

Varazdin Development and Entrepreneurship Agency and University North
in cooperation with
Faculty of Management University of Warsaw
Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat
Polytechnic of Medimurje in Cakovec



Economic and Social Development

48th International Scientific Conference on Economic and Social Development –
"Managerial Issues in Modern Business"

Book of Proceedings

Editors:

Miroslaw Przygoda, Petar Misevic, Mustapha Machrafi



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SUSTAINABLE WATER RESOURCES MANAGEMENT AND ITS QUALITY MODELLING IN AZERBAIJAN

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ABSTRACT

Azerbaijan are based on the principles of innovative management and this trend is the basis of transition to a sustainable green economy. In this regard, sustainable water management and its quality modelling become one of the most important factors to build an inclusive society and to achieve sustainable management. The quality of surface water and groundwater is a crucial factor for both aquatic ecosystems and beneficial uses of water resources. Water managers want to be well informed on actual and expected water quality to be able to assess the effects of pollution or hydrological changes, the need for mitigation and the effectiveness of costly measures. Water quality modelling can provide the required information, accurately and in great detail. Modelling is an essential tool for many water quality management supporting studies, because only modelling allows for comprehensive and fully quantitative description and prediction of the quality of water systems.

Keywords: *Sustainable development, water resources, sustainable management, green economy, water quality modelling, water systems, regulation*

1. INTRODUCTION

Over the past few decades, environmental concerns have received growing attention. Nowadays, climate change, pollution control, over-exploitation of fisheries, preservation of biodiversity and water resource management constitute important public preoccupations at the local, state and even world scales. Crises, degradation and risks affecting human health or the environment, along with the permanency of poverty, have fostered public suspicion of the evolution of technology and economic growth while encouraging doubts about the ability of public policies to handle such problems in time. The sustainable development concept and the precautionary principle both came on the scene in this context. In the recent years Azerbaijan has succeeded to achieve a competitive economic structure based on information and innovation, improve the living standards of society, providing high-quality employment opportunities through reforms realized in public administration and economic management during last decade. Policies and implementations targeted for raising economic welfare of the society inevitably contribute to all pillars of sustainable development.

Over the last years, the Republic of Azerbaijan has successfully identified political development, administrative reform and comprehensive economic development as national priorities in order to increase economic growth, alleviate poverty and unemployment. [2, 257]. Industry development brings with it ecological pollution and priority of scarce resource management. In this contest management of water resources become an actual issue in public governance. Water resource development in Azerbaijan has evolved as both economic and population growths have placed increasing demands on Azerbaijan's fresh water resources over the past 20 years. Problems of both the quantity of available water and its quality had to be addressed. The overall framework for water resources development is set by the national government while actual implementation and management is largely left to the local level. This places implementation close to the ultimate beneficiaries, and strengthens the link between those providing the service and those using the service. Local utilities have tended to be monopolies, however, and have relied heavily on subsidies to keep prices down and avoid the "market test" of competition and full-cost pricing of their product. A recent development in Azerbaijan has been the increasing use of private firms to provide. Specific services to local water utilities (or, in some cases, to actually manage them on behalf of the local authorities). Although this is not the same as the "privatization" of public utilities that is seen in some countries, this expanded use of contracts and private service provision has improved efficiency and reduced costs. More use of various innovative service provision modalities is expected in the future and is an interesting lesson on mixed public-private provision of a public service. Another trend in Azerbaijan has been the consolidation of many small water service providers into larger aggregates. This enables the larger firms to take advantage of "economies of scale" and try to keep costs down. The one dimension of Azerbaijan water resources development that is not as transferable to many other countries is the very large role of government subsidies at all levels. Construction costs are heavily subsidized by the national government (with an appropriate sliding scale of higher subsidies for agricultural uses, sewage treatment and waste water collection, and lower subsidies for domestic water supply and industrial water supply). The level of subsidies reflects both the ability and willingness-to-pay of the water users, as well as the public goods nature of certain services (such as wastewater treatment). However, in Azerbaijan there are also subsidies for management at the local utility level. These result in lower water prices to almost all users, and the subsidies both create continuing budgetary drains, but also do not encourage water conservation. The utilities lose some of the "edge" that comes from having to pay most of their operating costs, and consumers view water as a "cheaper" commodity than it really is. Since market prices do not send full information on the costs of supplying water, Azerbaijan has tried a number of different policy measures to encourage conservation and promote better efficiency of water use. These include both traditional command and control measures (especially important for pollution control problems) as well as various economic-based measures. Azerbaijan has used both types of measures extensively, and, especially with the economic measures, has a system in place to generate revenues to help pay for water systems operation and management (although the large role of subsidies makes water relatively "cheaper" than it would otherwise be). The most interesting point is the clear use of legal measures to set broad policy guidelines, and the use of annual plans to then design the sustainable water resource management and their implementation [3. 134].

2. REGULATIONS ON WATER SUPPLY AND USE OF WATER

The main law on water supply and efficient use of water resources in Azerbaijan Republic concludes "Developing draft version of MCLNS standards for enterprises applying technical standards and tolerance limits of waste and recommendations on its content". State Environmental Committee, 1994; "Rules for protecting surface water sources from impure water contamination".

State Committee on Environment and Control over Use of Natural Resources. Baku, 1994; “Standardizing rules for use and protection of water sources”, Resolution 2006 of the Cabinet of Ministers of Azerbaijan Republic, October 15, 1988, article 8; Resolution 150 of the Cabinet of Ministers of Azerbaijan Republic on Application of rules for paid use of water in Azerbaijan Republic (1996). Rules for use of water objects for cultural and community purposes, recreation and sport purposes. Resolution 216 of the Cabinet of Ministers of Azerbaijan Republic (1998). Allowable limits of detrimental effects to fishery water bodies. Resolution of the Cabinet of Ministers of Azerbaijan Republic (1999). Rules for state control over protection and use of water bodies. Resolution 198 of the Cabinet of Ministers of Azerbaijan Republic (1998). Regulations on development and application of limits for use of water. Article 8, (1998). Council of Ministries’ Decision No: 206. Resolution 122 of the Cabinet of Ministers of Azerbaijan Republic on Application of fees for use of natural resources, discharge of pollutants into environment, and on use of funds formed from these sources (1992). Regulations on processing, preparation, submission, state expertise, approval and application of systems for comprehensive use and protection of water resources – Article 8 (1998), The Cabinet of Ministers Resolution 206. Radiation Safety Norms QN 2.6.1.054-90 (NRB-90); State Standard 2874-82. Drinking Water. Hygienic Requirements and Water Quality Control; SNIP (Construction Norms and Regulations): For water treatment plants: SNIP 2.04.02-84; State Construction Committee, 1985 - For waste water treatment plants: SNIP 2.04.03-85; State Construction Committee, 1985. Resolution of the Cabinet of Ministers of Azerbaijan Republic on approval of norms for maximum concentration limits of dangerous substances in air, soil and surface water bodies. 2000. The main legislation relevant to EIA in Azerbaijan is given in Table 1. The Law states main principles of preservation of nature, rights and obligations of government, public institutions and citizens in this area; determines objectives of users of nature in conducting environmental monitoring, term of “ecological insurance” for dangerous activities, and establishes volunteer and compulsory environmental audit of economic activities. Basic responsibilities for violation of its requirements have also been formulated.

Table 1: Main environmental laws

Legislative Acts	Year adopted
Sanitarian-epidemiological Safety Law	1992
Radioactive Wastes Law	1994
Radiation Safety of Population Law	1997
Water Code	1997
Industrial and Domestic Wastes Law	1998
Environmental Protection Law	1999
Soil Code	1999
Environmental Safety Law	1999
Specially Protected Natural Areas and Objects Law	2000
Soil Productivity Law	2000
Protection of Atmosphere Law	2001

Source: own construction according to Ministry of Environment and Natural Resources of Azerbaijan

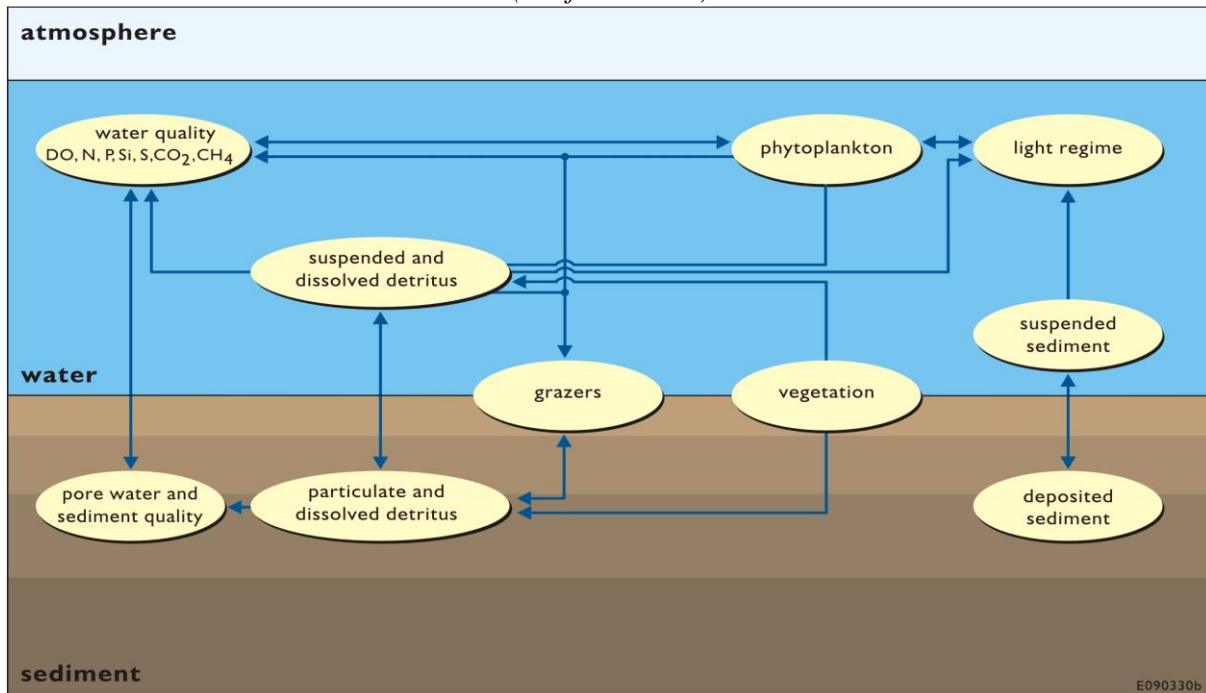
The law establishes basic standards of environmental quality, environmental requirements for economic activities, and sets requirement for state and local environmental monitoring. Quality of environment is included in environmental standards: Maximum concentration limit of noxious substances (MCLNS) in environment; Tolerance limits of noxious substances discharged to the environment; Levels of radiation safety; Sanitary-hygienic norms and standards.

Violation of above-mentioned norms and requirements can result in termination or restriction of business activity. The main goals and objectives of State Ecological Expertise (SEE) and Public Ecological Expertise (PEE) are included in the Environmental Protection Law and includes assessment and approval of EIAs and their role in environmental and construction permitting. Implementation of recommendations of State Ecological Expertise is compulsory. Public opinion is necessary for making optional or alternative decisions, but different from environmental expertise (EE) and SEE recommendations, this is informative and suggestive. Azerbaijan Republic is a member of international organizations on environment and standardization. Partnership and Cooperation Agreement (PCA) between European Union member countries and Azerbaijan (signed on April 22, 1996 in Luxemburg) became effective from June 22, 1999, which indicates high level of cooperation between the two sides. According to article 50 of this agreement, Azerbaijan should attempt to “Promote use of technical rules of the Union in this area and application of European standards and compliance evaluation methods” within “Cooperation in the area of standards and compliance evaluation”. Under article 50 of the Agreement - “Environment” Azerbaijan has taken commitment to “Improve national legislation on the basis of European standards”. European Commission recommendation on involving South Caucasus countries in European Neighbourhood Policy (ENP) was confirmed in Brussels Summit of heads of states and governments of European Union countries held on 17-18 June, 2004. Within the framework of European Neighbourhood Policy “European Union - Azerbaijan Joint Plan of Actions” was signed in 2006. The following are recommended to Azerbaijan in this document: Integrating into EU and international legislation and management practices in the area of standards, technical regulations and evaluation of compliance; Improving procedures and institutes for evaluating factors affecting environment, including adopting and applying relevant laws; Preparing framework legislation and main procedures, and providing the planning for main environmental sectors, especially for air quality, water quality, management of wastes, protection of environment classified in national plan of actions on environment, and continuing the process of adapting to European requirements. Complete reconstruction of water supply and sewer systems of 43 cities and towns of Azerbaijan and construction of relevant plants and networks is planned within the framework of I and II projects of National Water Supply and Sanitation Project financed by World Bank. Suggested standards are Water Supply and Sanitation: British Standards (BS), British Water Industry Standards (BWIS), DIN Standards, ISO Standards, AWWA (American Water Works Association) Standards, European Norms (EN); Construction and electromechanical equipment: British Standards (BS), DIN Standards, ISO Standards, AWWA (American Water Works Association) Standards, European Norms (EN); Working projects on Waste Water Treatment Plants: ATV 301 Standards.

3. WATER QUALITY MODELLING

The quality of surface water and groundwater is a crucial factor for both aquatic ecosystems and beneficial uses of water resources. Water managers want to be well informed on actual and expected water quality to be able to assess the effects of pollution or hydrological changes, the need for mitigation and the effectiveness of costly measures. Water quality modelling can provide the required information, accurately and in great detail. Modelling is an essential tool for many water quality management supporting studies, because only modelling allows for comprehensive and fully quantitative description and prediction of the quality of water systems. An ideal water quality modelling framework allows for the selection of components and processes to tailor an application to the needs of the client. For specific water quality issues prefixed configurations are used, such as the example in Figure 1.

