually transforms itself into an intelligent organism which enables quick adjustments to the changes in the business environment, but also the choice of the best strategies for achieving the set goals (Mileković et al., 2004). Internal benefits of a successfully integrated management system are reduced paperwork, less complicated management, reduced management costs, simplification of the process of certification (Zeng et al., 2011: 184).

Integration of management systems increases business efficiency as a result of duplication reduction. Integration of management systems also enables easier adoption of new systems in the future and increases the level of satisfaction with the employees. Başaran (2017) adds even more transparent approach to management, better internal communication, easier risk control, more efficient resource management, easier strategic planning and, in line with that, facilitated decision-making, boost in internal innovations and flexibility. When listing the internal benefits, the author especially emphasises the benefits for the employees, which include better motivation, closer connection with the organization, easier and faster adjustment of the new employees, and the benefits to the production process, such as increased productivity, better waste management, considerably fewer mistakes made, improved delivery process and reduction of the overall costs. Abrahamsson, Isaksson and Hansson (2010) underline the following benefits of the integrated management system:

- 1) Better efficiency;
- 2) Higher compatibility of the developmental process of the organization with the demands of the participants;
- 3) Ability to connect quality with ethics and organizational profitability.

Internal benefits that the organization reaps with the implementation of an integrated management system are connected with internal functioning and organizational processes (Moljević et al., 2013: 318) and they can be grouped into the benefits to the organizations, financial benefits and benefits for employees, as shown in Table 1.

BENEFITS TO THE ORGANIZATION
<ul style="list-style-type: none"> • Improvement of management quality by reducing three functional departments to one by removing the walls between individual systems. • Increase of operational efficiency as a result of the coordination of organizational structures and sharing information by crossing traditional organizational barriers. • Avoiding duplicating the procedures across the systems which results in simpler communication and less paperwork.
FINANCIAL BENEFITS
<ul style="list-style-type: none"> • Financial savings due to fewer audits. • Growth of profit margin. • Financial savings due to just one obligatory certified audit.
BENEFITS TO THE EMPLOYEES
<ul style="list-style-type: none"> • Better motivation. • Higher awareness of certain processes in the organization. • Employees that are better qualified for specific duties within the organization.

Table 1: Internal benefits of integrated management systems in small and medium-sized business organizations

(Source: Moljevic, S., Rajkovic, D., Maric, B., Medakovic, V., Đurđević, S. (2013). Integrated Systems Management in Small and Medium Enterprises. Annals of the Faculty of Engineering Hunedoara, 11(4), p. 318)

Carvalho and others (2015) investigated the benefits of the implementation of integrated management systems based on the ISO 9001, ISO 14001 and OHSAS 18001 systems, on an example from the construction industry in southeast Brazil. The research findings have shown that the benefits of an integrated system are (Carvalho et al., 2015: 335):

- Easier management since it is a unified, single system;
- Less time needed for auditing;
- Less time spent in meetings;

- Simpler organization of trainings for employees;
- Simpler paperwork control;
- Lower management costs and
- More efficient use of financial resources.

Radyawanto and Soediantono (2022) have done a literature overview, based on which they emphasise that the implementation of an integrated management system can create consistency, direct the focus on better problem-solving, find the balance between the responsibilities and authorities, align goals, reduce risk and increase profit and can reduce duplication of work. It is clear that the benefits of the integration are closely. Ionescu and others (2018) conducted a research of the effects the implementation of integrated management systems can have on an example from the hospitality industry in Romania. The research results offer the conclusion that internal benefits gained from an integrated management system relate to cost reduction, increased productivity, better waste management, less time needed for dealing with work complications and high level of satisfaction of the employees at their workplace. Škúrková, Kučerová and Fidlerová (2015) looked into the experiences of the manufacturing companies in Slovakia that have undergone the process of introducing an integrated management system and list the following internal benefits to the companies: lower production costs, higher quality of the products and/or services, optimization of the business processes, higher competitiveness and better compliance with the regulations. Rahman, Zahid and Muhammad (2022) have investigated how rarely tested integrated management systems impact corporate sustainability and its dimensions – social, environmental, economics, and workplace. Moreover, the focus of their research has been how these systems influence the financial performance of the top 23 companies in Malaysia. This is one of the fastest-growing economies in Asia, and the enterprises included in the research sample belong to one of the most pollutant industries of real estate and construction. The authors conclude that integrated management systems have a significant positive correlation with all the dimensions of corporate sustainability. If an integrated management system is effectively implemented into the business strategy and the guidelines of the organization, then it will help top management to assert effective leadership and devotion, with the reduction of the amount of duplication. This also has a positive effect on the overall costs where savings are realised through efficient resource use at all levels and functions inside the organization (Woodcome, 26 October 2016). The findings of the primary research conducted by Kafel (2016: 129) confirm that those organizations that have integrated more than three management systems enjoy bigger benefits than the organizations that have integrated just two or three systems. The benefits that both types of organizations enjoy are less paperwork, better availability of joint training for employees and better consumer satisfaction.

3.2. External benefits of integrated management systems

External benefits are those that the business organization gains from the outside its organizational framework (Psomas, Fotopoulos and Kafetzopoulos, 2011: 517). External benefits of an integrated management system according to Moljević and others (2013: 318) are linked to the external activities undertaken by the company and they can be divided into the commercial, communication and the benefits relating to quality, environment and safety. These external benefits are presented in Table 2.

Table following on the next page

COMMERCIAL BENEFITS
<ul style="list-style-type: none">• Competitive advantage.• Better position on the market.• Attracting new consumers.• Offering higher level of satisfaction to the existing buyers.
COMMUNICATION BENEFITS
<ul style="list-style-type: none">• Improving the image of the organization.• Better relations with all those included in the organisation.• Confirmation of the compliance with the regulatory framework.
BENEFITS RELATING TO QUALITY, ENVIRONMENT AND SAFETY
<ul style="list-style-type: none">• Better quality.• Higher level of environmental care.• Reduced amount of dangerous waste.• Less damage to the equipment.• Product loss occurs less often.

Table 2: External benefits of integrated management systems in small and medium-sized business organizations.

(Source: Moljevic, S., Rajkovic, D., Maric, B., Medakovic, V., Đurđević, S. (2013). Integrated Systems Management in Small and Medium Enterprises. Annals of the Faculty of Engineering Hunedoara, 11(4), p. 319)

According to Salomone (2008: 1802), external benefits from the application of an integrated management systems are:

- less paperwork
- time savings,
- optimization of the external audit and
- optimization of the communication with the business environment.

While Simon, Karapetrović and Casadesús (2012) highlight the growth of the market share, the growth of the level of satisfaction of the final users, improvements of the image of the organization and faster delivery of the products and services as the external benefits of successfully implemented management systems, Ionescu and others (2018), and Škúrková, Kučerová and Fidlerová (2015) refer to them as improved customer satisfaction and polished image of the organization. Enhanced image leads to better relations with the suppliers and manufacturers, easier mutual coordination and generally a better communication with the business environment. Customers have a clearer perception of the very enterprise, which leads to the increase of demand for the products and/or services (Başaran, 2017).

4. CONCLUSION

Today's highly dynamic business environment, characterized by technological advancements and, sometimes even crisis situations (e.g., the COVID-19 pandemic, the invasion of Ukraine...) implies that successful business requires a systematic approach to all business processes. Focusing only on the internal issues is no longer enough. If an enterprise wishes to survive and be successful, it has to go outside of the internal framework of its business endeavours. This is why the development of an integrated management system and the integration of environmental protection, quality and work safety into one single system has become one of the crucial factors in achieving competitiveness. It is expected that management systems consider their business surroundings, clients and also, the increasing number of other interest groups.