Figure 1: The components and processes configuration for eutrophication modelling (Delft3D-ECO)



Source: Deltares Reports. Corporate Sustainability.
<https://www.deltares.nl/en/about-us/annual-review/>

A modelling framework has a modular structure, which makes it flexible in use and easy to extend with new substances and water quality processes. It is applicable for all relevant spatial and temporal scales, even in an on-line 1D-3D coupling mode. The 1D, 2D or 3D computational grids can be coarse or have a very high spatial resolution, as required for adequate answers to water management questions. Process formulations range from a simplified approach to a comprehensive, detailed kinetic approach. Add-on modules are available for equilibrium and kinetic chemical reactions. Apart from concentration fields in water compartments and bottom sediment layers, the surface water quality modelling framework generates detailed mass balances of simulated substances. [17]

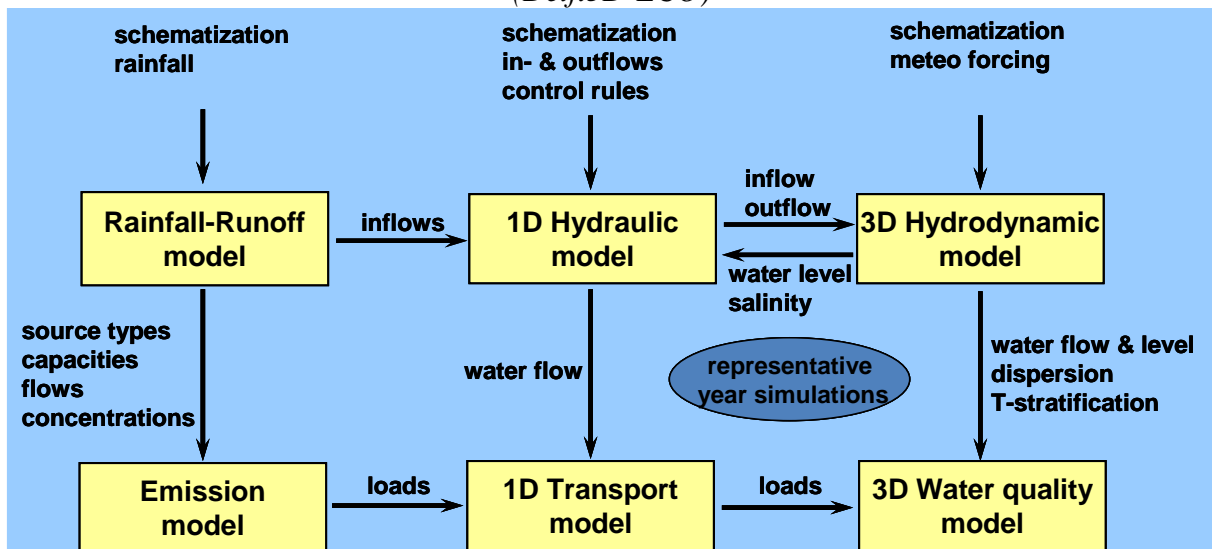
Table 2: The water quality processes

1.	dissolved oxygen, organic matter (detritus)
2.	inorganic and organic nutrients (nitrogen, phosphorus, silicon),
3.	chlorophyll, phytoplankton species, microphytobenthos species, macrophyte species, vegetation species, zooplankton, zoobenthos species (forcing)
4.	carbon dioxide, methane
5.	sulphate, sulphide
6.	organic micropollutants (including EWFD priority pollutants)
7.	heavy metals, iron
8.	bacterial contaminants (fecal coli, etc.)
9.	salinity, chloride
10.	suspended sediment
11.	any dissolved conservative substance
12.	pH, light regime, temperature

Source: Deltares Reports. Corporate Sustainability.
<https://www.deltares.nl/en/about-us/annual-review/>

Surface water quality models and groundwater quality models are usually coupled, traditionally offline, to hydrological, hydraulic and hydrodynamic models, that provide computational grids and flow, dispersion and temperature fields. Coupling proceeds mass conservatively, accurately and smoothly, as it is fully automated. An example of a comprehensive modelling framework is depicted in Figure 2.

Figure 2: The components and processes configuration for eutrophication modelling (Delft3D-ECO)



Source: Deltares Reports. Corporate Sustainability.
<https://www.deltares.nl/en/about-us/annual-review/>

Surface water quality modelling frameworks should be calibrated and validated thoroughly before their application in projects or delivery to clients. For the calibration of groundwater quality models good data are often lacking due to very slow mass transport. Moreover, many model parameters are spatially variable and therefore location specific. Groundwater quality models are primarily used to predict trends, to compare different management scenarios, and to pinpoint monitoring locations that may provide crucial information. [17]

4. THE ROLE OF GOVERNMENT ON SUSTAINABLE WATER SUPPLY AND CONSUMPTION

It is estimated that internal renewable water resources amount to about 8.12 km³/year. Annual surface runoff is estimated at 5.96 km³ and groundwater recharge at 6.51 km³, of which 4.35 km³ constitutes the base flow of the rivers. The estimated incoming surface flow is 25.38 km³/year, of which 11.91 km³ from Georgia, 7.50 km³ from the Islamic Republic of Iran and 5.97 km³ from Armenia. The Sumar River, with a total flow of 2.36 km³/year, forms the border between Azerbaijan and the Russian Federation. The total renewable surface water resources (RSWR), including incoming and bordering flows, are therefore estimated at 32.52 km³/year. In the case of the Kura and Aras Rivers, which flow through Turkey, Georgia, Armenia, the Islamic Republic of Iran and Azerbaijan, discussions are under way on a water sharing agreement. The groundwater resources are famous for their quality as mineral drinking water and are also used for medical purposes. The Nakhchivan Autonomous Republic is especially rich in mineral groundwater. The basin of the Kura and Aras Rivers. This is by far the largest basin in the country (excluding the occupied zone and the zone declared neutral in May 1994). The Kura River rises in the Kars upland in northeast Turkey.

It then flows into Georgia and crosses the border to Azerbaijan in the northwest. The total length of the Kura River system is 1 515 km, of which 900 km is located within Azerbaijan. The total annual inflow from Georgia is estimated at 11.91 km³. The Aras River also rises in the northeast of Turkey. It forms the border between Turkey and Armenia, Turkey and Azerbaijan, the Islamic Republic of Iran and Azerbaijan, the Islamic Republic of Iran and Armenia, and the Islamic Republic of Iran and Azerbaijan again, before flowing into the eastern part of Azerbaijan. About 100 km downstream of the border it joins the Kura River, which continues to flow southeast towards the Caspian Sea. The total inflow of the main branch of the Aras River and its tributaries from Armenia and Iran is estimated at 13.47 km³/year, bringing the total inflow into Azerbaijan to an estimated 25.38 km³/year [6]. The Samur River Basin, located in the northeast of the country. The Samur River rises in the Russian Federation and then forms its border with Azerbaijan. Its estimated annual discharge is 2.36 km³, half of which is considered to be available for Azerbaijan. The river divides into several branches before flowing into the Caspian Sea. On the table 3 there are water supply of some big cities of Azerbaijan republic. As seen from table consistent water supply rates of Mingechaur city are higher than other cities. It is primarily due to the fact that, in the vicinity of the Mingechaur city there is the huge reservoir of the country. Also till to the year 2008 total water consumption for production in Ganja city was higher than other cities. From 2008 to 2014 Sumgait city exceeded all other cities on water consumption for production needs. In the recent years capital city Baku is most uses drinking water.

Table 3: Regular and consistent water supply of some cities in Azerbaijan (mln.m³)

	1992	1995	1999	2003	2005	2008	2009	2010	2011	2012	2013	2014
Azerbaijan	1476	1696	1817	2236	2224	2485	1891	1787	1788	2204	2184	2469
By Cities												
Baku	570	245	164	771	711	414	419	335	284	425	419	459
Ganja	87	39	19	36	59	59	0,1	0,1	0,1	-	-	-
Mingechaur	11	7	1526	1297	1283	1215	833	639	767	991	930	936
Sumqait	777	151	103	129	160	166	213	366	244	211	215	408
Shirvan	5	5	3	2	1	622	416	437	469	574	614	645
the ratio of total water consumption for production needs (%)												
Azerbaijan	30	44	42	50	49	55	54	51	50	51	52	54
By Cities												
Baku	58	53	61	76	73	65	65	47	51	59	63	60
Ganja	70	89	86	89	88	88	3	13	9	-	-	-
Mingechaur	0,6	0,6	50	50	50	52	50	49	50	50	50	50
Sumqait	72	60	44	71	84	89	68	62	56	54	50	67
Shirvan	0,7	0,9	0,5	0,3	0,1	50	50	50	50	50	50	50

Source: State Statistical Committee of the Republic of Azerbaijan

The Caspian Sea coastal river basins in the northeast, between the Samur and Kura River Basins. The Caspian Sea coastal river basins in the Lankaran region in the southeast, south of the Kura River Basin. The total reservoir capacity of Azerbaijan's dams is around 21.54 km³. Most of this capacity, 21.04 km³, comes from large dams, of more than 100 million m³. The four largest reservoirs are the Mingacevir and Shamkir on the Kura River, the Aras dam on the Aras River, and the Sarsang on the Terter River.

Azerbaijan is party to three agreements with its neighbours on transboundary rivers: with the Islamic Republic of Iran on the Aras River, with Georgia on Gandar Lake and with the Russian Federation on the Samur River. No agreement exists regarding the Kura River, the most important transboundary river in the region (UNECE, 2004). Issues of critical importance are the sharing and joint management of the Kura and Aras Rivers and of the Caspian Sea to prevent further pollution and ensure sustainable development of their resources. In 1997 the Government of Georgia ratified an agreement with Azerbaijan concerning environmental protection, providing for cooperation in the creation of specifically protected areas within transboundary ecosystems. The Caucasus Initiative, launched by Vice-president of Heydar Aliyev foundation Mrs. Leyla Aliyeva and German Ministry of Cooperation and Development, envisages, among other things, the implementation of the "Ecoregional Nature Protection Programme for Southern Caucasus" covering the three Caucasus countries: Azerbaijan, Georgia and Armenia. It will be implemented in the nearest future and will facilitate to protect and sustainable use of water resources in the region. A number of international organizations have cooperated on initiatives in Azerbaijan in the field of ecology through the UN mission and the UNDP. Negotiations have been held with representatives of the UN, UNEP, UNESCO, World Bank and environmental protection organizations of the CIS countries, USA, UK, Germany, Turkey and the Islamic Republic of Iran. One of the results has been the adoption of the "Agreement on cooperation in the field of ecology and environmental protection between Azerbaijan and Turkey" (UNEP/GRID-Arendal, 2005). From 2000 to 2002, USAID, in collaboration with Development Alternatives Inc. (DAI), implemented the South Caucasus Water Management project. Its aim was to strengthen co-operation among water agencies at local, national and regional levels and demonstrate integrated water resources management. In parallel, between 2000 and 2006, the EU and the Technical Assistance Commonwealth of Independent States (TACIS) carried out the Joint River Management Programme on Monitoring and Assessment of Water Quality on Transboundary Rivers for the prevention, control and reduction of the impact of trans-boundary pollution. The programme covered four basins, including the Kura River Basin. In addition, regional organisations such as REC, Eurasia Foundation, and numerous local foundations have promoted national and regional activities concerning water resources management and protection (UNEP, 2002). Between 2002 and 2007, OSCE realized the South Caucasus River Monitoring Project. Its general objectives were to establish the social and technical infrastructure for a joint international Transboundary River water quality and quantity monitoring, data sharing and watershed management system among the Republics of Azerbaijan, Georgia and Armenia. Project Reducing Transboundary Degradation in the Kura-Aras River Basin, implemented by the UNDP Bratislava Regional Centre in collaboration with the Global Environmental Facility (GEF), has involved four of the basin countries: Azerbaijan, Georgia, Islamic Republic of Iran and Armenia. Efforts are being made to involve Turkey in the project as well. The preparation phase, which is co-funded by Sweden, began in July 2005 and will last 18 months. The objective of the project is to ensure that the quality and quantity of the water throughout the Kura-Aras River system meets the short and long-term needs of the ecosystem and the communities that rely upon it. It will be achieved by fostering regional cooperation, increasing the capacity to address water quality and quantity problems, demonstrating water quality/quantity improvements, initiating required policy and legal reforms, identifying and preparing priority investments, and developing sustainable management and financial arrangements. Currently there are no water treaties between the three south Caucasian countries owing to the political situation in the region. Aggressive and occupation policy of Armenia against Azerbaijan in Nagorno-Karabakh is one of the main obstacles, making it difficult for Azerbaijan and Armenia to sign a treaty even one only relating to water resources management.

5. WATER TARIFFS, WATER SYSTEM CAPACITY

The appeal made by “Azersu” OJSC was considered by Tariff (price) Council and new tariffs have been fixed. At the present 30.4 % of the costs of “Azersu” OJSC is formed by the salary and 28.3 % is formed by the costs spent on power supply. In addition, average monthly salary in the Joint-Stock company is very lower than average indicators upon the republic. Let’s state that the tariffs for the consumers using water as raw material have not been changed and stayed in the present level. It means that the costs of the manufactures of products using water as raw material, as well as the prices of those products will be changed too. At the same time monthly consumption norm upon the subscribers having no meter was reduced from 6m³ to 5m³ in the people consumption group and it means that such subscribers will pay less means every month. Let’s state that monthly per head water consumption indicator is between 3-5 m³ in most countries. Taking into account the fact that the principal value of 1 m³ water is very lower than the tariffs, the tariffs on the services of water utilization were fixed as 30 copech per 1 m³ for Baku, Sumgayit, Ganja, Mingechevir, Shirvan, Khirdalan cities and Absheron region, 0,25 Manat per 1m³ for the other regions including VAT, 1 Manat for non-population consumption group upon all areas of the country, the tariffs on the services of floating of waste water was 0,6 Manat upon the population group and 0,30 Manat for the other users in the meeting. Taking into account the new norm, monthly additional costs of a person will be 0,42 Manat in the cities and 0,41 Manat in the villages after the tariff modifications. In its turn it means that the costs upon water supply and sever services per head will be increased from 1.32 million Manat to 1.8 million Manat [11]. On the table 4 there is prices of the tariff council of "Azersu" OJSC waste water services, consumer consumption by regions, groups and classification on approval of the tariff decision [11].

Table 4: Tariffs, including VAT in Azerbaijan (Manat¹)

Types of services		Consumer groups	Unit of measurement	Tariffs, (including VAT, AZN)
I.	Water supply	1. Population, including:		
		1.1. Baku, Sumgait, Ganja, Mingechevir, Shirvan, Khirdalan and Absheron	1 m ³	0,30
		1.2. Other regions	1 m ³	0,25
		2. Other areas	1 m ³	1,0
		3. Those who use water as a raw material	1 m ³	12,0
II.	The waste water discharge	1. Population	1 m ³	0,06
		2. Other areas	1 m ³	0,30

Source: “Azersu” Tariff (Price) council of Azerbaijan Republic

The tariff changes will contribute to payment of the current exploitation costs of “Azersu” OJSC, economical utilization of water, prevention of squandering, increase of quality of the services. The matters like increase of the numbers of the meters upon Baku city to 94% on the account of means assigned from the state budget, increase of level of collection were specially noted and special recommendation were given on strengthening of the measures to be take in this field while discussing the matter.

¹ 1 \$ = 1,70 AZN

6. CONCLUSION AND POLICY RECOMMENDATIONS

The main directions we face with some constraints in the national situation regarding water are following: Drinking water safety; Water pollution and quality; Water conservation and reducing of a water losses and leakage; Flood flow and mud flow control; Dam safety and control; Protection of coastal areas of the Caspian Sea level rising. The main challenge in water sector with regional or cross-boundary impact are following; Integrated monitoring of the Kura and Araz Rivers; Integrated Monitoring and Watershed Management Plan for Samur River; Integrated Monitoring of the river delta and equatorial marine of the Caspian Sea. Major stakeholders in water sector are public sector (Governmental organizations, municipalities, residential consumers) and private sector (Commercial organizations, farmer communities, etc.). Development of a Strategy for Water Resources Numerous linkages exist between the surface and ground water components of water catchment areas (or river basins) and the different facets of water use, dictating the need for an integrated river basin management. A new management structure should also be reflective of the following principles: The value and use of water resources depend on the quantities and qualities available and on the reliability of both. The natural dry weather flow of surface waters derives almost entirely from ground waters, while ground waters are recharged by percolation from the surface. Overexploitation of surface water may reduce the capacity of the water to assimilate pollution safety and adversely affects fisheries and the environment. Fitness of water resources for their uses and protection of the aquatic environment depends mainly on control of the aspects of water quality. Uncontrolled discharged at the surface may percolate underground, causing rising levels and pollution, as in Apsheron. Conjunctive use of ground and surface waters (i.e., maximizing use of ground waters when river flows are low and resting them when river flows are high) can greatly increase yield from existing resources. New urban and industrial development increases not only demand for water resources, but also demand for wastewater disposal and surface water drainage. Irrigational must be matched by drainage to protect soil structure, and drainage without adequate collector systems degrades river quality by increasing salt content [7]. A National Commission for regulation of Water resources should be set up and that water resources management responsibilities, financial resources, and facilities be transferred to it from the various bodies currently involved. A National Water Resources Strategy should be developed within a National Water Sector Policy to articulate views on the nation's current and future economic, social, and environmental needs for sustainable management of water resources. The strategy should be reviewed and rolled forward at regular (perhaps two-year) intervals. The strategy and updates should be ratified at the Country president Administration. An overhaul and reorganization of information and monitoring systems, including field and laboratory measurement facilities, should be undertaken. Its key elements include: specification of information requirements; data quality requirements, particularly in flow metering and environmental control procedures; specifications should be attainable and related to needs; and effective data storage, processing (including validation), and dissemination to the point of use. To develop the information-gathering and plan-development processes and necessary skills, a pilot water resources survey and planning exercise should be carried out in one subcatchment area, where surface and ground waters are both significant and a wide range of uses exists.

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UNEMPLOYMENT IN NIGERIA: THE ROLE OF ENTREPRENEURSHIP EDUCATION

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ABSTRACT

This study examined the role of entrepreneurship education in reducing unemployment in Nigeria. The main objective of the study was to look at the possibility of entrepreneurship education in unemployment eradication in Nigeria. In the achievement of this objective, questionnaire was administered to 70 entrepreneurs in different locations in Nigeria to collect needed information. The hypothesis formulated, was tested and analyzed using Chi-square test. Findings from the result revealed that entrepreneurship education has a positive significant effect on unemployment eradication in Nigeria. Therefore, it is recommended that students be encouraged to embrace entrepreneurship education or training in order for them to become wealth creators by being self-reliant. Also, there is the need to empower other vocational and skills acquisition centres, by providing them with the necessary materials in entrepreneurship education, in order that they can assist in the development of entrepreneurial skills required by individuals to set up cottage industries.

Keywords: *Education, entrepreneurial skills, entrepreneurship education, Nigeria, unemployment*

1. INTRODUCTION

Despite the realization of the crucial role of entrepreneurship in economic development and industrial recovery by governments in Nigeria since the late 1970s and particularly from the 1980s and its efforts in this regard, it is still disappointing to notice that entrepreneurial activities are still low, training is almost non-existent, savings rate is still low, unemployment continues to exacerbate, capacity utilization is low, manufacturing output continues to fall and small and medium scale entrepreneurs are still not able to access enough finance for investments. According to Ihugba, Odii and Njoku (2013) entrepreneurship activities and innovative ingenuity in Nigeria have developed enterprises in areas such as agriculture/agro-allied, solid minerals, transportation, information and telecom, hospitality and tourism business, building and construction, etc. Despite the human and natural resources that abound, Nigeria is still one of the poorest countries in the world and has one of the highest rates of youth unemployment in sub-Saharan Africa. In respect of the above sad and deplorable situation, the government has done little to reduce the misery and frustrations of the citizenry. This has foisted a state of hopelessness on the majority of young and old people who have resorted to any means including crime to succeed in life. They resort to vices because they are not gainfully engaged. In other words, they are unemployed; unemployed, not because they lack the qualification but because the system has crippled politically, economically, socio-culturally and even religiously (Anyadike, Emeh & Ukah, 2012). The need for entrepreneurship development in the country today and specifically the Nigeria private and public universities is necessitated by the fact that entrepreneurship development is a major factor in economic growth and development.

Again among thousands of tertiary graduates produced by tertiary institutions in Nigeria every year, only a few hundreds of them are lucky to secure paid employment. Hence, going through the higher institutions of learning and/or possessing professional qualifications in disciplines like accounting, law, engineering, and medicine is no longer a guarantee for getting the desired employment because of the shrinking economy. However, the way out is through encouraging the development of entrepreneurial skills which can help to transform the challenges into business opportunities (Odia & Odia, 2013). The economic environment in Nigeria has been unstable for many years. Graduate employment has hitherto been affected adversely and successive governments in Nigeria in the last 20 decades have tried to address this challenge by adopting monetary, fiscal and industrial policies that are geared at reducing the high rate of unemployment in Nigeria without much success. To this end, the study examines the role of entrepreneurial education in the reduction of high unemployment in Nigeria. The objective of this study is to examine the possibility of entrepreneurship education in unemployment eradication in Nigeria. Based on the objective, the study set out to give an answer to the research question which is; what effect does entrepreneurship education have on unemployment eradication in Nigeria? Further, hypothesis was formulated to get an empirical finding. H₀₁: Entrepreneurship education has no effect on unemployment eradication in Nigeria.

2. LITERATURE REVIEW

This section will look at some literature related to the research study;

2.1. Entrepreneurship Education

The first graduate course in entrepreneurship was offered at Harvard University by Professor Miles Mace in 1947 (Katz, 2003, Vyakarnam, 2009). Fry (1992) observes that entrepreneurship has been one of the fastest growing disciplines in the U.S.A in the 1990s. Indeed, by the wake of the 21st century, as many as 1600 universities in the North-America were found to be offering different courses in entrepreneurship when compared to merely two dozen in the 1970s (Inegbenebor, 2005). In the U.K, the first few courses in entrepreneurship were launched in the 1980s together with the UK's first initiative for enterprise in higher education (Elton, 1991, Kirby, 1989 & 2005, Volkman, 2004). The need for entrepreneurship education started in Nigeria in the mid-1980s when the economy collapsed due to political instability and inconsistencies in the social-economic policies of successive governments. This resulted in very high youth and graduate unemployment (Arogundade, 2011). Graduates of tertiary institutions were not having sound knowledge and skills which would make them self-reliance. The lacuna led to the introduction and emphasis on entrepreneurial education owing to the belief that its introduction into tertiary education would lead to the acquisition of skills that would enable its graduates to be self-reliant and consequently reduce unemployment problems (Nwangwu, 2006). Arogundade (2011) argues entrepreneurship education will equip the students with the skills to be self-reliant and task the government and other education stakeholders should make sure that educational programme at all levels of education are made relevant to provide the youths and graduates needed entrepreneurial skill. Entrepreneurship education in the narrower sense follows a direct approach, developing students' competencies and entrepreneurial intentions towards starting a business as a career option. According to Paul (2005), the objectives of entrepreneurship education include: Offering functional education to the youths to make self-employed and self-reliant. Providing youth graduates with adequate training to the creative and innovative in identifying novel business opportunities and establish a career in small and medium scale businesses. Reducing the high rate of poverty and rural-urban migration. Creating employment and serve as a catalyst for economic growth and development among others.

2.2. Causes of Youth Unemployment in Nigeria

In the study unemployment in Nigeria, Adebayo (1999), Alanana (2003), Echebiri (2005), Ayinde (2008), Morphy (2008), and Awogbenle and Iwuamadi (2010) have identified the main causes of growing unemployment in Nigeria. The first is the rapidly growing urban labour force arising from rural-urban migration. Rural-Urban migration is usually explained in terms of push-pull factors. In addition to this, youth move to the urban area with the probability of securing lucrative employment in the industries (Muogbo and John-Akamelu (2018)). The second is the accelerated growth of population, Nigeria's unemployment problem is multi-faceted. It affects the supply side through a high rapid increase in the labor force relative in the absorptive capacity of the economy (Muogbo and John-Akamelu (2018)). The third is the outdated school curricula and lack of employed skill and the fourth is the rapid expansion of the educational system which directly leads to increase in the supply of educated manpower above the corresponding demand for them. This contributes to the problem of youth unemployment in Nigeria.

2.3. Challenges of Today's University Graduates / Professionals

The importance of the development of entrepreneurial skills by every graduate cannot be overstated because gone are the days when jobs were available everywhere both in the private and public sectors of the economy and employers go about looking for potential employees to employ. Indeed, in the past, it is the employers who go round universities and polytechnics in Nigeria to hunt for potential graduates for employment. Then there were fewer universities and polytechnics and University enrolment was low. Today, things have changed very significantly such that many graduates of tertiary institutions are now sellers of recharge cards, some work as bus conductors and other jobs not meant for graduates. The situation is an economic tragedy and waste! The question of choice of job or the type of employer is gradually being eroded each year. Many graduates are now desperate to get just any kind of job just to make a living. Even the professional disciplines like medicine, law, accounting, and engineering and some few others are now difficult in getting employment opportunities. Employment prospects amongst qualified graduates are faced with a lot of increasing competition and the job openings are equally limited. From past experiences, many graduates have always had a strong preference for the industry or public sector practice but things have since changed. Even employment opportunities in the public sector have also decreased. Indeed, job prospects have diminished in both the private and public sectors. Added to this ugly situation are the increasing trend of job outsourcing in almost every establishment, the increasing phenomenon of rightsizing of labour among big firms and corporations, and the casualization of labour in the oil and gas industry in the country. As a side effect, the figure of tertiary graduates who have not been able to secure the first employment since graduation for upward of 5 years is on the increase and even those with professional qualifications like Medicine (NMA), Law (NBA), Engineering (COREN) and Accounting (ICAN) are not spared from this ugly socio-economic phenomenon. Some graduates are even paid peanuts if they are lucky to secure paid jobs. University and polytechnics graduates now fall back on their lower qualifications like the School Certificates, National Diplomas (ND) and Polytechnics (OND and HND) to secure menial jobs.

3. MATERIALS AND METHODS

The experience survey method involving the use of questionnaires was adopted for this study. The Experience survey method is chosen in preference to other methods like content analysis because of its capacity to measure human opinions and attitudes. This will enable the researcher to generate valid information from samples of human elements that is, the respondents of the questionnaires issued as described by Orodho (2009) as cited in Ekienabor and Arilesere (2018).

Data for this study were primary data generated from questionnaires distributed to a hundred respondents randomly selected from the federal ministry of labour and productivity and some ownership of small scale businesses in Benin City, Edo State. The data generated were then subjected to a statistical test using Chi-square statistics. The respondents were asked whether entrepreneurship education has an effect on unemployment eradication in Nigeria. The table 1 below shows the response to the question.

3.1. Questionnaire Analysis

Table 1: Response to questionnaire

Option	Number	Percentage
Yes	70	70
No	30	30
Total	100	100

Source: Field survey (2019)

70% of the respondents were of the opinion that provision of social amenities by the government will improve the performance of entrepreneurship and in turn economic development of Nigeria.

4. MATERIALS AND METHODS

To achieve the stated objective, one hypothesis stated in NULL form is formulated and tested as below:

- **Hypothesis 1:**

Entrepreneurship education has no effect on unemployment eradication in Nigeria.

To test this hypothesis table 1 above was subjected to Chi-square statistical test through the use of SPSS. The result of the analysis is presented in table 2 below:

Table 2: Chi-square test analysis

	Hypothesis One
Chi-square	4.000 ^a
Df	1
Asymp. Sig.	.046

a. 0 cells (.0%) have expected frequencies less than 5 then minimum expected cell frequency is 50.0.

- **Decision Rule:**

Reject Null Hypothesis (Ho) if X² calculated is higher than X² tabulated and accept Null Hypothesis (Ho) if X² calculated is lower than X² calculated.

- **Decision:**

From the result as shown above in table 2, X² calculated is 4.000. At 5% level of significance and 95% confidence level, X² tabulated at a degree of Freedom of 1 is given as 3.84.

A look at both the chi-square calculated and tabulated comparatively as shown in table 4 reveals that chi-square calculated is higher than chi-square tabulated. Therefore, the decision is to reject the null hypothesis and accept the alternate hypothesis which states that: Entrepreneurship education has a significant and positive effect on unemployment eradication in Nigeria.

5. CONCLUSIONS AND RECOMMENDATIONS

Entrepreneurship is essential for rapid and sustained economic growth and development. It creates the required manpower and skills necessary for accelerated growth, reduced unemployment and alleviates poverty. It is therefore strategic and important for Nigeria to assign a significant and increasing role to entrepreneurship education in their effort to reduce unemployment and revamp the economy if the aim of becoming a developed nation is to be achieved. The importance of entrepreneurship education cannot be overemphasised since it is very vital in the area of ensuring a steady supply of food and thereby checking the level of food insecurity in the nation. Well-Implemented entrepreneurship education can promote the growth of Agro-businesses. Entrepreneurship education ensures proper utilization of a nation's vast human and material resources. That is, it promotes local or indigenous technologies. With Entrepreneurship education on course, the entrepreneurial skills acquired by the students/learners are better used in harnessing the nation's resources towards attaining optimum utilization of resources. Based on the findings of this study the following recommendations are made;

1. Students should be encouraged to embrace entrepreneurship education or training in order for them to become wealth creators by being self-reliant.
2. Also, there is the need to empower other vocational and skills acquisition centres, by providing them with the necessary materials in entrepreneurship education, in order that they can assist in the development of entrepreneurial skills required by individuals to set up cottage industries.

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ATTITUDES OF PARTICIPANTS OF THE BIKE RACE “A RIDE FOR ŽIR” ABOUT THE RACE AND THE ISLAND OF ŽIRJE AS A CYCLOTOURIST DESTINATION

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ABSTRACT

Bike race “A Ride for Žir” is a traditional bicycle race of athletes, recreational athletes and children which is being held on the Island of Žirje since 2005 and is organized by the Žirje Ecological Association. The Žirje Island is the largest permanently inhabited island of Šibenik - Knin County, but it’s also the least populated island by the older population. Žirje Island is characterized by unspoiled nature, valuable archaeological sites, its environment, rich tradition and natural resources. The intention of the association with this project is to maintain the continuity of the cycling race, which is a part of a larger project of sustainable development of the island where from year to year, the positive effects of such sporting events have been multiplying: additional extensions of the trails on the island and regulation of the environment (which also has the effect for prevention of fire), local community is mobilized and volunteering has been promoted (therefore the community is being strengthened), tourist promotion of the island is being supported and also healthy lifestyle and nature conservation were promoted through cycling, where all this elements together contributed to raise the quality of the cycling tourism offered on the island. In the conducted research by means of a survey questionnaire among participants of the bike race “A Ride for Žir”, explores the impact of cycling on health, relationship between participants' demographic characteristics and their attitudes towards the cyclotourism offer of Žirje Island, their motives for participating in the race, attitudes towards the race organization itself and proposed guidelines for improvement by race participants. The research was conducted for the purpose for potential opportunities aiming for the improvement of the race organisation and exploration of attitudes of the race participants considering it as a cyclotourism market.

Keywords: “A Ride for Žir”, island of Žirje, cycling, cyclotourism, attitudes

1. INTRODUCTION

Cycling has a positive impact on human health and in addition to sports purposes and for the transportation needs it is also used for tourism. The Croatian Tourism Development Strategy has recognized cyclotourism as a promising form of tourism and it does strive to seek a special attention. The Žirje Island is the farthest island of Šibenik archipelago that has not been tourist evaluated. "A Ride for Žir" is a traditional bicycle race of athletes, recreational individuals and children that is held on the Žirje Island since 2005, it’s covered by the organization of the environmental association Žirje. Organization of bicycle race is financed from the funds received through the application for the project tenders and from the donation funds. During race "A Ride for Žir" in 2018 were surveyed race participants with the aim of exploring their attitudes toward the race organization and the perception of the Žirje Island as a cyclotourism destination.