Current primary research findings which have focused on integrated management systems confirm that an integrated management system can in fact be the basis for building business excellence. The reason for this lies in the fact that integrated management systems enable business organizations to gradually redirect their focus from customer-oriented only to all the other parties involved in the business activities. To successfully implement an integrated management system, business organizations should, before the actual process of integration is launched, carefully analyse the state in which the organisation is currently in and, if necessary, be ready to change certain well-established mind sets. The goal of the integration of the earlier-mentioned management systems is the establishment of a unique policy within the enterprise that encompasses all the aspects of the systems, with numerous benefits. The experts agree that there is no doubt that the benefits of the integration of the management systems are linked to quality, environment and safety, while some go even further and connect it to better image of the organization and building a more efficient risk management model, as well as improved interaction with all the parties involved.

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DELINEATING STARTUP ENVIRONMENT AND DETERMINING ENVIRONMENTAL FACTORS' RELATIVE CONTRIBUTION TO STARTUP SUCCESS: THE CASE OF CROATIA

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ABSTRACT

This paper aims at delineating startup environment as internal environment, micro environment and macro environment and their relative contribution to startup success is evaluated. Primary data were collected using an online survey questionnaire and were analysed using Wilcoxon signed rank test and correlation coefficients. The final research sample consisted of 61 startups and the results showed that the internal environment has the greatest impact on startup's success, followed by the micro environment and finally, the macro environment. The contribution of this research is evident in identifying environmental factors that determine startup's success and providing an insight into the startup community in Croatia, thus contributing to a scarce empirical literature on the topic available. Limitations of the research include sample size and subjective assessment of the success factors, so recommendations for future research include repeating the research on a larger sample, covering the international level and widening a set of key-performance indicators that can be assessed at a higher level of rigour with objective metrics.

Keywords: *entrepreneurial environment, entrepreneurship, startup, success*

1. INTRODUCTION

According to modern economic theory, economic growth is associated with entrepreneurship and entrepreneurial activities are a vital part of the economy (Sergi et al., 2019). In many countries, governments are trying to promote entrepreneurship and encourage entrepreneurial activities since they reflect in important economic categories such as employment, GDP, export, etc. Entrepreneurs (owners of micro, small and medium-sized companies) account for about 60% of employment, and their contribution to value-added ranges between 50% and 60%. Given their contribution to society, entrepreneurs can determine the levels of efficiency, growth and development and have the potential to influence various aspects of society (e.g., demographics) (OECD, 2018). Globalization and advancements of internet-based technologies have increased the interest in starting own business and startup projects, as a modern form of entrepreneurship are gaining attention. In a new, globalized economy, startup companies are considered to be generators of economic development since they provide new jobs and contribute to employment and economic growth on regional, national and industrial level (Tripathi et al., 2018). A large proportion of new ventures cease to exist within five-year period (Eurostat, 2021) and the question arises on how to assist new ventures' survival and startups' launching success. To that end, this paper investigates entrepreneurial environment factors and their contribution to the overall startups' success.

2. LITERATURE OVERVIEW

Like in the entrepreneurship domain, there is no clear and universal definition of startup. Blank and Dorf (2020) defined it as a temporary organization in search of a scalable, repeatable and profitable business model while Ries (2011) states that every organization aiming at delivering new goods and services under extreme uncertainty is a startup. Many startups fail in very early stages of their life-cycle and failure occurs due to typical "startup problems" such as lack of finance, team management problems, lack of adequate business knowledge, technology lag, etc. (Salamzadeh and Kawamorita Kesim, 2015). However, startups that survive delicate stages have potential to generate positive change, economic growth and new jobs (Berger and Kuckertz, 2016) so that the role of tech startups has never been more important in ever globalizing economy (Marmer et al., 2011). A stream of research available in the literature focuses on startup success factors, although there is a lack of consensus in determining what these factors are (Sebastian and Mauricio, 2017). Nevertheless, it is possible to conclude that startup success definitions have something in common: startup growth rates and number of new jobs created. In general, there are two critical groups of success factors, organizational and entrepreneurial, determining startup's performance (Groenewegen and Langen, 2012). Organization level factors include detailed business plan, clear vision and strategy, innovation and active marketing (Brem, 2008). Entrepreneurial level factors include need for achievement, locus of control, risk-taking propensity, work experience, entrepreneurial experience, industry related experience, management experience and entrepreneurial network (Brem, 2008; Rauch). Kofanov and Zozul'ov (2018) suggest that there are three main groups of factors determining startup's success: internal environment, external environment and start-up activity factors, which is in line with the existing, body of literature on internal and external environment. The external environment typically includes factors outside the company that have potential to affect company. Ireland, Hoskisson and Hitt (2011) adopt conceptualization of external environment as three-dimensional, including general environment, industrial environment and the competitive environment. Pearce and Robinson (2013) suggest that segments of external environment include remote environment, industrial environment and operating environment while Dess, Lumpkin and Taylor (2012) propose two segments of external environment; general environment consisting of demographics, socio-cultural, political and legal, technological, and economic factors and competitive environment consisting of the power of purchaser, power of supplier, the threat of new entrants, threat of substitute products, and intensity of the competition within industry. Similarly, Thompson, Strickland and Gamble (2010) suggest conceptualization of external environment as macro environment and industry/competitive environment. In the context of SMEs which is more appropriate for analysing startup community, usual classification of environmental factors include internal environment, micro environment and macro environment (Indris and Primiana, 2015).

3. RESEARCH METHODOLOGY AND HYPOTHESES

The main goal of this research is to delineate startup success factors and to assess their relative importance in the context of startup overall performance/success. Startup success factors were classified as internal environment, micro environment and macro environment factors which is line with previous research in the context of SMEs. Factors were modified according to research scope as follows:

- Internal environment factors: 11 items, representing level of education, work experience, entrepreneurial experience, personal investment, team composition, innovativeness and important entrepreneurial personality traits,
- Micro environment factors: six items representing business environment (industry related factors),
- Macro environment factors: six items related to general environment.

In order to meet the research goal, two main hypotheses were created:

- H1. There is a statistically significant difference between internal environment and micro environment factors' contribution to startup's success
- H2. There is a statistically significant difference between micro environment and macro environment factors' contribution to startup's success

The sample of this research consisted of 61 startups from Croatia. The questionnaire was organized into three parts. The first part focused on general information about startup owners. The second part consisted of questions about the startup while the third part captured environmental factors. The level of agreement with environmental factor's items was rated on a 5-point Likert scale ranging from 1 (totally unimportant) to 5 (totally important). In total, 61 startup owners fulfilled the online questionnaire from June to August 2021. Statistical analysis of the obtained data was conducted by SPSS software package through descriptive analysis, Friedman test, Wilcoxon test and correlation.