2. THE BENEFITS OF CYCLING FOR HUMAN HEALTH

Cycling is a form of a physical activity that effectively engages the cardio-respiratory and metabolic functions of the entire body and brings significant health benefits. For this reason, cycling is recognized as an important part for promotion a healthy lifestyle, and cycling is a significant activity for achieving the recommended guidelines for the physical activity for the maintaining human health. Cycling is a very healthy activity that does not put burden on the joints and can be enjoyed by people of all age categories. Also, it is a fun, cheap and environmentally friendly activity that can be carried out for transportation, recreation and sporting purposes. Unlike many sports, cycling does not require a high level of skill or body fitness. Cycling engages a whole range of muscle groups and improves muscle capacity and cardio-respiratory endurance. If it's carried out regularly, it prevents a numerous chronic diseases associated with immobility and also helps to prevent obesity. Proceeded observational studies have found a strong inverse relationship between active bicycle transport and overall mortality and malignancy in the middle-aged population and also the elderly (Oja et al, 2011). Furthermore, intervention studies that were preceded on the working-age population have confirmed improvements in cardiovascular fitness and a reduction of risk factors that induce the cardiovascular disease in persons using a bicycle as a means of transport (Oja et al, 2011). In addition to its indisputable benefits for physical health, cycling also enhances some aspects of cognitive function and mental health in middle- aged and older-aged people (Leyland et al, 2019), as well as health-related quality of life (Crane et al, 2014).

3. BICYCLE RACE "A RIDE FOR ŽIR" FOR THE AIM OF DEVELOPING CYCLOTOURISM

Cyclotourism was created as a combination of environmental awareness and tourism travel. Instead of travelling by other means of transport, people are increasingly prone to travel by bike. Cyclotourism represents an independent cycling trip that signify pleasure, adventure and autonomy (Bumbak, Grubišić, 2017, p. 117). The main features of cyclotourism are:

1. cyclotourism represents a form of tourism that dominantly takes place in a high-value, ecologically preserved and attractive natural landscape.
2. cyclotourism represents a tourist activity that is minimally invasive in spatial terms, since it usually does not result in large and irreversible interventions into the environment.
3. by developing cyclotourism tracks, it's possible to on the environmentally and cost - effectively way connect European regions thereby to increase territorial cohesion among the EU Member States.
4. the use of a bicycle may improve the general health of the residents.
5. the development of cyclotourism can increase the quality of tourists stay in the destination and also led to increase of the living standard of the local population (Tourism Institute, 2015, p. 9).

Cycling has many benefits: it occupies little space, saves on time, and cycling improves psycho-physical health. Cycling connects people, enables them to stay in touch with nature and represents the freedom of movement of an individual. Through the low cost of buying and maintaining a bicycle, cycling reduces external costs (Rupprecht Consult, 2017). Average cyclotourists are, on average, 45-55 year olds, secondary educated or university educated, with higher incomes: among them the more common group form males, and from them 20% are single, 50% are couples, and the rest represents small groups of 3-5 people. To cyclotourists are important variety of destination facilities, road safety, route markings, and accommodations that are tailored to their needs (Economic Portal, 2017). The cycling race "A Ride for Žir" has been traditionally organized on the Žirje Island since 2005. Žirje Island is the farthest inhabited island of the Šibenik archipelago and is presently going through a phase of demographic decline

(according to the 2011 Census, on the island were 103 inhabitants). Žirje Island has natural and cultural-historical resources that can be used to develop tourism on the island. The island has historically been a military stronghold and as such has not been valorised in terms as a tourist destination. The island's coast is rugged and there are 29 bays on the island. The island has a pine and oak forest, and from agricultural crops are grown vines, figs, plums and olives. There are six orchid species growing on the island and different types of aromatic and medicinal herbs. There are small game on the island such as rabbits and pheasants, and the waters around the island have fishing spots, especially for tuna fish. On the island there are eight natural caves and pits, namely: Golubnica, Mala Jama, Podvodnje, Gravanjača, Mala buža in Tratinska , Gradina, and Mala buža after Prisluga and Draževica. The most important cultural and historical monuments on the island are: the Church of St. Mary, remains of the nunnery called Kućišta, five rooms field stone house or the Old house, fortress Gradina dating from the 6 century, St. Nikola Gustijerna (water tank of the name St. Nikola), Our Lady's Church in Muna Bay, Chapel of Our Lady of Seven Sorrows and Chapel in Mala Nozdra. Also was discovered an underwater archaeological site containing amphorae, which was protected by a cage from devastation. Above the Velika stupica bay there is the Gradina fortress. Cyclotourism has the prospective of development on the Žirje Island in a form of a tourist product because of the existing bike tracks and the bike race "A Ride for Žir". The organization of the bicycle race is financed from the funds received through the application for project tenders and from the donations. The bicycle race has had a positive effect in the local community in the form of organizing of the local population and the members of the association, and there was a need for the arrangement and investment in the bike tracks. In 2006 the participants of the race came from different parts of the Republic of Croatia, but since 2007 the participants of the race were also foreign tourists who have come to the island to participate in cycling. Every year the trails and the environment are maintained, a cycling map is printed on which besides the cycling trails are marked restaurants and interesting sites on the island, signs and directions are placed on the island, the local community have been mobilized; the Žirje Island is promoted as a "green cycling oasis". Also is promoted a healthy lifestyle which ultimately results in raising the quality of the island's cyclotourism offer. In the course of the last two years Žirje's bike race has been included in the marking of the European Mobility Week. Participants cycling on the Žirje Island are (in line with the details of the Project documentation cycling race "A Ride for Žir", 2018):

1. members of the cycling clubs.
2. recreational cyclists.
3. children.

There are four categories of participants existing:

1. sport category (22 km long trail, Srcela - Mikavica - Zvizdulje).
2. recreational category (15 km long trail).
3. participants of 8-15 years of age (5 km long track).
4. participants up to 8 years of age (500 m long track).

In total, 65% of the bike trails is gravel. From Figure 1 is shown the number of participants in the "A Ride for Žir" bike race.

Figure following on the next page

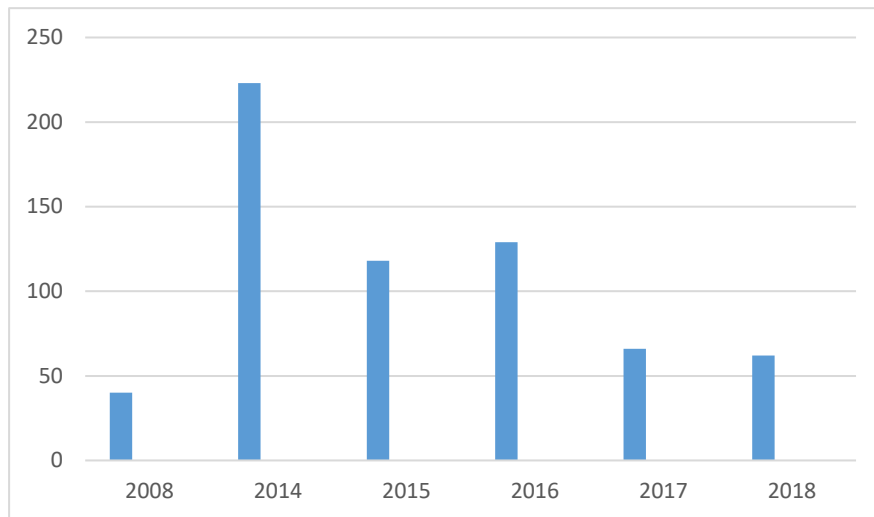


Figure 1: Number of participants in the "A Ride for Žir" bike race ("A Ride for Žir" project documentation, 2018.)

4. RESEARCH METHODOLOGY AND HYPOTHESES

Data in survey were collected through use of anonymous questionnaires, and the survey was conducted after the cycling race "A Ride for Žir" in 2018 on the Žirje Island on 43 respondents. The survey questionnaire as a survey instrument contained 27 questions that were related to the demographic characteristics of the respondents, their views with regards to the organization of the "A Ride for Žir" cycling race and also their attitudes with regards to the Žirje Island as a cyclotourism destination. Before the survey was initiated, the respondents were made familiar with the research and the subject of the research. The sample is suitable because only the participants of the cycling race were targeted. Demographic variables in the questionnaire were: gender, age, education, marital status, employment status and the country of residence. The statistical analysis was performed using the statistical package IBM SPSS Statistics 25.0. A five-point Likert scale was used (where 1 indicates the utmost disagreement, and 5 - strongly agreement). Data distribution was tested by Shapiro - Wilk test:

- normal distribution: age
- abnormal distribution: everything else but the age.

The descriptive statistics for the categorical variables have been shown using percentages and absolute values. The descriptive statistics for the numerical variables of the distribution is shown using arithmetic mean (AS), standard deviation (SD), median, interquartile range, minimum (min) and maximum (max) values. Differences in accordance to the gender were tested when using the following tests:

- T-test for independent samples for numerical variables of normal distribution (age only)
- Mann Whitney U test for numerical variables of abnormal distribution
- χ^2 -test and Fisher test for nominal variables.

The applied level of significance was $\alpha = 0.05$.

In accordance with the set theoretical-methodological approach and the addressed problems, several hypotheses can be set:

- H₁ - Participants in the "A Ride for Žir" cycling race are satisfied with the organization of the race.
- H₂ - Participants in the "A Ride for Žir" bike race consider that Žirje Island has the potential as a cyclotourism destination.

5. RESEARCH RESULTS

The demographic characteristics of the respondents are shown in Table 1.

Table 1: Demographic characteristics of all respondents (Questionnaires and authors data processing)

Variable	All respondents (N = 43)
	N (%)
Gender	
Male	25 (58,1)
Female	18 (41,9)
Marriage status	
Unmarried	11 (25,6)
Married	27 (62,8)
Widower / widow	2 (4,7)
Divorced	3 (7)
Qualifications	
No school	1 (2,3)
Elementary School	0 (0)
Secondary school	19 (44,2)
Higher education / University study	21 (48,8)
Mr. Sc / PhD	2 (4,7)
Working status	
Employed	30 (69,8)
Unemployed	3 (7)
Retired	8 (18,6)
Housewife	2 (4,7)
Student	
Amounted monthly earnings	
Up to 2000 HRK	6 (14)
From 2001 to 4000 HRK	6 (14)
From 4001 to 8000 HRK	18 (41,9)
More than 8000 HRK	13 (30,2)
Country of residence	
RH	42 (97,7)
BiH	1 (2,3)
Other	0 (0)
Competing in other bike races	
Yes	20 (46,5)
No	23 (53,5)

In the survey participated 58,1% of male respondents and 41,9% of female respondents. The 26,5% of respondents are unmarried, 62,8% are married, 7% are divorced and 4,7% are widowers. Of the aforementioned, 48,8% are highly educated, 44,2% of them own a high school diploma and 4,7% have a master's or doctoral degree. Employed were 69,8% of respondents, 18,6% of employees are retired and 4,7% of them are housewives. A monthly income of HRK 4001-8000 have 41,9 % of the respondents, 30,2% of respondents have a monthly income larger than HRK 8000, 14% up to HRK 2000 and 14% of 2001 to 4000 HRK. Of those surveyed 97,7% reside in the Republic of Croatia, 2,3% in Bosnia and Herzegovina.

Of the respondents 46,5% also have participated in other cycling races and 53,5% of them did not participate. The arithmetic mean of the age of the respondents is 44,8; therefore, the youngest respondent was 20 years old and the oldest respondent 68 years old. The arithmetic mean of the number of arrivals during the "A Ride for Žir" bike race is 4,3 arrivals: the minimum number of arrivals is 1, and the highest number of arrivals is 14. Given the gender of the respondents, there was no statistically significant difference in the demographic characteristics of the respondents, except that a greater number of male respondents compete in other races (68%), while women did not (16,7% of them competed in other races). The quantitative indicators of respondents' values with regards to cycling habits and motives for attending the race are presented in Table 2.

Table 2: Attitudes and habits of riding the bike and the motivation for coming to a race among all of the respondents (N = 43) (Survey and authors data processing)

	AS	SD	Median	IQR	Min	Max
I use bike to commute to my job	2,3	1,7	1	3	1	5
I use bicycle for tourism purposes	3	1,5	3	2	1	5
Cycling affects health and quality of life	4,7	0,7	5	0	2	5
For this bicycle race I've learned from friends or relatives	4	1,4	5	2	1	5
For this bicycle race I've learned from media	3,8	1,4	4	2	1	5
I also use the bike trails on the Žirje Island	2,3	1,5	2	2	1	5
My motive for coming to "A Ride for Žir" is recreation and socialization	4,8	0,6	5	0	2	5
My motive for coming to a race "A Ride for Žir" lay in the field of competition only	2	1,4	1	2	1	5
My motive for coming to a race "A Ride for Žir" is willingness to participate for many years to come	3,1	1,6	3	4	1	5
Žirje Island has the potential to become a cyclotourism destination	4,7	0,6	5	0	3	5

From Table 2 is visible that participants do not use bicycle as a means of transportation to their work (in Dalmatia due to the hilly terrain and lack of cycle paths in the cities); they consider that cycling have a positive effect on human health so they come to this bike race for recreation and socializing. Race participants believe that Žirje Island has the potential to become a cyclotourism destination. There were no gender differences with respect to attitudes and habits of cycling and motives for attending the race. Quantitative indicators of respondents' values regarding satisfaction with the tourist offer of the Žirje Island and the organization of the race are presented in Table 3.

Table 3: Satisfaction with the tourist offer of the Žirje Island and the organization of the race from the all of the respondents (N = 43) (Questionnaires and authors data processing)

	AS	SD	Median	IQR	Min	Max
The nature beauty of the Žirje Island	4,8	0,6	5	0	2	5
Substance of cultural and historical monuments	3,8	1,1	4	2	1	5
Accommodation offer on Žirje Island	3,4	1,1	3	2	1	5
Satisfaction with the organization of the race "A Ride for Žir"	4,5	0,8	5	1	2	5
Satisfaction with the cycling trails on the Žirje Island	4,2	1	5	2	2	5
Satisfaction with cyclotourism signage on the island (maps, signposts)	3,9	1,1	4	2	1	5
Satisfaction with promotional materials on the island and the island's cyclotourism offer	3,9	1,1	4	2	1	5

Race participants consider the Žirje Island to have natural beauty, but they are least satisfied with the accommodation offer on the island. The participants are satisfied with the organization of the race itself. There was no difference in the respondents' gender attitudes towards satisfaction with the tourist offer of the Žirje Island and the organization of the race. A larger number of respondents do not see any further improvement in the organization of the "A Ride for Žir" race (55,8%) and they are satisfied with the current organization. Yet, 44,2% of respondents believe that the possibilities for the improvements do exist. Although the difference is not statistically significant, women are more critical to the possibilities for the improvement of the organization of the "A Ride for Žir" race and suggest improvements in a greater percentage. Therefore, 61,1% of all female respondents believe that the organization should be improved what is also true for 32% of male respondents (68% of male respondents are satisfied with the current organization). Improvement options include:

- required repairs of the bike trail (16,3%)
- greater promotion and pool of prizes (11,6%)
- adding other forms of entertainment (such as music and other sports competitions) (4,7%)
- improving the ship's connection to the mainland (4,7%)
- other (4,7%)

6. CONCLUSION

Results of the research on the attitudes of participants of the cycling race "A Ride for Žir" which has been held on the Žirje Island since 2005 indicate satisfaction with the organization of the race, so these confirm the first hypothesis (H_1 - Participants of bicycle race "A Ride for Žir" are satisfied with the race organization). Possible improvements to the organization include: required repairs of the bike trails, greater promotion and pool of prizes, the addition of other forms of entertainment within the race framework and improved ship connection to the mainland during the duration of the race. The demographic characteristics of race participants indicate that persons of both sexes participated in the race; participants are, for the most part, married and highly educated, employed with higher levels of personal income. Races participants have found that Žirje Island has the potential to become cyclotourist destination, therefore, the second hypothesis has been confirmed (H_2 - participants of the "A Ride for Žir" race consider that Žirje Island has the potential as a cyclotourist destination.). They have also found that the island has natural and cultural historical resources but insufficient adequate accommodation offer. This research has indicated implementation of possible improvements for the future organizations of "A Ride for Žir" bike race and also confirmed the satisfaction of the participants with the race itself.