4. RESEARCH RESULTS AND DISCUSSION

Research results indicate that research sample is male-dominated (70% male), which is in line with similar investigations (women are still generally underrepresented in entrepreneurship). Majority of respondents (52,5%) is 31-40 years old and around one third of the sample accounts for young entrepreneurs, 18-30 years old. Almost two thirds of the sample hold university or professional qualification, mainly in STEM and social sciences. There is almost equal proportion of respondents having family entrepreneurial experience (52,9%) and those who haven't reported such experience (47,1%). Regarding previous managerial experience, respondents have respectable previous experience (only 11,4% of the respondents reported not having managerial experience at all). With respect to industry experience, respondents have reported substantial experience (only 15,7% don't have previous industry experience). Analysing important startup characteristics, it became evident that majority of startups are well away from seed stage and have launched their startup 4 or more years ago (55,7%). Startups in the sample are mostly B2B (82,2%) and B2C (46,7%) oriented. With respect to industry, IT, E-commerce, clean technology, circular economy and sustainability, tourism and hospitality, IoT and fintech are the most represented in the sample. As for the operations orientation, majority of startups are service development and sales oriented (41,4%), just under one third are product development and sales oriented, and 27,1% of the startups in the sample support both product and service orientation. Majority of owners made personal investment (91,9%) and other investment options (3F-family, friends, and fools, private equity and venture capital, loan, EU funds, government incentive programs) are underrepresented. Just over half of startups in the sample operate on both domestic and international market, while 14,5% of the respondents operates on international market exclusively. As it can be seen from Table 1, mean value for internal environment is relatively high (mean=4,134), representing respondents' perception of internal environment contribution to overall startup success. As the most important factor, hard work is identified (mean=4,803), followed by personal responsibility – accountability (mean=4,656) and self-confidence (mean=4,475). Factors like goals/objectives setting (mean=4,459), innovativeness (mean=4,329) and reasonable risk-taking (mean=4,131) are also considered to contribute startup success to a fair extent while factors like team composition and internal start-up organization (mean=3,738), level of education (mean=3,541) and previous entrepreneurial experience (mean=3,082) are considered to be less important.

Table following on the next page

Table 1: Descriptive statistic – Internal start-up environment

	N	Mean	Std. Deviation
Level of education	61	3,541	1,2724
Work experience	61	4,066	,8340
Previous experience in starting a company	61	3,082	1,2688
Personal investment	61	3,738	1,0630
Team composition (adequate competences)	61	4,131	,8656
Level of innovativeness	61	4,328	,8108
Reasonable risk-taking	61	4,197	,7028
Self-confidence	61	4,475	,6220
Hard work	61	4,803	,4404
Setting objectives	61	4,459	,7433
Accountability	61	4,656	,5127
Internal start-up environment	61	4,134	,4161
Valid N (listwise)	61		

Source: Research results

The results presented in Table 2 clearly indicate that micro environment factors contribute to startup success to a lesser extent (compared to internal environment factors) from the perception of startup owners. Mean value for microenvironment is 3,472, whereas factors recognized as important contributors to startup success are market size (mean=3,934) and consumer buying power (mean=3,705). From the perspective of respondents, owners of startups in the research sample, factors contributing success to some degree are price (mean=3,459) and availability and quality of suppliers (mean=3,328). The least important factors contributing success are institutional support system for entrepreneurs (including incentive programs for entrepreneurs) (mean=3,279) and competition (mean=3,131).

Table 2: Descriptive statistics – Micro environment

	N	Mean	Std. Deviation
Competition	61	3,131	1,0079
Price	61	3,459	,9929
Market size	61	3,934	,9286
Consumer buying power	61	3,705	1,0700
Availability and quality of suppliers	61	3,328	1,1651
Institutional support system for entrepreneurs	61	3,279	1,2797
Start-up micro/business environment	61	3,472	,7272
Valid N (listwise)	61		

Source: Research results

Last finding is particularly interesting and in line with theoretical propositions; individuals with entrepreneurial aspirations will pursue their entrepreneurial vision regardless of the resources they currently control so government incentive programs for starting a business are not seen as critical element of startup success. Additionally, among analysed factors of micro environment the least important factor is competition. Since startups tend to be highly innovative (on industrial or even on global level), competition is not seen as important factor in shaping startup success.

Table following on the next page

Table 3: Descriptive statistics – Macro environment

	N	Mean	Std. Deviation
Simplicity and clarity of administrative and bureaucratic procedures	61	3,295	1,1881
Availability of national and EU funds	61	3,213	1,3053
Adequate monetary and fiscal policy	61	3,066	1,2632
Technological development of the country	61	3,574	1,1613
Demographic factors	61	2,787	1,2925
Industry stage (mature or new)	61	3,721	1,0509
Start-up macro/general environment	61	3,275	,8443
Valid N (listwise)	61		

Source: Research results

Macro environment factors are analysed and results are given in Table 3. It is evident that macro environment factors contribute to startup success to an even lesser extent (mean value=3,275) compared to micro environment and internal environment factors. Among factors that contribute startup success to a fair extent are industry stage (mean=3,721), and expectedly, technological development (mean=3,547). Other general environment factors are considered to be less important contributors to startup success from the perspective of start-up owners in the sample. In order to test research hypotheses, new variables were computed and Chronbach's Alpha coefficients were calculated (Table 4).

Table 4: Reliability statistics

	Cronbach's Alpha	N of Items
Internal environment	,705	11
Business environment	,773	6
General environment	,785	6

Source: Research results

As it can be seen from Table 4, all variables demonstrate adequate levels of reliability (above 0,7). Additionally, correlation coefficients are calculated and given in Table 5. Presented results indicate that environmental factors are correlated where the correlation between internal environment and microenvironment is stronger and more significant than the relationship between micro environment and macro environment.

Table 5: Correlation coefficients: internal environment, micro environment, and macro environment factors

			Internal	Micro	Macro
Spearman's rho	Internal	Correlation Coefficient	1,000	,445**	,296*
		Sig. (2-tailed)	.	,000	,021
		N	61	61	61
	Micro	Correlation Coefficient	,445**	1,000	,635**
		Sig. (2-tailed)	,000	.	,000
		N	61	61	61
	Macro	Correlation Coefficient	,296*	,635**	1,000
		Sig. (2-tailed)	,021	,000	.
		N	61	61	61

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

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

Source: Research results

Since variables are non-normally distributed, in order to test proposed hypotheses, variables were recoded into ordinal scale and median was calculated.

Table 6: Median: internal environment, micro environment, and macro environment factors

		Internal	Micro	Macro
N	Valid	61	61	61
	Missing	0	0	0
Mean		4,623	3,885	3,672
Median		5,000	4,000	4,000

Source: Research results

Wilcoxon signed rank test was performed to determine whether there is a statistically significant difference between internal environment and micro environment factors' contribution to startup's success, and whether there is statistically significant difference between micro environment and macro environment factors' contribution to startup's success. Results are presented in Figure 1.

Figure 1: Wilcoxon signed rank test

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The median of interord equals 4,000	One-Sample Wilcoxon Signed Rank Test	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The median of mikrord equals 4,000	One-Sample Wilcoxon Signed Rank Test	,260	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

source: Research results

The results presented in Figure 1, clearly indicate that there is a statistically significant difference between internal environment and micro environment factors' contribution to startup success (internal environment factor's contribution is higher), so the proposed hypothesis H1. There is a statistically significant difference between internal environment and micro environment factors' contribution to startup's success, can be accepted. The proposed hypothesis H2. There is a statistically significant difference between micro environment and macro environment factors' contribution to startup's success, have to be rejected since results presented in Figure 1 indicate that there is no significant difference between micro environment and macro environment factors' contribution to startup success, even though differences were descriptively determined (mean value for the micro environment was somewhat higher than mean value for the macroenvironment).

5. CONCLUSION

In this paper, startup environmental factors are identified and their relative contribution to overall startup success is evaluated. Three-dimensional conceptualization of environment is adopted and internal environment, micro environment and macro environment factors were analysed. Research results clearly indicate that factor's relative strength, in terms of their contribution to startup's overall success is different.