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TRANSFER PRICING AS A FINANCIAL MANAGEMENT TOOL OF TRANSNATIONAL CORPORATIONS

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ABSTRACT

The issue of transfer pricing is usually linked to the topic of transnational corporation. The individual companies forming part of a transnational corporation enter into agreements for the purchase or sale of goods, services or assets, and it is questionable how these prices of goods, services or assets are created and if they correspond to market prices indeed. Independent companies typically trade at a market price that is created by an offer and a demand because none of the participants in this transaction wants to give up the reward which belong to them. In the case of transnational corporations, however, the situation is different. Prices are often influenced by the fact that they are not negotiated in the marketplace, but they are regulated by the power position. Financial management of transnational corporations seeks to seize the opportunity to minimize the overall tax burden. Most countries in the world try to avoid such tax cuts through laws or regulations. Transaction prices are most closely described in the OECD Directive. The aim of this paper is to describe methods of transfer pricing used to determine the optimal and fair price. In the paper, we discuss five basic methods for determining transfer pricing, which are in line with the principle of an independent relationship. These are three price-based methods and two profit-based methods. These methods are not binding, but most commonly used. Any other method not prescribed by the OECD Directive can be used, but knowing these five basic methods is a necessary minimum to understand transfer pricing issues.

Keywords: *financial management, transfer pricing, methods of transfer pricing*

1. INTRODUCTION

Transfer pricing is based on the principle of an independent relationship. The base of transfer pricing is to verify whether the price of assets, goods or services applied in transactions between dependent persons is similar or as much as the price that would be agreed by independent persons under comparable conditions. Transfer pricing is a methodology used to determine and review pricing and conditions in transactions executed between dependent entities to match the principle of an independent relationship. In applying the principle of an independent relationship, the prices and conditions in controlled transactions are compared with prices and conditions in uncontrolled transactions.

2. LITERATURE REVIEW OF THE ISSUE OF TRANSFER PRICING

Transfer pricing is defined as “pricing the services and goods that are exchanged within a firm (between autonomous profit-center divisions).” (Hirshleifer, 1956) Transfer pricing is used for services and goods transferred between profit centres within the same company, as well as for services and goods transferred between related companies located in different countries (Li, 2005). Cooper (2000) characterize transfer pricing as a strategic tool by internationally related companies used in decision-making, for realisation of base activity goals and shifting profits from one company to another company in order to gain tax benefits. In some cases using transfer pricing a company can avoid crisis situations such as bankruptcy. Bankruptcy shouldn't be considered only as negative effect although its impact is for companies in most cases more than devastating. If company wants to reach sustainable development, the bankruptcy should be considered an immanent part of normal cyclical economic development (Kliestikova, et al. 2017) (Kliestik, et al. 2018). The theoretical transfer pricing research has expanded rapidly. However, more recently within the economics, law and accounting interest in transfer pricing has focused on them as a tool for multinational businesses to reduce global taxes. As a result, we can classify businesses as “prosperous” in good financial condition (Svabova, et al., 2018). The tax motive takes into account the perspective of transnational corporations, which tend to hold large cash reserves in countries with lower taxes and therefore higher repatriation costs (Mihai, et al, 2018). Tax-motivated transfer pricing is described by the Hassett and Newmark (2008) as “the practice of multinational corporations of providing intra firm sales such that most of the profit is made in a country with low-tax system”. Global tax authorities than have raised concern about the loss of tax profits that can be the result of abuse of transfer prices (OECD). Empirical proofs suggests that transfer pricing behavior exists but is not identical across industries (Grezik, 2001). Studies by Bartelsman and Beetsma (2003) and Clausing (2003) confirm that transfer prices are meaningfully correlated with the tax rates faced by affiliates and that they strongly hinder governments' effectiveness. Some authors also indicate recent evidence on how multinational corporates manipulate their affiliates' sales prices (Bernard, et al. 2008) (Swenson, 2001). Similar issues are addressed by the authors Weeks and Smith (2018) and Misankova and Chlebikova (2013).

3. METHODS OF DETECTING TAXABLE DIFFERENCES

A large share of global trade represents the exchange of goods, services and assets within multinational companies that distribute their business and other activities in different countries. In order to unify and facilitate the valuation of such transactions, internationally applied procedures and principles that are used are regulated by the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations. Part of the tax base of dependent persons is also the price difference between dependent persons. If, in commercial relations, the prices between dependent persons differ from prices used by independent persons under comparable conditions, a difference that reduces the tax base or increases the tax loss arises. When determining the difference, It's based on the principle of an independent relationship, which means that the conditions agreed in commercial or financial relationships between related persons are examined and compared with conditions that would be agreed between independent persons under comparable circumstances. Transfer pricing methods are used in order to assist transnational corporations and tax authorities for the purpose of determination and control of transfer pricing for tax purposes. These methods are based on the arm's length principle, that has been set up as an international standard for transfer pricing tax treatment. The OECD Transfer Pricing Directive recommends 5 basic methods divided into two groups.

3.1. Transfer pricing methods based on price comparison

These methods, also called traditional transaction methods, represent the most direct way to verify the principle of an independent relationship. They are based on the analysis of the determined price in each controlled transaction, and are considered as the most appropriate transfer pricing methods for arm's length principle implementation. They always come from price knowledge, knowledge of gross margin. Transfer pricing methods based on price comparison include: Comparable Uncontrolled Price Method, Resale Price Method and Cost Plus Method.

3.1.1. Comparable Uncontrolled Price Method (CUP)

This method compares the price in a dependent transaction with the price of a comparable independent transaction under comparable circumstances. This method is considered to be the most reliable of all transfer pricing methods, but its use requires a high degree of comparability of a controlled transaction with an uncontrolled transaction. However, its use is very limited in practice because obtaining detailed transaction information is complicated because such information is often a trade secret. The transfer price between addressees derived by the CUP method should be as follows:

Transfer price = Independent price

In practice, this method is most often used in cases where the company delivers goods and services to an independent as well as dependent company. This means that if there is a fully comparable product or service, this method should be preferably used.

3.1.2. Resale Price Method (RPM)

This method is based on the price at which the product is acquired from a dependent person and subsequently sold to an independent person. The post-sale price is reduced by a reasonable margin of trade, representing a gross margin. This is the amount from which the seller tries to cover his costs and achieve a reasonable profit. The balance after deducting the trade margin and taking into account the other costs associated with the purchase of the product can be considered as an independent price. The following applies:

Transfer price = Independent price – Dealer's gross margin

This method is appropriate in cases where the dependent distributor does not too much modify the final product but sells it in unchanged version to an independent entity. If product modifications are made, it is necessary to take into account the profitability of these adjustments according to normal market behavior.

3.1.3. Cost Plus Method (COST+)

The Cost Plus Method is based on the total costs incurred by the asset or service supplier in the controlled transaction for the asset transferred or the service provided to the dependent customer. A reasonable margin is then added to these costs in order to obtain a reasonable profit in terms of the functions performed and the market conditions. The resulting transfer price corresponds to the following relationship:

Transfer price = Independent price + Reasonable Margin of Dependent Retailer

We apply this method in cases where a dependent supplier does not contribute substantially to the value of the goods (for example, when selling semi-finished goods) or in cases of in-house services.

3.2. Transfer pricing methods based on profit comparison

These methods are referred as transactional profit methods. When considering the profit and its measurement one must first distinguish the theoretical basis of the concept, forms of application and also possibilities of application in practice (Salaga, et al. 2015).

The methods are applicable in cases where traditional transaction methods can not be reliably applied, mainly due to the low degree of comparability of the controlled transaction with the uncontrolled transaction. Most frequently, these are transactions carried out by the joint venture of affiliated companies acting as one enterprise. Transactions are inseparable due to the interconnection of individual services. Therefore, these methods are not related to the conditions of transactions between dependent persons, but they examine profits arising from dependent transactions.

3.2.1. Profit Split Method (PSM)

This method is based on the distribution of profits made by the joint venture of the related companies. Since the overall synergy of these assets can not be broken down into individual transactions, it is not possible to determine the cost of these trades. The Profit Split Method is based on the joint venture business of the affiliated companies, which should divide the profits in proportion to the extent to which they participated in the profit. The Profit Split Method first identifies the gains or losses to be distributed among the dependents of the controlled transactions in which the dependent persons participate (so-called "combined profits"). These combined profits are then distributed among dependent persons in a proportion that corresponds to the distribution of profits in accordance with the principle of an independent relationship.

3.2.2. Transactional Net Margin Method (TNMM)

The method examines the net margin in proportion to the appropriate basis that the taxpayer realizes from the controlled transaction. Using this method, the distribution of earnings is made in relation to the net profit margin realized in comparable mainly internal transactions if the company carries out the same activity with the dependent and independent person. The method is considered to be the most complicated and therefore its use is recommended only in the extreme case where no other method can be used. The complexity of this method is probably due to the complexity of transactions that can not be judged by traditional transaction methods. This method analyzes only one transaction participant, so the best use of this method is when we can not obtain reliable information about other stakeholders.

4. CONCLUSION

The main aim of this paper was to elucidate transfer pricing and to describe main methods of detecting taxable differences. The use of either of these 5 methods is not obligatory, but they are the methods that are used most often in practice because of their accuracy. It is very important to choose the right method because the suitability of the chosen method must be justified and must be based on analysis. None of these methods is applicable and appropriate in any situation. The correctness of the use of the method and the detecting of the difference to the market price is verified by the tax administrator in the tax audit, based on the principle of independent relationship, the used method and the comparability of the valuation. Any mistakes in the use of the transfer pricing method may lead to incorrect results, which may lead to fine and additional tax evasion.

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PERCEIVED USEFULNESS OF E-GOVERNMENT SERVICES IN CROATIAN STATE ADMINISTRATION

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ABSTRACT

Modernisation and digitisation of state administration services is crucial for the development of society. The success of state administration reform depends on a number of factors, especially on its employees. With this in mind, the paper explores how employees of the Croatian state administration rate the usefulness of e-government services. Furthermore, the study aims to examine the similarities and differences in employees' attitudes depending on their age, gender, education level, and position in the institution. A survey was conducted on 367 employees of the state administration of the Republic of Croatia. The data collected were analysed using descriptive and inferential statistics. The research has shown that employees of the Croatian state administration generally consider e-government services to be useful. In addition, the study has found that regardless of differences in age, gender, education level, and position in the institution, they give similar ratings to the usefulness of e-services. This finding is important for policy makers and managers responsible for e-government. There is very little research on the issues addressed in this paper. Thus, the study furthers current knowledge and contributes to the theory and practice of e-government.

Keywords: *e-government services, digitisation, perceived usefulness, employees, Croatian state administration*

1. INTRODUCTION

Public administration is of vital interest to society. Its policies and activities affect each individual and organisation. The culture, success, and survival of society as well as the quality of life of citizens depend directly on the functioning of public administration. A competent public administration with sufficient capacity can be instrumental in achieving overall progress, whereas an incompetent or dysfunctional one can lead the society into severe decline, even ruin (Wiig, 2002). Generally speaking, the mission of public administration is to meet public needs by providing various services, to regulate and guide society, and to contribute to nation-building, while its main task is to implement the set goals, i.e. policies (Kalisiak-Mędelska, 2013; Biswas & Rahman, 2018; Khan, 2018). Public administration must perform its organizing, managing, and leadership functions in a way that will ensure maximum fairness of processes and their outcomes, which means that the promotion, assurance, and protection of social equity should be at the centre of public administrators' duties and responsibilities (White, 2004). However, this is often not the case, which is why public sector managers and employees are criticised. Nevertheless, one should not disregard the fact that public administration is constantly faced with different and often conflicting expectations, which lead to complex

overlapping accountability relationships. In this sense, public administration work can be characterised as a continuous process of anticipation, identification, definition, and responding to pressures (Willems & Van Dooren, 2011). Therefore, public administration must function in an environment where it is constantly exposed to a lot of different pressures. Furthermore, it is accountable to the public, which is not the case in the private sector (Marume, Jubenkanda, & Namusi, 2016). According to Papaj and Descours (2016), public administration is an important link in the social, economic, scientific, cultural, and political life of any country. It is part of the public sector that contributes significantly to the GDP of many countries. Public administration performs statutory functions at all levels, from local to national. It provides a variety of services to citizens, the economy, non-governmental organisations, and other institutions. When it comes to public administration, it should be borne in mind that it is a complex system that depends on numerous internal and external factors. Today, public administration is facing many challenges, such as globalisation, unstable political and economic environment, a general decline in the availability of financial resources, the necessity of reducing public service costs, increasing customer expectations and demands, rapid urbanisation, lack of natural resources, and population aging (Kaplan & Haenlein, 2009; Hu et al., 2012; Mirica, Moga, & Dediu, 2019). State administration is part of public administration. As such, it is a narrower term than public administration in the theoretical and functional sense (Tadić, 2015). In the Republic of Croatia, public administration includes state administration, local and regional self-government, and public services (Kandžija, Mance, & Godec, 2011; Koprić, 2011). According to Kurtović and Perišić (2014), the term state administration refers to a part of the state apparatus or a particular type of government organisations whose main activity is to perform administrative tasks. The term also refers to activities of public authorities aimed at creating the best possible conditions for performing the functions of the state, the protection of fundamental rights and freedoms of citizens, and the management of different stakeholder interests (Osanova et al., 2018). State administration has two main functions. The first is the enforcement of laws, execution of the state budget, and other political decisions by legislative and executive bodies, and the second is the development of a framework for government decision-making (Colnar, Dimovski, & Colnar, 2017). Being a key entity of the government, the functioning of the state is inconceivable without state administration. The organisational structure of state administration is, as a rule, very complex and requires a high degree of coordination. Over the last few decades, information and communication technologies have greatly affected the work of state administration. They have changed the way state administration performs its tasks and interacts with citizens and legal entities. All activities aimed at implementing technological innovation in the public sector are commonly referred to as e-government (Dukić, Dukić, & Bertović, 2017). Today, e-government is synonymous with a modern and functional government reliant on the use of technological advances. Given the importance of e-government for social, economic, and political development, this paper explores the perception of Croatian state administration services by those who use them as an essential tool in providing services.

2. E-GOVERNMENT AND STATE ADMINISTRATION

Similar to many concepts related to the development and implementation of information and communication technologies, e-government has become a global phenomenon (Jaeger, 2003). As is often the case with terms that describe new concepts, trends, and approaches, there is no clear and widely accepted definition of e-government. Abu-Shanab and Al-Azzam (2012) define e-government as the use of information and communication technology, in particular the Internet, to deliver information and services by the government to citizens and businesses. According to Odat and Khazaaleh (2012), e-government is the ability of different government institutions to provide information and services to citizens by electronic means quickly and

accurately, with reduced cost and effort, at any time, through a single website. For Hadi and Nawafleh (2012), the purpose of e-government is to facilitate the exchange of information between government and other stakeholders, primarily citizens, but also the business and public sectors. Ideally, its elements are well integrated and harmonised. Therefore, e-government is a process of information exchange between interested parties using Internet technology to provide fast, efficient access to the required services. Taiwo, Downe, and Loke (2014) note that, from the perspective of developing countries, e-government is the use of information and communication technologies as a driver of change and development, which can be observed as constant improvement of the quality of service, while fostering efficiency, accountability and transparency in governance. E-government can also be defined as the selection, implementation, and use of technologies that contribute to the provision of public services and improvement of managerial efficiency. All these steps will promote democratic values and the development of a legal and regulatory framework, but also facilitate initiatives and approaches that are conducive to the emergence of the knowledge society (Saab et al., 2019). E-government is characterised by three main types of relationships: government-to-citizens (G2C), government-to-business (G2B), and government-to-government (G2G) (Haque & Pathrannarakul, 2013; Suklabaidya & Sen, 2013; Warf, 2014; Chaushi, Chaushi, & Ismaili, 2015). Government-to-employees (G2E) is often mentioned as a special category (Al Salmi, Hasnan, & Mohtar, 2016; Mensah, Vera, & Mi, 2017; Twizeyimana & Andersson, 2019). Specific forms of interaction are established between the e-government stakeholders. To meet the needs of each of them, it is necessary to design and implement appropriate services. Government-to-citizens services enable the state administration to effectively communicate with citizens, solve their problems, and provide them with various forms of assistance and support (e.g. issuing documents and certificates, regulating health and social care rights, vehicle registration, etc.). Government-to-business services are being developed with the aim of enhancing interactions between the state administration and the business sector, thus simplifying operations, reducing costs, and enhancing the competitiveness of businesses. Government-to-government services encourage collaboration and cooperation between different government institutions at national, regional, and local level, which is a vital prerequisite for their successful operation. Government-to-employees services facilitate access to relevant information for state administration employees, support the exchange of knowledge between them, and contribute to their professional development (Sta, 2017). E-government is changing the way the state administration works. As a result, new approaches, concepts, methods, and practices are being developed. It is difficult to predict the direction in which e-government will develop in the future and how it will affect society. However, according to Brown (2005), it is possible to identify four areas where clear and lasting impacts of change are evident. In this context, probably the most distinctive characteristic of e-government is delivery of services focused on clients and their needs, which, until recently, was entirely characteristic of the private sector. Furthermore, information has been recognized as a key government resource. A third characteristic of e-government is the key role of technology in shaping the environment in which public administration operates, and the knowledge and skills that public service managers and employees are required to have. According to Brown, e-government has had another notable impact on public administration. It has increased accountability and brought about management models that foster maximum autonomy of subordinates. The central government plays a key role in managing and implementing e-government projects at the national level and thus has specific needs and duties. Mofleh, Wanous, and Strachan (2009) note that central government needs include the financing of e-government, leadership, and the choice of management style, while its duties are developing strategies, monitoring and measuring, infrastructure building, passing of e-government legislation, coordination and collaboration, motivating, supporting, and building of an e-society.

3. STUDY OBJECTIVES, METHODS, AND SAMPLE

Although there were some indications that the Republic of Croatia will implement e-government sooner, the first serious steps towards achieving this were taken some twenty years ago by developing and adopting the strategies and programmes that emphasised the necessity to shift to digitally-based state administration system. Over time, as a result of the activities undertaken, many e-government services have been established for citizens and businesses. However, despite significant progress, the Republic of Croatia is still lagging behind the developed countries in terms of digitisation of public services. Without doubt, the outcomes of the reform processes undertaken in the state administration depend largely on its employees. Bearing this in mind, the aim of this study was to investigate how employees of the Croatian state administration perceive e-government services, i.e. how they evaluate their usefulness. In addition, the study sought to identify the similarities and differences in employee attitudes with respect to their age, gender, educational level, and position in the institution. Descriptive and inferential statistics methods were applied to analyse the data. The sample comprised employees of the state administration of the Republic of Croatia. A total of 367 persons were surveyed. The respondents were divided into three age groups. The first comprised 120 (32.7%) workers aged 20-34. The second group included 178 (48.5%) respondents aged 35-49. In the third group, which included persons aged 50-64, there were 69 (18.8%) employees. Most of the participants (241 or 65.7%) were women. The remaining 126 (34.3%) were men. Based on their education level, the respondents were also divided into three groups. The smallest group comprised 50 (13.6%) persons who had secondary education. Out of all participants, 240 (65.4%) have completed undergraduate or graduate studies, while 77 (21%) respondents had postgraduate degrees. There were 96 (26.2%) managers and 271 (73.8%) workers in non-managerial positions. Being part of a larger study, this research builds upon the findings presented in previously published papers (Dukić, Dukić, & Bertović, 2016a; Dukić, Dukić, & Bertović, 2016b; Bertović, 2017; Dukić, Dukić, & Bertović, 2017).

4. RESULTS

The survey questionnaire was divided into several sections. One section inquired about e-government services and their usefulness. The respondents were asked to indicate their level of agreement with 10 statements regarding the usefulness of e-government services on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Table 1 shows the percentage frequencies of their responses and summary statistics. Frequency analysis suggests that Croatian state administration employees are generally convinced of the usefulness of e-government services. More specifically, there is only one item that most respondents disagreed with. Moreover, quite a large number of employees surveyed strongly agreed with the statements in the questionnaire. In contrast, the percentages of respondents who strongly disagreed with all the items are quite low, and relatively few stated that they disagreed with the proposed statements.

Table following on the next page

Table 1: Percentage frequencies of responses and summary statistics

		E-services are of great benefit to state administration employees	E-services help employees to do their jobs more easily	E-services enable employees to make fewer mistakes in their job	E-services increase employee efficiency and productivity	E-services contribute to cost reduction	E-services improve interactions between state administration bodies	E-services improve interactions between state administration and citizens	E-services improve interactions between state administration and companies	E-services increase transparency and accountability of state administration	Data and information obtained through e-services are relevant and of high quality
Percentage frequency	Strongly disagree	1.4	5.7	6.0	2.2	1.4	1.6	1.1	1.4	1.1	1.6
	Disagree	4.9	6.8	6.5	5.4	5.2	4.6	4.4	3.5	4.6	3.5
	Undecided	23.7	28.3	33.0	28.1	21.3	24.3	22.9	25.3	20.2	28.9
	Agree	39.5	32.4	32.2	35.4	37.9	37.3	37.9	37.3	39.5	39.8
	Strongly agree	30.5	26.7	22.3	28.9	34.3	32.2	33.8	32.4	34.6	26.2
Summary statistics	Mean	3.93	3.68	3.58	3.83	3.99	3.94	3.99	3.96	4.02	3.85
	Median	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	Standard deviation	0.93	1.11	1.09	0.98	0.94	0.95	0.92	0.92	0.91	0.91
	Interquartile range	2.00	2.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00

Summary statistics provide further insight into the perceptions of state administration employees regarding the usefulness of e-government services. The means of the items ranged from 3.58 to 4.02, while all medians were 4. These results support the conclusions of the frequency analysis. The highest mean was obtained for the statement that e-services increase transparency and accountability of state administration. Only for this item the mean was greater than 4. For most items, the mean was slightly below 4. According to the means, state administration employees least agreed that e-services help them to do their jobs more easily and with fewer mistakes. The largest standard deviations were obtained for these two items. However, the interquartile range indicates that participants responded most uniformly to the statement that e-services help employees make fewer mistakes in their job. Table 2 contains the results of the analysis of differences in employees' attitudes with regard to their age, gender, education level, and position in the institution. The non-parametric Mann-Whitney and Kruskal-Wallis tests were used to assess the significance of the differences. In addition, mean ranks were calculated for each item.

Table following on the next page

Table 2: Analysis of differences in attitudes with respect to age, gender, education level, and position in the institution

		E-services are of great benefit to state administration employees	E-services help employees to do their jobs more easily	E-services enable employees to make fewer mistakes in their job	E-services increase employee efficiency and productivity	E-services contribute to cost reduction	E-services improve interactions between state administration bodies	E-services improve interactions between state administration and citizens	E-services improve interactions between state administration and companies	E-services increase transparency and accountability of state administration	Data and information obtained through e-services are relevant and of high quality
Age groups											
20-34	Mean rank	191.21	178.15	174.50	174.29	184.31	179.36	185.43	180.03	172.67	178.55
35-49		169.25	178.41	181.18	181.04	181.97	180.18	184.99	186.28	189.57	186.21
50-64		209.51	208.59	207.78	208.51	188.70	201.93	178.95	185.04	189.33	187.78
Kruskal-Wallis test	<i>H</i>	8.906	4.945	4.955	5.310	0.225	2.700	0.217	0.286	2.289	0.539
	<i>p</i>	0.012*	0.084	0.084	0.070	0.894	0.259	0.897	0.867	0.318	0.764
Gender											
Female	Mean rank	187.34	185.91	187.55	187.97	188.56	190.95	189.54	188.46	189.00	188.53
Male		177.62	180.35	177.21	176.41	175.29	170.70	173.41	175.46	174.44	175.34
Mann-Whitney test	<i>Z</i>	0.879	0.496	0.924	1.039	1.202	1.830	1.461	1.176	1.324	1.194
	<i>p</i>	0.379	0.620	0.355	0.299	0.229	0.067	0.144	0.239	0.186	0.232
Education level											
Secondary school	Mean rank	200.86	187.61	195.14	200.81	200.38	206.57	200.33	204.04	194.78	200.61
Undergraduate and graduate degree		175.61	181.10	177.17	176.46	178.78	177.71	176.49	177.08	177.33	173.44
Postgraduate degree		199.20	190.69	198.05	196.58	189.64	188.95	196.81	192.55	197.79	206.12
Kruskal-Wallis test	<i>H</i>	4.847	0.589	3.151	3.904	2.224	3.636	3.923	3.681	3.111	7.767
	<i>p</i>	0.089	0.745	0.207	0.142	0.329	0.162	0.141	0.159	0.211	0.021*
Position											
Manager	Mean rank	168.22	177.98	180.48	176.31	173.46	174.07	178.49	181.03	181.15	182.86
Employee		189.59	186.13	185.25	186.73	187.73	187.52	185.95	185.05	185.01	184.40
Mann-Whitney test	<i>Z</i>	-1.791	-0.672	-0.394	-0.867	-1.197	-1.124	-0.625	-0.336	-0.324	-0.128
	<i>p</i>	0.073	0.501	0.694	0.386	0.231	0.261	0.532	0.737	0.746	0.898

* Statistically significant at $p < 0.05$

Higher mean ranks indicate a greater level of agreement. According to the mean ranks, older employees, women, secondary school graduates, and employees in non-managerial positions perceive e-government services as useful more frequently compared to other respondent groups. Nevertheless, the analysis showed that the differences were statistically significant at $p < 0.05$ in only two cases. The Kruskal-Wallis test revealed that at least two age groups are statistically different from each other when it comes to the statement that e-government services are of great benefit to state administration employees. Moreover, there is a significant difference between at least two education groups in the degree of agreement with the statement that data and information obtained through e-services are relevant and of high quality. In order to determine between which groups the difference is significant, a multiple pairwise comparison test was performed. The results suggest that older employees agreed significantly more than middle-aged workers that e-services are of great benefit to state administration employees. Furthermore, multiple pairwise comparisons also revealed that employees with postgraduate education agreed significantly more than employees with undergraduate and graduate degrees that data and information obtained through e-services are relevant and of high quality.

5. CONCLUSION

Information and communication technologies have dramatically changed the world we live in. Their emergence and implementation has revolutionised the way we work, communicate, and spend our free time. There is practically no area of human activity that has not been affected by them. Over the last few decades, owing to technological advances, the state administration has been undergoing significant transformation. Given its role in society, the modernisation and digitisation of its services is vital for the overall development of a country. State administration reform is a complex and very demanding process. Its success depends on a number of factors, primarily on employees providing these services to citizens and businesses, who must be prepared and willing to embrace technological changes. Among other things, this means that they should have a positive perception of e-services and their usefulness. The research presented in this paper shows that employees of the Croatian state administration are generally convinced of the usefulness of e-government services. This finding is encouraging, as employees who are hesitant to embrace change and technological innovation are slowing down the reform process, thus making it difficult to achieve the set goals. It should be noted that the results of the data analysis indicate that the surveyed employees consider e-services useful, but not completely. Hence, it can be concluded that it is not only necessary to raise employee awareness of the usefulness of e-services, but also that it is necessary to improve their efficiency. Despite expectations that employees' characteristics would influence their attitudes, the results did not confirm this. Specifically, the differences were statistically significant in only two cases. Therefore, regardless of their age, gender, level of education, and position in the institution, employees of the Croatian state administration rated the usefulness of e-government services quite similarly. This should make the work of policy makers and managers in e-government easier, seeing that they do not have to tailor their efforts and actions to different groups. To get a clearer picture of e-government implementation, it is necessary to continuously examine and monitor the social, economic, technological, and organisational aspects of its development. The human factor should be the starting point for such considerations. There are many issues regarding the human factor that need to be properly addressed and discussed. The acceptance and perception of e-government by employees of the Croatian state administration has received little attention in prior research. This paper extends the current knowledge on e-government in Croatia by focusing on state administration employees and their perceptions of e-service usefulness.

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GOODWILL PERCEPTIONS IN THE CONSTRUCTION MARKET OF THE CZECH REPUBLIC

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ABSTRACT

Goodwill is considered an intangible asset of the company. From the economic standpoint, as opposed to the accounting and legal view, Goodwill is considered to be a good reputation of the business. The company monitors the levels and development of Goodwill in internal accounting. Because Goodwill contributes to the optimization of economic results through a suitable business policy, which is influenced by the marketing strategy. The connection of Goodwill and marketing strategy allows to examine the results of marketing activities and monitor its development. When determining the amount of Goodwill in the business, it is not possible to speak about determination of its price, but about determination of its value. Goodwill reflects a number of specifics. The two most important specifics considered by authors are the specifics of the business and the size of the company. For the purposes of the paper, the authors conducted a research focused on the construction industry. For the purposes of the research, the authors chose an area whose specifics are significant, and which unequivocally manifest itself in different approaches to the creation of Goodwill. Construction companies operate on the construction market of the Czech Republic in the segment of construction works where their specifics are clearly reflected in different approaches to the creation of Goodwill. Other significant differences in approach and expression of Goodwill were influenced by the size of the company. Two basic groups were created, namely large companies and the second group contained medium and small firms. There were also significant differences between the large group and the second group of medium and small companies. Micro-companies were not included in the research. Through the questionnaire survey were addressed construction companies, whose main activity are realizations of buildings. The BrandBeta method was chosen for the method of determining the value of Goodwill, considering the ability to capture the value amount, structure and nature of Goodwill development. The questionnaire tested in what extend two basic groups of respondents attribute weight to individual parameters of this method. The research was carried out at large companies operating in the Czech Republic and regional companies in six regions. The results of the research showed a different degree of importance for BrandBeta parameters and resulted in a recommendation to extend BrandBeta evaluation by further criteria through further research.