Descriptive statistics results revealed that internal environment has the greatest impact on startup's success, followed by the micro environment and finally, the macro environment, which is in line with theoretical propositions (drawing from literature in strategic management domain). Of internal factors, the most important contributors to startup's success are hard work, personal responsibility and self-confidence, which is in line with similar research in entrepreneurship domain where important entrepreneurial characteristic and personality traits are described. Of micro environment factors, the most important contributors to startup's success are market size and consumer buying power which is in line with universal rule regarding entrepreneurship – not all entrepreneurial ideas are good ones, the final test of the validity of entrepreneurial ideas is market and the resulting demand. Of macro environment factors, the most important contributors to startup's success are industry stage (mature or new), and the level of technological development. Even though theoretical propositions on environmental factors' contribution to startup success were descriptively supported by research results, they could only to a limited extent be statistically supported. Due to limitations of presented research, primarily regarding sample size and measures applied (subjective perceptive measures), future research on the topic should include larger sample, covering the international level and widening a set of key-performance indicators that can be assessed at a higher level of rigour with objective metrics. Regardless the limitations, this research has empirical value in contributing empirical research on startup community – group of entrepreneurs that have potential to change the future.

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EMPATHY IN LEADERSHIP: HOW IT ENHANCES EFFECTIVENESS

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ABSTRACT

Empathy enhances leadership effectiveness. In times of the pandemic and increased commitment to fostering diversity and inclusion, it is considered an essential ingredient of leadership. The importance of empathy in leadership is especially emphasized in global organizations operating in a cross-cultural and multicultural environment. This study aims to develop a multi-level conceptual framework of the impact of empathy on leadership effectiveness in the field of business management. For this purpose, a systematic literature review based on Web of Science and Scopus databases has been conducted. The content analysis method was used to analyze and synthesize qualitative data. The research results show that empathy enhances leadership effectiveness through its extensive effects on the level of leader, followers, and organization. It contributes to raising self-awareness, developing listening and mentoring skills, and enhancing the relationships of the leader as an individual. On the followers' level, empathy in leadership is associated with improving well-being, empowering, and providing role models in developing emotional intelligence. It enhances organizational effectiveness by inspiring diversity and inclusion, increasing employee engagement and retention, and creating a culture of responsibility, care, and innovation. These findings have practical implications for leadership and organizational development specialists, human resources managers, and business leaders. The interdisciplinary nature of the topic calls for the collaboration of researchers from the fields of business economics, psychology, and neuroscience to advance future research on empathy in leadership.

Keywords: *effectiveness, empathic leaders, empathy, leadership*

1. INTRODUCTION

Empathy is an essential ingredient of leadership. In times of the pandemic, the ability of leaders to express empathy has been valued more than ever (Holt, 2022). Cultivating empathic leadership has proven to be an effective crisis response strategy (Van Bommel, 2021). A growing commitment to building more diverse and inclusive organizations requires humanity, which embraces a deep empathy for others (Seijts and Milani, 2021). Leaders who express empathy can create a space where diverse groups feel accepted, supported, and able to contribute fully (Moore *et al.*, 2020). In global organizations operating in a cross-cultural and multicultural environment, empathic behaviors are resulting in a better performance of leaders (Sadri, Weber, and Gentry, 2011; Rahman and Castelli, 2013). It is therefore important to understand how empathy can enhance leadership effectiveness. As an emotional intelligence competency, empathy can be developed throughout life. Together with emotional self-control, it is the basis for effective relationship management (Goleman, 2006, 2007; Goleman *et al.*, 2017). Extensive research of empathy as a concept began in the field of counseling and psychotherapy (Book, 1988; Gladstein, 1977; Rogers, 1975). Rogers (1975: 3) revealed the intersubjective nature of empathy by describing it as "a complex, demanding, strong yet subtle and gentle way of being". Goleman *et al.* (2017) indicate that neuroscience and psychology literature recognizes three aspects of empathy: cognitive empathy (the ability to understand another person's perspective and to reflect on the mental state of others); emotional empathy (the ability to feel what another person feels and be emotionally in tune with feelings of others); and empathic concern or compassion (acting on an inclination to relieve the suffering of another person).

In the leadership literature, empathy has been emphasized as an important aspect of individual and organizational effectiveness. Whilst empathy as a trait is mainly associated with positive leadership outcomes, recent research warns that it might also trigger cognitive overload, exhaustion, and bias (Koenig *et al.*, 2020; Peak *et al.*, 2016). Hence, leaders should set boundaries and be aware that empathy should not only be given but also received (Bachmann and Faundes, 2021). Leadership effectiveness can be enhanced by the expression of empathy. It refers to a leader's ability to mobilize and influence followers toward achieving organizational objectives (Cicero, Pierro, and Van Knippenberg, 2010; Vardiman *et al.*, 2006). A leader's effectiveness can be evaluated using indicators such as followers' attitudes, behaviors, and satisfaction (Amagoh, 2009). Lower employee turnover and absenteeism are also considered to be indicators of leadership effectiveness on the organizational level (Howell and Costley, 2006, as cited in Jogulu and Wood, 2006). In the context of the United Nations Sustainable Development Goals 2030, the effectiveness criteria in organizational leadership have been extended by the requirements for creating a positive social and environmental impact. As empathy is one of the leader's key competencies for a caring attitude toward followers, society, and the environment, it affects leadership effectiveness. Several studies indicate a positive relationship between empathy and leadership effectiveness (Goleman, 1998; Goleman *et al.*, 2017; Rahman and Castelli, 2013; Sadri *et al.*, 2011; Watkins, Fehr and He, 2019). Research shows that women leaders often have a more pronounced trait of empathy which makes them more effective on the individual and organizational level (Appelbaum *et al.*, 2013; Girdauskiene and Eyvazzade, 2015; Sergent and Stajkovic, 2020). Empathy is also considered by researchers as an essential competency in building certain leader's behavioral styles, such as transformational leadership (Girdauskiene and Eyvazzade, 2015; Hensel and Visser, 2018), servant leadership (Jit, Sharma and Kawatra, 2017; Linuesa-Langreo *et al.*, 2016), charismatic leadership (Choi, 2006), responsible leadership (Voegtlin *et al.*, 2020), and sustainability leadership (Amankwa, 2018; Hallin and Mantel, 2018). Due to the extensiveness of the impact of empathy on leadership effectiveness, the field of business management could be advanced by further research on this topic. In the leadership literature, there is a lack of systematic review papers on the relationship between empathy and leadership effectiveness from a business management perspective. Prior research on this topic was predominantly in the field of medicine, nursing, and other health sciences. Furthermore, most of the existing literature has examined the impact of empathy on the followers' and organizational level, while the effects on the level of the leader as an individual have not been emphasized. To address this gap, two research questions (RQ) are raised, as follows. RQ1: What are the characteristics of research on empathy and leadership effectiveness in fields relevant to business management? RQ2: What is the impact of empathy on leadership effectiveness on the level of leader, followers, and organization? This study aims to develop a multi-level conceptual framework of the impact of empathy on leadership effectiveness in the field of business management.

2. METHODS

A systematic literature review was selected as a research approach for this study. Compared to other methods of literature analysis, a systematic review is based on explicit criteria that enhance the reliability of the findings and minimize bias (Satalkina and Steiner, 2020). This approach can also be applied in the field of business management to collect and synthesize research and enable openness among researchers to prevent the repetition of effort (Thorpe *et al.*, 2005). The research consisted of three steps: (1) systematic literature review protocol definition and the article selection process using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method; (2) bibliometric analysis, and (3) qualitative analysis and synthesis of the selected articles using the content analysis method.

PRISMA method ensures the transparent and complete reporting of systematic reviews (Liberati *et al.*, 2009). Bibliometric analysis enables researchers to gain an overview, identify knowledge gaps, and derive ideas for future research (Donthu *et al.*, 2021), while content analysis is used to interpret meaning from the content of text data (Hsieh and Shannon, 2005). For the first step of this research, a systematic literature review research protocol was designed (Table 1). The search was conducted on November 29, 2021. The peer-reviewed journal articles and conference papers (hereinafter referred to as "articles") were browsed in digital databases Web of Science Core Collection (WoS) and Scopus. Searched terms were "empathy" and "leadership effectiveness" contained in the title, abstract, and/or keywords. The search was restricted to a specific time period (2012 – 2021). In addition, due to the specifics of research on empathy in medicine, nursing, and other health sciences, the search was limited to research fields more relevant to business management.

Table 1: Systematic literature review research protocol

Protocol element	Translation into research
Digital databases	Web of Science Core Collection and Scopus.
Searched term	Empathy AND leadership effectiveness.
Search strategy	Publications in the period 2012-2021; search terms contained in the title, abstract, and/or keywords.
Inclusion criteria	Findings on empathic AND/OR compassionate, caring, considerate leaders AND leadership effectiveness; research fields: Business & Economics, Psychology, Behavioral Sciences, Education & Educational Research, Communication, Sociology, Social Issues, Social Sciences - Other Topics, Philosophy, Decision Sciences, Arts & Humanities; journal articles and conference papers only; English language only.
Exclusion criteria	Journal articles and conference papers without full access and not relevant for the research.

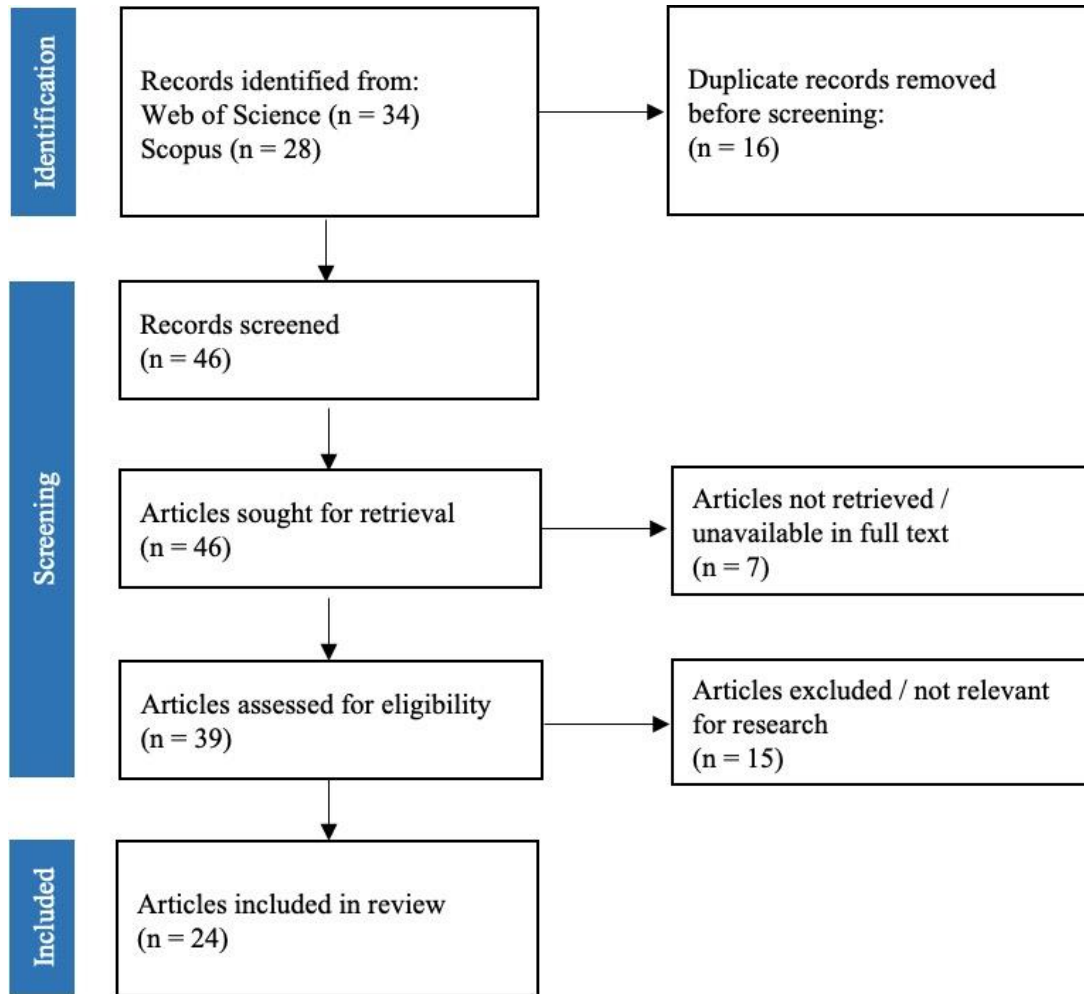
*Note: Table structure adapted from Ivančić *et al.*, 2019*

Source: Author's work

The initial search resulted in 62 articles found (34 in WoS and 28 in Scopus). After excluding the duplicate articles, 46 articles remained. These articles were sought for retrieval, and 39 were available in full text. After the screening of the full articles, 15 articles were excluded as not relevant for the research (4 articles with no considerations of empathy; 5 articles in the field of medicine and nursing; 4 articles focused on the effectiveness of learning programs; 2 articles related to the sympathy of teachers and empathy in psychotherapy). The articles containing findings related to "compassionate, considerate, or caring leaders" instead of "empathic leaders" were assessed as eligible, due to the similarity of those terms. As a final result of the selection process, 24 articles were included in the systematic literature review. The article selection process using the PRISMA flow diagram is presented in Figure 1.

Figure following on the next page

Figure 1: PRISMA flow diagram of the article selection process



Note: Flow diagram structure adapted from Page et al., 2021

Source: Author's work

In the second and third steps of this research, the selected articles were further analyzed based on exported WoS and Scopus data and full text reading. MS Excel was used for coding. A bibliometric analysis gave answers to RQ1, while the answers to RQ2 are based on the qualitative outcomes from the detailed content analysis of the selected articles.

3. RESULTS

3.1. Characteristics of research on empathy and leadership effectiveness

A bibliometric analysis presented in this section responds to RQ1. Table 2 shows the characteristics of the reviewed articles concerning article type, research methods, and instruments.