Keywords: *Goodwill, Construction company, marketing strategy, method BrandBeta*

1. INTRODUCTION

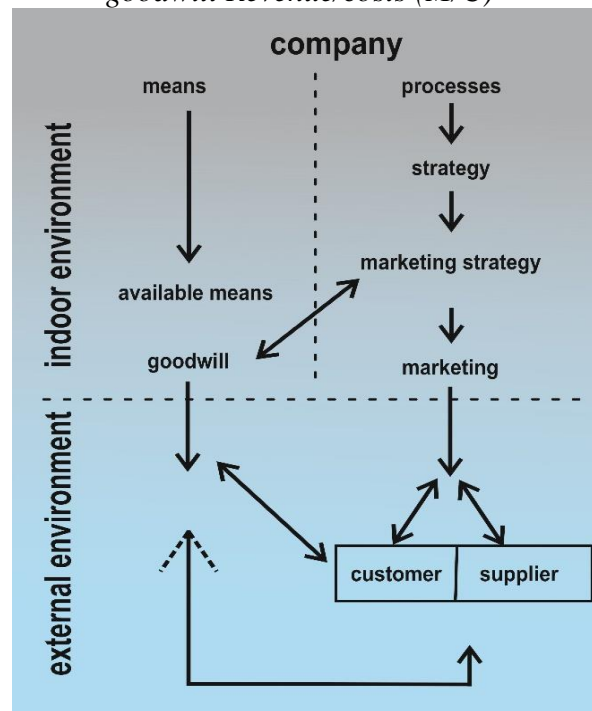
Goodwill has been used as a term since the 16th century (for valuation of capitalization of future intangible assets income - Kulil, 2014 p.19). Extensive discussions of the professional public eventually resulted in its threefold conception of legal, economic and accounting. (DOHNAL, R. ; HANUŠOVÁ, H. ; LIPOVSKÁ, Z. THE ISSUE OF GOODWILL AS AN INTEGRAL PART OF THE VALUE OF THE CONSTRUCTION COMPANY AND ITS MARKETING IN THE CZECH REPUBLIC.). Within these different concepts, especially in the 20th and 21st centuries, the ways of defining Goodwill in economic terms were differentiated. (see H.P. Hughes, V. Kulil). The authors are inclined to the definition of V. Kulil - According to established international conventions, it is a good name of the company, which brings improvement of economic results, mainly thanks to good business policy and is the result of customer relations, promotion and advertising. Kulil, 2014, 14 Goodwill's synergy with marketing is evident from this statement. The development of Goodwill depends and is also realized through the processes of marketing strategies. See

Figure 1: Binding Goodwill and marketing strategies in the internal external environment of the enterprise, Custom processing



Figure following on the next page

Figure 2: Scheme of implementation of impact of marketing strategy and its impact on goodwill Revenue/costs (M/C)



As the scheme implies, the implementation of a marketing strategy can reduce the value of Goodwill and even achieve negative values, when Goodwill becomes Badwill. Therefore, it is important that the determination of Goodwill (Badwill) is as realistic as possible and closest to its true value. The authors understand Goodwill as a part of the intangible assets of a construction company that brings economic effects to the company. Because the price is realized on the market, but Goodwill as a separate commodity cannot be realized on the market. However, it is part of the company's value. Which affects the market price. However, it is part of the company's value. To determine the value of Goodwill, a number of methods can be used, among which the most commonly used includes BrandBeta, Scoring, Goodwill Method. - viz. DOHNAL, R. ; HANUSOVA, H. ; LIPOVSKÁ, Z. Goodwill, the issue of inclusion into the company assets and marketing strategy of determining its value. Each of these methods has its own specifics, which are further accentuated by the business, the firm and the specifics of the market and its segments. These specifics must be considered when selecting the method for determining Goodwill. The authors apply the method of determining the value of Goodwill to the conditions of the construction industry and construction company. They are based on two assumptions, the first of which is the fact that each company operating on the market carries out marketing, whether consciously or unconsciously. The second assumption is that Goodwill is influenced by specifics that determine the way a company behaves on the market or its segment. The construction industry is one of the very specific markets, one of the oldest fields of human activity, and at the same time responding to technological development (industry 4.0) as well as changing customers and their changing requirements, creating very specific markets. These specifics are, of course, reflected in the construction market, which Pleskač, Soukup p. 56, divided into: the realization of construction works, the market of building materials and technological units, the market of construction services and the real estate market. The market for construction works is dominant and decisive, since other components have to respond to and adapt to me as they actually represent its inputs. The authors will focus on the expression of Goodwill firms established in the market of construction works where, according to Pleskač, Soukup p. Construction work is unique and requires special and highly focused preparation of

the manufacturer, or the contractor of the construction. The product is not shipped to the customer, but is produced on site by means of repeatedly temporary devices whose production has a dynamic arrangement. There is no production in stock. The product, the construction work, must fulfill the required functions determined by a number of specific requirements eg. spatial layout of the technical equipment, external and internal design. The location of the work is governed by a number of regulations. Above all by the land use plan. The role of ecological work in both production and operation is increasing. Other specifics include the way of obtaining orders, their financing and subsequent operation within the whole construction life cycle. Unlike classic commercial products essentially made for an anonymous customer, the work is designed for a specific customer whose requirements, properties and preferences are known precisely. Since it is a very expensive product, where the investor (customer) does not have the opportunity to test the product, the choice of the contractor is extremely important and the customer carefully examines the references and recommendations of the contractor, ie actually part of the goodwill contractor. Goodwill is also affected by company size. Both in terms of the professionalism of his work, and in terms of the effectiveness of marketing based on marketing strategy and of course in terms of the amount of money spent. The value of Goodwill generated by a business depends on its size. According to the EU standard, enterprises are broken down, see Tab. 1.

Table 1: Company size category according to EU standard,

Business category	Number of employees (annual work unit)	Annual turnover in mil. €	Annual balance sum in mil. €	Number of enterprises by number of employees From y. 2016
		OR		
Large enterprise	over 250	Over 50	Over 43	51
Medium enterprise	Over 250	Up to 50	Up to 43	478
Small enterprise	Up to 50	Up to 10	Up to 10	3 360
Micro enterprise	Up to 10	Up to 2	Up to 2	166 322

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Of the existing methods used to determine Goodwill, the authors consider BrandBeta the least appropriate. see DOHNAL, R .; HANUSOVA, H .; LIPOVSKÁ, Z. Goodwill, the issue of inclusion into the company assets and marketing strategy of determining its value. It is a classic economic analysis supplemented with a survey of factors significantly affecting the demand for business performance and brand. The survey requires a wide sample of respondents and a survey at different levels. In particular, between two different brands, between two different time periods, between two target groups of a subsegment, between two product classes. To ensure transparency, objectivity and re-use, ten key indicators have been identified as factors of the BrandBeta method.

- 1) market time
- 2) distribution
- 3) market share
- 4) market position
- 5) sales growth rate
- 6) price surcharge
- 7) price elasticity
- 8) marketing expenses
- 9) awareness of advertising
- 10) awareness of the brand Haig2002 p

Each of these factors can be assigned a score of 0-10 points. The sum of all achieved points creates a value on the basis of which the company is assigned to the group, see Tab. 2

Table 2: Brandbeta score

Points	91-100	81-90	71-80	61-70	51-60	41-50	31-40	21-30	11-20	0-10
Category	AAA	AA	A	BBB	BB	B	CCC	CC	C	D

Source: in Haigh, 2002, s. 27, Custom adjustment

2. HYPOTHESES

To formulate the following hypotheses, the authors assume the following assumptions:

- Marketing strategy is an integral part of management of the construction company, both strategic and tactical.
- There is synergy between Goodwill, marketing strategy and business process management.
- Despite the lack of uniformity, Goodwill is part of the company's intangible assets and brings positive economic effects. It is accounted for in internal accounting and in some cases Goodwill is also accounted for in financial accounting
- Companies always create Goodwill either consciously (deliberately) or unknowingly (intuitively)
- A number of methods are used to determine Goodwill
- According to the Commercial Register, the Pareto rule applies

2.1. Hypothesis 1

Goodwill construction companies in the field of construction depends on both size and area of its activities. In the Czech Republic, the focus of the company's activities is directly related to its size. Size distribution see. tab. 1 also follows the layout of construction companies.

2.1.1. Microenterprises

is a business entity based on a trade license and focuses on highly specialized activities (eg wiring, plumbing, gas tilers, floor laying, air conditioning, drywall construction, selected earthwork, etc.). The number of these entrepreneurs is the most in number and in terms of turnover the least. A tradesman intuitively focuses marketing and his marketing strategy on his customers. This depends on the type of specialized activity. Ie. the volume of orders obtained from individual specific customers. These customers can be individual entities as well as small and medium-sized companies. For large companies, this happens rather rarely. In this case, Goodwil is very closely related to the person and the personal characteristics of the individual trader. a very individual concept according to the understanding of a particular entrepreneur. In this case, the trader adjusts his behaviour (Goodwill) to meet the expectations of his customers. So, what they consider his Goodwill. Then the Goodwill parameters manifest themselves, for example, as a willingness to meet the requirements, speed and quality of the work performed and compliance with the concluded contract. Goodwill is a narrowly specialized, intuitively entrepreneur-based entrepreneur and results from detailed knowledge of a narrow customer segment. It focuses more on branding and maintaining or expanding its customer base. Each customer group requires a different approach and marketing. Based on this, Goodwill can be segmented differently. The death of a self-employed person ceases to exist as both marketing and Goodwill depend on a single person.

2.1.2. Small and medium enterprises

In the Czech Republic, most of the form is Inc. and their focus is on performing minor repairs and reconstructions and maintenance. Furthermore, the complex construction of small orders, or specialization in certain activities. Goodwill depends on the specialization of the company

and in some cases on the geographical segment in which the company operates. They act as subcontractors of large companies. They can focus on the specialization of certain activities, on the complex implementation of small orders, but also on the implementation of minor repairs, reconstructions and maintenance. In some cases, these are not net-related firms, as construction activities are classified as one of the activities they operate. E.g. some farms. These companies form a marketing strategy, and in some cases consciously create Goodwill. Which is directed to customer requirements and Goodwill also depends on the company's marketing strategy (expansion or stabilization).

Table 3: Marketing strategy

	Existing products	New products
Existing Market	Market penetration	Product development
New Market	Market Development	Diversification

The business risk of small and medium-sized companies is relatively high, especially when it works as a subcontractor. The market position is weak, as companies prefer to get orders from large companies over small ones. All the more important the creation of marketing strategy and Goodwill, as they can reduce the relatively high business risk.

2.1.3. Large enterprises

For large companies in the Czech Republic, the volume of orders is very high, and in some cases they are specialized in certain areas of construction activities. Where they focus on one specific activity and get as many references from that activity as this activity is dominant for their revenue structure. They focus on getting public contracts and development projects more or less regardless of the type of construction. The actual construction activity is transferred to subcontractors. Their Goodwill is focused on fulfilling the qualification parameters for obtaining a public contract. Or a long-term contract with a private investor. Large companies focus on obtaining large contracts based on a selection procedure (public contracts that must comply with the Act on Public Procurement). They also focus on obtaining development projects. Hypothesis 1 was confirmed.

2.2. Hypothesis 2

The concept of Goodwill according to BrandBeta parameters varies according to the size of the company. The importance of the individual criteria of a large firm will be different from that of small and medium-sized firms. A survey among construction companies was chosen to confirm the seriousness of individual factors. Microfirms were not included in the survey because the concept of individual parameters of the BrandBeta methodology would significantly modify the specifics of each test subject. E.g. electrical installation trader who exclusively cooperates with a regional small or medium construction company and electrical installation tradesman type repair, reconstruction of power lines in the city over 100 000 inhabitants. The test of this hypothesis was therefore carried out by means of a survey among representatives of large and small and medium-sized companies. Interviewing in the first phase took the form of sending out questionnaires to respondents. The return on the questionnaires was low. Therefore, the email was repeated to those addressees who did not respond in the first phase. Also the second phase did not reach the required number of responses and therefore the telephone communication was approached, in which the addressees who did not answer even in the second phase were approached. The selection of respondents works with an error, as many business entities have more than one business in the business register. The choice of respondents was limited to those who have listed as the main or sole line of business the activities belonging to the market segment of construction works. Only such companies realistically engaged mainly

in building production were selected for the sample of respondents. The survey was carried out in regional companies within the South Moravian, Zlín, Olomouc, Pardubice, Moravian-Silesian and Vysočina regions, whose competence is both regional and within the whole Czech Republic. In order to verify individual factors of the BrandBeta method, a survey among construction companies was chosen. 61 construction companies were approached. The return was 43 effective questionnaires. For the purposes of testing a questionnaire consisting of three parts was created. The first concerned identification of the company (registered office, number of employees and turnover). The next section included BrandBeta parameters ranging from 1 to 10 points, with 10 representing the highest weight. The respondent assigned to each criterion the weight of the criterion, in his opinion, in the creation and maintenance of Goodwill. Attribute weight from 1 to 10. Where 10 were the most. The third part contained ten basic questions focusing on the specific determination of the ten BrandBeta parameters. E.g. advertising awareness - "Are you using some form of paid promotion / advertising - YES / NO" If YES what kind of paid promotion is (more answers possible) a) TV advertising, b) radio, c) leaflets, d) internet advertising (eg .Sklik) e) advertising on social networks, f) newspapers and magazines, g) billboards, h) other (please specify) The next question was If companies are monitoring the response to promotional activities / YES / NO If YES, state how. Interviewing took place in March and April 2019. The form of interviewing was chosen CAWI. The output of the SURVIO Internet questioning was confusing, so the form of tables was chosen. In view of the specifics resulting from hypothesis 1 (the difference between a large company and a group of small and medium-sized companies), respondents were divided into two groups. For large firms, the second group consisted of medium sized and small firms. The evaluation from the tables is arranged according to the arithmetic mean of the evaluation of individual factors in respondents.

For the first large-scale group, the assessment is as follows:

1. Bran awareness	9,286
2. Market-on time	6,286
3. Price elasticity	6,143
4. Awareness of advertising	6,143
5. Market position	5,571
6. Market share	5,429
7. Sales growth rate	5,286
8. Price increase	4,714
9. Distribution	4,143
10. Marketing expenses	2,000

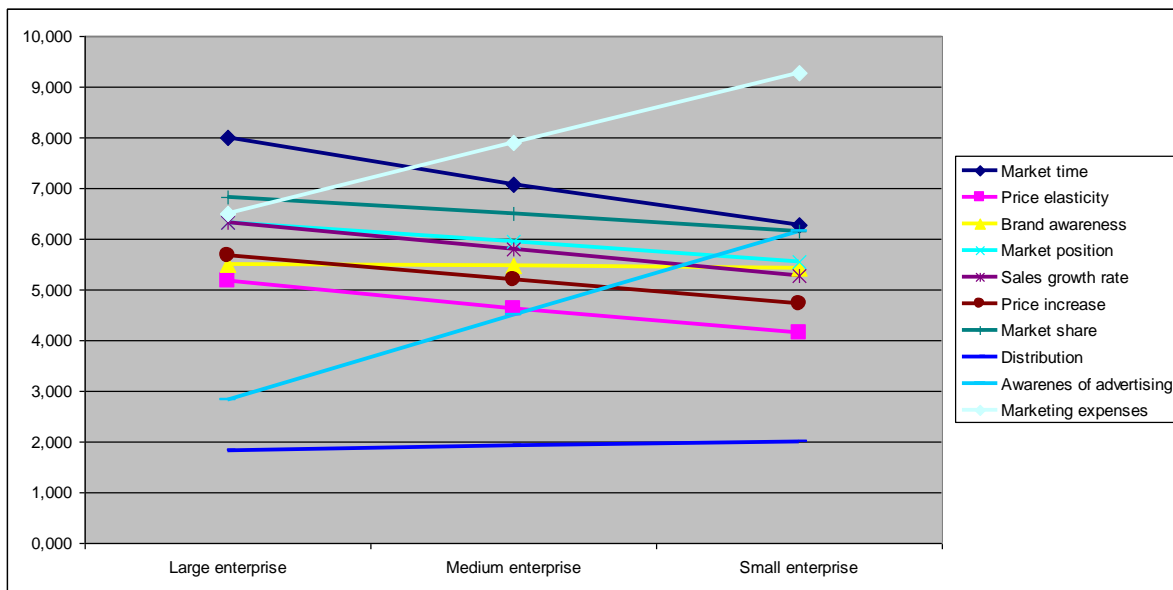
For the second SME group, the assessment is as follows:

1. Market time	8,000
2. Price elasticity	6,833
3. Brand awareness	6,500
4. Market position	6,333
5. Sales growth rate	6,333
6. Price increase	5,667
7. Market share	5,500
8. Distribution	5,167
9. Awareness of advertising	2,833
10. Marketing expenses	1,833