Table following on the next page

Table 2: Characteristics of the reviewed articles

Authors (year)	Article Type	Research method	Research instrument	No. of participants
Jian (2021)	J	Qualitative	Literature review	n/a
Lumpkin and Achen (2018)	J	Qualitative	Literature review	n/a
Voegtlin <i>et al.</i> (2020)	J	Quantitative	Survey	782
Perry, Cebulla and Andreas (2021)	J	Qualitative	Literature review	n/a
Cranston and Kusanovich (2013)	J	Qualitative	Survey (pre- and post-workshop assessment), nonparticipant observations	14
Hensel and Visser (2018)	J	Quantitative	Survey (multi-rater system)	66
Koenig <i>et al.</i> (2020)	J	Qualitative	Literature review	n/a
Girdauskiene and Eyvazzade (2015)	C	Qualitative	Interviews	6
Wei, Bilimoria and Li (2017)	J	Qualitative	Interviews	42
Bertrand (2019)	J	Qualitative	Interviews	5
Miao, Humphrey and Qian (2018)	J	Quantitative	Meta-analysis	n/a
Contu (2020)	C	Quantitative	Survey	n/a
Sergent and Stajkovic (2020)	J	Mixed	Publicly available data and briefings	n/a
Librada-Flores <i>et al.</i> (2020)	J	Qualitative	Systematic literature review	n/a
Wang, Zhang and Jia (2017)	J	Mixed	Survey, interviews	451
Nadler, Carswell and Minda (2020)	J	Quantitative	Survey (pre- and post-intervention assessment)	37
Karanian <i>et al.</i> (2013)	C	Qualitative	Tell/Make/Engage experiment	16
Silliman, Edwards and Johnson (2020)	J	Mixed	Survey (pre- and post-self-assessment)	64
Sart (2016)	C	Quantitative	Survey (emotional intelligence assessment and metacognitive-based intervention assessment)	189
Amankwa (2018)	C	Qualitative	Literature review	n/a
Young <i>et al.</i> (2017)	J	Mixed	Survey, video-based online experiment	483
Jit, Sharma and Kawatra (2017)	J	Qualitative	Interviews	15
Linuesa-Langreo <i>et al.</i> (2016)	J	Mixed	Survey, interviews	n/a
Appelbaum <i>et al.</i> (2013)	J	Qualitative	Literature review	n/a

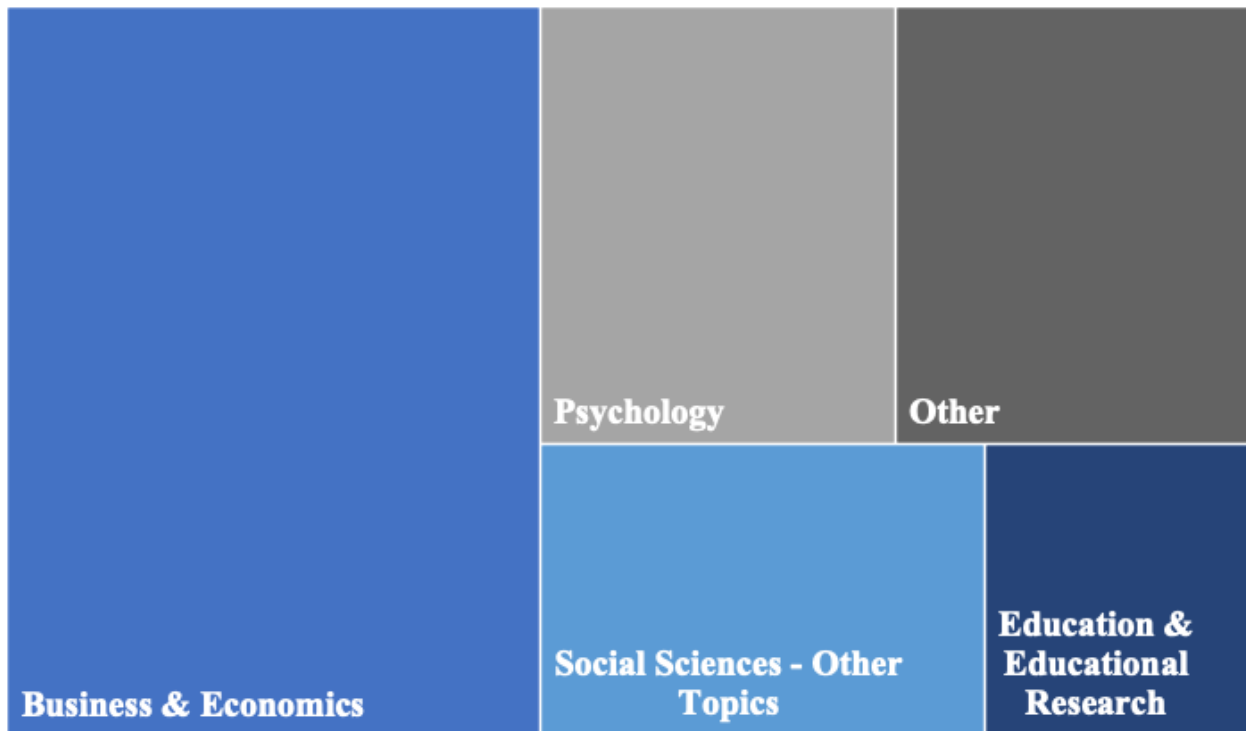
Notes: n/a – information not available or applicable; J – journal article; C – conference paper

Source: Author's work

The analysis by article type indicated that the majority of the reviewed articles were published as journal articles (79 percent), while only 21 percent are conference papers. In the reviewed articles, the qualitative research method is predominantly used (13 articles or 54 percent). The quantitative method was used in 6 articles or 25 percent, while 5 articles or 21 percent applied mixed research methods.

Of the 24 reviewed articles, 6 articles are literature reviews and only one is a systematic literature review (related to empathy and compassion in community networks). As presented in Table 2, there is a broad range of instruments that can be applied in empirical research on empathy and leadership effectiveness (surveys with pre- and post- workshop or intervention assessments, experiments, meta-analysis, interviews). The articles were additionally analyzed by research fields (Figure 2). The results are aligned with the intention to limit the search of articles in WoS and Scopus databases to research fields more relevant for developing a conceptual framework in the field of business management.

Figure 2: Research fields of reviewed articles



Source: Author's work

3.2. The impact of empathy on leadership effectiveness

In this study, a deductive coding approach was selected in synthesizing the results of the systematic literature review. The content analysis of the selected articles started with setting the codes based on the RQ2. Levels of the impact of empathy were used as codes, which provided the basis for the development of the proposed conceptual framework. The use of a pre-defined set of codes provides a clear trail of evidence for the credibility of the study (Fereday and Muir-Cochrane, 2006). As a result of the detailed content analysis, about 40 effects were initially extracted from the reviewed articles and assigned to one of three levels of impact. The highest number of effects is associated with the organizational level, which contributes to the relevance of the findings from an organizational development point of view. After iterative reviews and summarizing effects with similar meanings and/or impact, the three most relevant groups of effects on the level of leader, followers, and organization were identified.

3.2.1. The impact of empathy on the leader's effectiveness

A leader's trait of empathy has an impact on her or his effectiveness. In addition to the orientation toward the other and the organization, a leader also needs to question oneself in the process of expressing empathy which leads to a heightened sense of awareness (Jian, 2021).

Raised self-awareness of the leader results in improved facial, behavioral, and verbal expression (Jian, 2021) which enhances interactions with various stakeholders. According to Bertrand (2019), leaders more aware of their internal dialogues are also more effective. Furthermore, empathy facilitates responsible leadership behavior and causes a more balanced approach to leadership by caring for stakeholders at multiple levels of the organization (Voegtlin *et al.*, 2020). The enhanced ability to perceive and consider the needs of others (Miao *et al.*, 2018; Sergent and Stajkovic, 2020; Wei *et al.*, 2017) contributes to the development of listening and mentoring skills. These skills are related to the empathic concern of leaders resulting in compassionate responding to relieve the followers' distress (Jit *et al.*, 2017). Empathic listening requires presence in the moment, observation of non-verbal messages, appreciation of the ideas, opinions, and situations of others, asking questions to express interest, reflection, and response. A leader who acts as a mentor provides support to the ones she or he is empathizing with also in a form of advice and sharing personal experiences in resolving similar situations. Lastly, the most recognized effect of empathy on the leader's effectiveness is related to enhancing relationships within and outside the organization. Empathy in leadership contributes to better communication which in turn improves relationships with others. Leaders who practice empathic communication with various stakeholders evoke respect and trust (Girdauskiene and Eyvazzade, 2015). In addition, the leadership competency to communicate a strong vision to employees is related to both assertiveness and emotional empathy (Hensel and Visser, 2018). Because of their ability to influence others' emotions, empathetic leaders improve their relationships also through their ability to motivate, inspire, and stimulate interaction (Appelbaum *et al.*, 2013; Bertrand, 2019; Girdauskiene and Eyvazzade, 2015; Karanian *et al.*, 2013; Miao *et al.*, 2018). Highly empathic leaders will gain greater stakeholder appreciation due to their expression of compassion (Koenig *et al.*, 2020), and have greater promotability prospects based on the followers' evaluations (Young *et al.*, 2017).

3.2.2. The impact of empathy on the followers' effectiveness

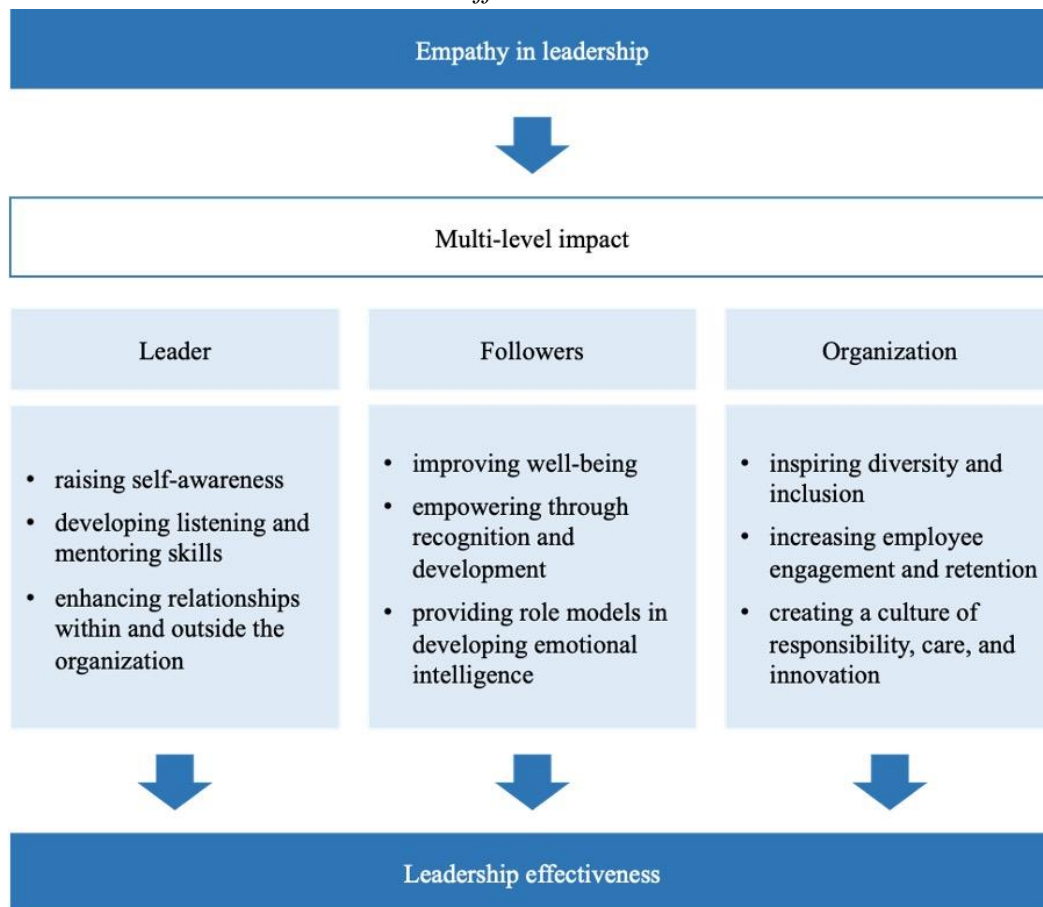
Empathic leadership practice results in enhanced effectiveness of followers. Expression of empathy in leadership is more likely to lead to positive employee relevant outcomes, such as performance, satisfaction, and well-being (Wei *et al.*, 2017). A caring attitude of the leader is essential in improving the mental and emotional well-being of the ones cared for (Jian, 2021). Young *et al.* (2017) suggest that the leader's expression of empathic concern when providing negative feedback is increasing the positive affective reactions of followers. By restoring emotional balance and creating a positive work climate, empathic leaders improve the followers' well-being which leads to greater organizational commitment (Jit *et al.*, 2017). Moreover, empathic leaders empower followers through recognition and development. Jian (2021) argues that the empathic leadership practice of recognizing the diverse abilities and needs of others enhances the effectiveness of followers. Wei *et al.* (2017) consider empowering and developing others as a mixed form of emotional and cognitive social competency related to giving employees authority and freedom within certain boundaries, encouraging and valuing employee participation, and providing training and mentoring to individuals and teams. Linuesa-Langreo *et al.* (2016) distinguish two perspectives of the empowerment phenomenon: psychological empowerment at the individual level defined as intrinsic task motivation that increases employee involvement and commitment; and empowerment climate at the group level aimed at decentralizing power and authority to make organizations more competitive and responsive. As empowered followers experience an increase in intrinsic motivation and satisfaction of the needs for autonomy, competence, and relatedness, they perform with greater effectiveness at the individual and organizational levels (Lumpkin and Achen, 2018). They are also inspired to empower others. In addition, empathic leaders provide the followers with role models in developing emotional intelligence.

Role modeling can be considered essential in the development of emotionally intelligent leaders. It includes clarifying values and leading by example through aligning actions with shared values (Lumpkin and Achen, 2018). By observing and interacting with leaders who are proficient in cognitive empathy, emotional empathy, and empathic concern, followers are improving their practices of relating. Through receiving feedback from empathic leaders, followers can raise their self-awareness and enhance self-management competency. In organizations with group-centered leaders who promote equality and inclusion, unlike in leader-centered, hierarchy-focused organizations (Perry *et al.*, 2021), followers can also improve their social awareness which is based on empathy.

3.2.3. The impact of empathy on the organizational effectiveness

Existing scientific research indicates a positive relationship between empathy and leadership effectiveness on the organizational level. Empathy is the foundation of leadership competency to inspire diversity and inclusion. The leadership of global organizations is facing increasing needs for promoting employee diversity and developing new inclusive business models. A leader indicates empathic concern when valuing differences (Wei *et al.*, 2017), thereby contributing to creating an inclusive and diverse organization in terms of gender, ethnicity, race, work and cultural norms, and management methods (Girdauskiene and Eyvazzade, 2015). The ability to read others' emotions and express empathy promotes cross-cultural communication and adaptability (Miao, 2018). According to Jit *et al.* (2017), an empathic leader instills a sense of cohesiveness and collaboration thereby increasing altruistic behavior among followers. This behavior in turn improves the level of diversity and inclusion within the organization. Additionally, the results of a study by Voegtlin *et al.* (2020) indicate that responsible leadership behavior facilitated by a leader's empathy is positively related to employee engagement with the organization and society. Group-centered leadership produces better team outcomes than top-down leadership (Perry *et al.*, 2021). Ensuring that people feel valued improves team dynamics (Karanian *et al.*, 2013). As organizational performance is influenced by a leader's behavior (Contu, 2020), the followers' needs satisfaction due to empathic leadership mediates positive effects on organizational effectiveness (Lumpkin and Achen, 2018). By increasing employee engagement and retention, empathy in leadership can contribute to more effective human resources management. Finally, empathy in leadership has an impact on the organizational level through creating a culture of responsibility, care, and innovation. Jian (2021) indicates the importance of developing empathy toward a common outside party or collective other, such as competing groups or organizations. According to Koenig *et al.* (2020), highly empathic leaders will recognize warning signs more quickly, have access to more crisis-related information, and will be more committed to restoring the organization's relational system in post-crisis times. This is especially relevant in the context of the current pandemic as there is an increased need for responsibility and care on both the individual and organizational levels. In addition to being responsible toward oneself, others and the organization, a leader also needs to be responsible toward society and the environment. According to Amankwa (2018), empathy is one of the attributes of sustainability competency in leadership, and the leaders' ability to integrate sustainability into organizational purpose and practices will improve the organization's market position. Empathy contributes to creating an organizational culture of innovation, as perspective taking and empathizing with people inspires employees to generate creative ideas, and develop more useful and innovative products and services (Linuesa-Langreo *et al.*, 2016; Wang *et al.*, 2017). Based on the research results, a multi-level conceptual framework of the impact of empathy on leadership effectiveness was developed (Figure 3).

Figure 3: Multi-level conceptual framework of the impact of empathy on leadership effectiveness



Source: Author's work

4. DISCUSSION

This research revealed the complexity and extensiveness of the impact of empathy on leadership effectiveness. To inspire the development and expression of empathy in leadership, it is important to advance research and discuss this topic more in both the scientific and business community. The emergence of more interdisciplinary conferences and projects could stimulate collaboration and co-creation of researchers from business economics, psychology, neuroscience, and other relevant fields. Furthermore, the systematic literature review indicated that empathy in leadership enhances effectiveness through its effects on multiple levels. The identified effects on the level of leader, followers, and organization could be considered interrelated. For example, raising self-awareness on the level of a business leader as an individual could lead to her or his enhanced competency of empowering followers through recognition and development, which in turn increases employee engagement and retention at the organizational level. This finding confirms the importance of empathy in leadership assessment, selection, and development, as well as in overall organizational development. The results of this study contribute to the existing leadership literature. While the majority of prior research on the impact of empathy was in the field of medicine, nursing, and other health sciences, this study examines the effects on leadership effectiveness from a business management perspective. The identified effects of empathy on the organizational level are consistent with the results of a recent study by Van Bommel (2021) with 889 employees, indicating that empathic leadership is driving innovation, engagement, retention, and inclusion. Compared to the results of other studies which provided conceptual frameworks related to empathy and leadership effectiveness, this research offers a more integrative framework by

encompassing multiple levels of impact and providing descriptions of the concrete effects on the level of leader, followers, and organization. Previous studies were predominantly focused on the impact of empathy in leadership on followers and/or organizations. Skinner and Spurgeon (2005) focus on outcome measures on the level of followers in their model of empathy in health leadership and conclude that followers who perceive their managers as empathetic are willing to put in extra effort in their work. According to the reflective leadership framework, the empathic listening practice of leaders causes improved motivation and performance of followers (Castelli, 2016). In their model of empathy and leadership effectiveness, Rahman and Castelli (2013) show that leadership effectiveness is enhanced through certain behavioral characteristics, resulting in increased emotional control, interpersonal trust, and innovation. In the framework of the motivational effects of charismatic leadership proposed by Choi (2006), empathy has effects on the followers' needs for affiliation which improves group cohesiveness and organizational citizenship behavior. Deliu (2019) embeds empathy in the corporate governance framework as it evokes trust and motivation of employees, thus contributing to more effective corporate governance. This research offers practical implications for various stakeholders, such as leadership and organizational development specialists, human resources managers, and business leaders. Leadership development specialists can use the developed conceptual framework and descriptions of the effects in designing and implementing tailored programs aligned with the priorities of leaders, teams, and the organization as a whole. This framework can enable a more balanced approach to leadership development, as the findings of this study indicate that the effects of empathy in leadership are interrelated. Thus, when designing and implementing empathy-oriented leadership development programs it is important to collect feedback from both individuals and teams, and to redesign programs accordingly. The extensiveness of the identified effects requires diversity in the content and format of education, training, and mentoring. Individual and group empathy development exercises should be focused on improving mindfulness, self-reflection, listening skills, observation of non-verbal signs, and compassionate responding. Having an empathic leader as a mentor or at least as a role model is key to developing empathy in leadership. This conceptual framework is also relevant from an organizational development perspective, as it can be used in diagnosing, intervening, and evaluating the impact of certain behaviors on organizational culture and performance. Furthermore, human resources managers can use the research results as a basis for including empathy as competency in job specifications and personality tests in recruitment processes. This could be particularly relevant for job positions where building and maintaining relationships is essential for effectiveness, such as top management, sales representatives, and relationship managers. Finally, this research can assist business leaders in better understanding the complex nature of empathy and the impact it has on the level of leader, followers, and organization. Business leaders dedicated to developing and expressing empathy can lead by example not only in their organizations but also in the global markets. There are limitations to this research concerning the methodology. A relatively small number of the reviewed articles could be considered insufficient to generalize conclusions. The potential inclusion of seven articles unavailable in the full text could affect the results of the systematic literature review presented in this study. The reliability of the results may also be lower due to assigning the effects to one of the three levels of impact, as some of these effects could be related to more than one level. For example, increasing employee engagement and retention can also be considered as the effect of empathy on the followers' level; however, it is assigned to the organizational level as it is often used as an indicator in human resources management and organizational development strategies. Hence, the developed multi-level conceptual framework needs extensive empirical testing. To provide a deeper understanding of the impact of empathy on leadership effectiveness, future research in the field of business management should include the comparisons between the leaders' self-assessment

and followers' evaluation. Some leaders are unaware that they feel empathy but do not express it. Therefore, they may overestimate their level of empathy and this can make the relationship between empathy and leadership effectiveness unclear. By conducting interviews and surveys of both leaders and followers, the findings could be more reliable and could contribute to raising awareness on development areas at multiple levels of the organization. Additionally, the results of this study can be extended by exploring the relationship between empathy and leadership effectiveness in different countries. This could be especially beneficial for the leadership of global organizations operating in a cross-cultural and multicultural environment. The research results could provide a basis for designing and implementing country-specific leadership development programs, as well as diversity and inclusion initiatives. Lastly, future research could be directed at exploring how empathy in leadership can contribute to creating a positive impact on society and the environment. This topic could be researched in the context of contributing to the United Nations Sustainable Development Goals 2030 and improving the organization's market position by integrating empathy as one of the competencies of sustainability leadership.

5. CONCLUSION

The findings of this research show that empathy enhances leadership effectiveness through its extensive effects on the level of leader, followers, and organization. This study represents one of the first systematic reviews focused on articles related to empathy and leadership effectiveness from Web of Science and Scopus databases. It makes a significant contribution to understanding the impact of empathy on leadership effectiveness from a business management perspective. The research results extend the existing leadership literature by providing an integrative, multi-level conceptual framework and descriptions of the concrete effects of empathy in leadership. The finding that empathy in leadership also enhances the effectiveness of the leader as an individual is of special importance, as it could motivate more current and future leaders to improve their empathy competency. The interdisciplinary nature of the topic calls for the collaboration of researchers from the fields of business economics, psychology, and neuroscience to advance future research on empathy in leadership.

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