The evaluation of the criteria by the overall sample of respondents is as follows:

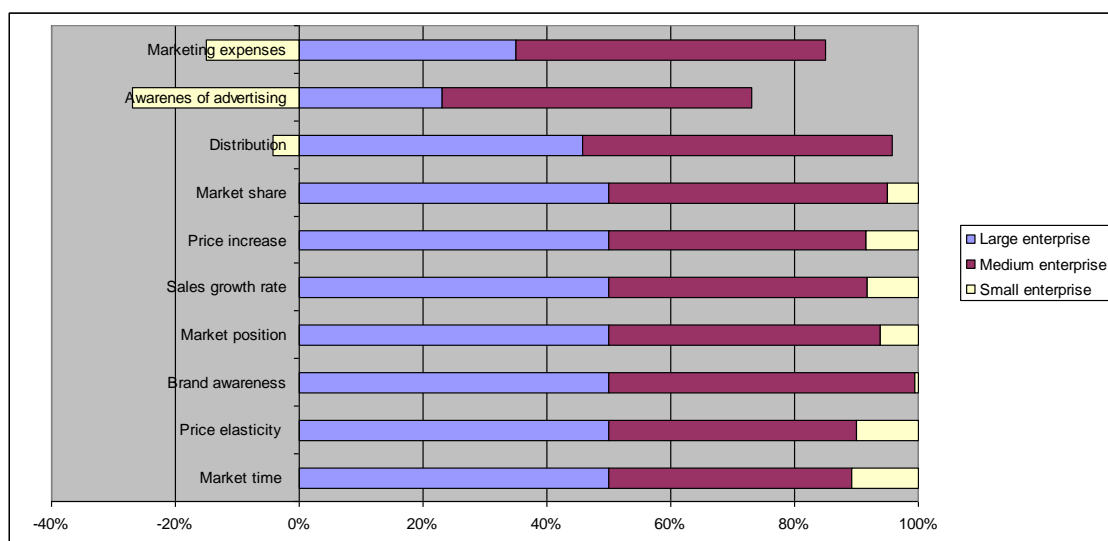
1. Brand awareness 8,000
2. Market-on time 7,077
3. Price elasticity 6,462
4. Market position 5,923
5. Sales growth rate 5,769
6. Market share 5,462
7. Price increase 5,154
8. Distribution + advertising awareness 4,615
9. Marketing expenses 1,923

Graph 1: Weighting criteria of individual factors of the BrandBeta method. Source: own research, own processing



The differences in the perception of the importance of individual parameters differ. The biggest match is for marketing expenses - 10th place.

Graph 2: Differences in the evaluation of individual BrandBeta criteria for different types of companies. Source: own research, own processing



If we set 5 points as an average rating, then small firms below this value indicate two criteria (advertising awareness, marketing spending) Large companies report three (price surcharge, distribution, marketing expenses). The difference between the highest and the lowest rating is 6,167 for small and medium-sized companies and 7,286 for large firms. There is a common agreement only in the criterion "Marketing expenses", where the difference between points is only 0.067 points. In the first three places, the criteria "Brand awareness" "Time on the market" and "Price elasticity" ranked equally, but in different order. These three criteria can therefore be considered as key. It should therefore be assessed with a higher weight than the other criteria. Especially for small companies it is difficult to determine eg. market share, price surcharge, market position. This means that the Goodwill value determined in these cases cannot include these factors. The survey showed that the tested sample shows fundamental differences in meeting the criteria set by the BrandBeta method. This confirmed the hypothesis that firms criteria are perceived differently depending on the size of the firm. These differences result from the focus of companies, respectively, who their customers are. The authors realize that not all companies, especially small ones, can assume a completely clear perception of the content of individual items of BrandBeta evaluation criteria. The criteria set by the BrandBeta method are hard criteria. The research showed that their importance perceived by the company differs mainly according to its size. Therefore, it would be appropriate to include in the evaluation of the other part in which the company, given its specificities, weighting the criteria. For marketing expenses, the proportion of the company's total costs to the absolute amount spent on marketing could become the weight.

Hypothesis 2 was confirmed.

3. CONCLUSION

Goodwill is part of the company's intangible assets. It is not its price, what is determined, it is its value. The amount and evolution of Goodwill is determined by the company, respecting its specifics, monitoring its development and recording it in its internal accounting. Goodwill is linked to the implementation of the marketing strategy and its effectiveness can be identified by regular review of the value of Goodwill. The differences in the evaluation of individual BrandBeta criteria according to the size of the company were confirmed. The inclusion of other criteria perceived by potential customers and the general public would contribute to objectivization of the method. E.g. competition, product / service availability, etc. These conclusions can be considered as generally applicable. With regard to the fact that only those companies that consider carrying out construction work as their main activity have been tested, the following recommendations apply primarily to them. The research showed that in the conditions of the construction company the criterion scale is applicable, but with regard to the differences resulting from the specifics and focus of large, medium, small companies and micro-firms, it is necessary to adjust the scale. First of all, it is necessary to objectify the scale by the weight assigned by the company. The weighting of these individual hard criteria needs to be determined on the basis of the results of further research. Hard criteria need to be complemented by other factors that affect Goodwill and create a set of soft criteria scored by a point scale. Such factors include, for example, the ecological aspect perceived by the customer beyond the legal obligations usual for construction (waste water use, introduction of a double water line, water recycling), architectural design, operation and maintenance costs, utility features, deadline guarantee, scope of guarantees, references. These soft criteria need to be identified and verified by a questionnaire survey of customers, professionals and the general public. To gain insight into the link and impact of the marketing strategy on Goodwill, we need to find a way to measure how well our customers are and what their requirements are. Who are our customers and what are their needs. Advertising is not always directed to a real customer of the company.

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ECONOMIC TRENDS AND BUSINESS DEVELOPMENT OF THE CROATIAN PRINTING INDUSTRY

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ABSTRACT

Following the turbulence that started to occur in Croatian printing industry in 2008, there has emerged the need for a more detailed analysis of the situation using available economic data. It is also important to look into the future and what will happen in the market over the next 5 years. This is the time when companies are working on their development strategies and they should be guided by economic forecasts, demographic changes, education policies, technological developments in the press, IT and communications sectors, national statistics, and import and export data. Hence, this paper aims to describe the conditions present in Croatian printing industry from 2012 to 2018. Furthermore, the paper presents the key economic indicators of Croatian printing industry, the printing industry of the countries of Eastern and Western Europe, the development of the industry according to the most important printing techniques and the types of graphic products for the period 2012-2022. In addition to that, this paper aims to determine the economic trends as well as the development of the business of Croatian printing industry in the next few years. In order to do so, it correlates trends and major economic indicators of Croatian printing industry to the European ones, based on forecasted movement of the European printing industry by 2022.

Keywords: *printing industry, economic analysis, development trend of printers*

1. INTRODUCTION

In recent years, in the developed countries, the printing industry has undergone an intensive process of restructuring and modernization. The restructuring resulted in closure of many enterprises as well as in decline in manufacturing, but it also resulted in the modernization of production and productivity growth (Mejtoft, 2008). The above also had a great impact on Croatian printing industry, and in 2008 there was a significant decrease in the number of companies in the industry, the size of their turnover and profits, a decrease in the number of employees and discontinued investments. With Croatia's accession to the European Union, opportunities have emerged to boost exports and increase investments in new technologies, both through cheaper sources of financing and through the withdrawal of funds from European development programs. Consequently, based on economic indicators, an attempt has been made to answer some of the questions related to the restructuring process of Croatian printing industry and how much it actually follows the trends of the printing industry in Europe and in the world. At both the European and the global level, the printing industry has undergone major changes in the printing technology itself, and classical printing technologies (offset, flexography) are increasingly being replaced by faster and more flexible digital printing techniques (inkjet and electrophotography).

These changes are in favor of a trend towards a decrease in circulation, personalization of the press, the production of diverse individualized content and an increasing response to market demands. Data on Croatian printing industry from 2012 to 2018 were obtained from available statistics of the Central Bureau of Statistics, Croatian Chamber of Commerce, FINA and Business Croatia. The paper also includes data published on the websites of the companies in the industry which have been analyzed for these purposes. Secondary data has been processed by the methods of synthesis and analysis, and in addition to that statistical, analytical and comparative methods have been used. Source of data for Europe and the world from 2012 to 2022 was PIRA, Printing Industry Research Association (Smyth, 2017). The paper also uses previously obtained and analyzed data on Croatian printing industry from 2006-2010 (Andrašek, 2012).

2. TRENDS IN CROATIAN PRINTING INDUSTRY (2012-2018)

An overview of basic data for Croatian printing industry in the period from 2012 to 2018 is given in Table 1. It provides analysis only of those companies whose total revenue exceeds or is equal to 1 mil. kn. Companies with a total revenue of less than 1 mil kn do not significantly affect the results (except the number of companies in the industry) and cannot influence the trends shown in the printing industry in Croatia.

Table 1: Croatian printing industry in the period from 2012 to 2018 (authors' calculation)

	2012	2013	2014	2015	2016	2017	2018
Number of company	166	153	155	149	132	127	126
		-8,50%	1,29%	-4,03%	-12,88%	-3,94%	-0,79%
Number of employees	6.602	6.376	6.381	6.228	6.066	6.057	6.005
		-3,54%	0,08%	-2,46%	-2,67%	-0,15%	-0,87%
Total revenue in mil \$	516	523	512	510	516	540	557
		1,26%	-2,13%	-0,39%	1,16%	4,44%	3,05%
Export in mil \$	31	52	66	87	101	122	125
		40,58%	21,21%	24,14%	13,86%	17,21%	2,40%
Total investments in the industry in mil \$	13	22	17	30	96	102	105
		39,81%	-27,06%	43,33%	68,75%	5,88%	2,86%

Furthermore, there is an obvious downward trend in the number of companies from 2012 to the present, while the largest decrease in the number of companies was between 2015 and 2016 (12,88 %). The number of companies decreased by 24 from 2012 to 2018. Compared to 2008, this represents a decrease of 42 %. The reason for this decline in the number of companies can largely be explained as a decline resulting from the lack of investments into development, labor issues related to efforts made to ensure better conditions in either the domestic or foreign labor markets, and the merger of several companies into one group. The number of employees has also been decreasing throughout the observed period, and in 2018 we saw a decrease of 9 % compared to 2012. Compared to 2007 when 9.232 employees were employed in the industry, the decrease has been 35 %. There has been a clear upward trend in total corporate revenue since 2012 (except for 2014, when it fell by 2 % compared to the previous year) and in 2018 it was 8 %. Despite the steady growth over the last few years, Croatian printing industry has not yet returned to the level of 2018, when the printing industry together generated total revenue of \$ 799 million, while total revenue in 2018 was \$ 557 million. The export category has been growing steadily since Croatia's accession to the EU, with exports rising from \$ 31 million in 2012 to \$ 125 mil. in 2018 which represents a growth of 300 %. From all of the above it can be concluded that, in the last few years, the printing industry in Croatia can primarily be associated with increased export activities.

3. TRENDS IN EUROPEAN PRINTING INDUSTRY (2012- 2022)

Trends in the printing industry in Europe are shown in Table 2., and it provides total revenues in mil \$ for 2012, 2016, 2017, 2018 and the projection for 2022 for Western and Eastern European countries. The analysis was based on data from PIRA (Smyth, 2017), while data on Croatia was obtained from FINA and Business Croatia (www.fina.hr; www.poslovna.hr). The analysis used the compound annual growth rate (CAGR) which represents the average rate at which some value (investment) grows over a certain period of time, assuming the value has been compounding over that period. CAGR is calculated in the following way: $CAGR = (EV/SV)^{1/n} - 1$ where EV is Investment's ending value, SV is Investment's starting value and n represents the number of investment periods (www.investopedia.com). Furthermore, with the exception of Greece and Spain, all other Western European countries show a decline in printing industry, with negative CAGR 2012-17 and 2017-22, and with Finland, Sweden and the Netherlands having the sharpest fall. The countries of Eastern Europe, except Ukraine and Russia, recorded growth of the printing industry during the observed period. Poland (5 %) and Romania (3 %) had the highest growth. In the period from 2012 to 2017, Croatia recorded an increase of 0,9 % in CAGR and 3,15 % for 2017-18. Accordingly, a further growth trend at the rate of 1-2 % has been anticipated for the period 2017-22.

Table 2: European printing output by country, 2012-22 in million \$, constant 2016. prices and exchange rates (Smyth, 2017, p. 207, 315 and author's calculation)

	2012	2016	2017	CAGR (%) 2012- 2017	2018	2022	CAGR (%) 2017-22
Eastern Europe in mil.							
Total Eastern Europe	22.264,5	23.986,4	24.507,6	1,9%	25.155,5	27.756,9	1,30%
Bulgaria	503,6	567,1	576,6	2,7%	583,7	613,9	1,30%
Czech Republic	2.195,2	2.322,1	2.356,9	1,4%	2.402,9	2.571,2	1,80%
Hungary	1.338,0	1.398,2	1.427,9	1,3%	1.457,5	1.569,9	1,90%
Poland	5.321,2	6.747,0	6.917,3	5,4%	7.092,5	7.896,0	2,70%
Romania	1.041,1	1.182,3	1.207,2	3,0%	1.233,7	1.330,1	2,00%
Russia	7.818,5	7.587,3	7.725,6	-0,2%	7.974,2	8.941,5	3,00%
Slovenia	653,8	667,8	673,1	0,6%	681,2	695,8	0,70%
Ukraine	795,4	709,5	734,0	-1,6%	770,5	914,8	4,50%
Other Eastern Europe	2.597,7	2.805,1	2.889,0	2,1%	2.959,3	3.223,7	2,50%
Croatia in mil \$	516,3	515,7	539,9	0,9%	556,5	576,0	1,3%

In order to prove the assumption that the printing industry is increasingly turning to modern unconventional printing techniques (digital printing), while the share of printing production using conventional techniques (offset and flexography) is mainly being reduced, Table 3. presents the analysis of printing production by types of production techniques. The authors used PIRA analysis for the countries of Western and Eastern Europe and their own calculation for Croatia (as explained in the introduction). Thus, printing production was analyzed according to the following printing techniques: offset (sheet + web), coldset web offset, gravure, flexography, screen, digital and other printing techniques (leterpress, security printing). The CAGR for the period 2012-17 was also used for the analysis, as well as the PIRA projection for CAGR 2017-22 for Europe. The overview provided below demonstrates that the growth of production printing output of Western Europe in the period from 2012 to 2017 includes flexography and digital. Furthermore, digital printing is growing the most, at a rate of 5,5%, while coldset web offset (-7,7 %) and screen printing (-5,6 %) show the sharpest decline. Printing production in Western European countries declined by 1,4 % in 2012-17, while a negative trend has also been forecasted for the period until 2022. Eastern European countries showed a 1,9 % increase in production in 2012-17 and further growth of 2,5 % has been

forecasted for 2017-22. In these countries the highest decrease was recorded for coldset web offset (-4,5 %) and screen printing (-5,7 %). Digital printing was up 11,9 % in 2012-17.

Table 3: Printing output by process type 2012-22 for Europe and 2012-18 for Croatia (Smyth,2017, p. 209, 317 and author's calculation)

	2012	2016	2017	CAGR (%) 2012-2017	2018	2022	CAGR (%) 2017-22
Western Europe in mil. \$							
Total Western Europe	159.102,8	149.497,0	148.620,1	-1,4%	147.733,6	146.317,1	-0,3%
Offset (sheet + web)	56.513,3	47.721,7	46.370,8	-3,9%	45.296,7	40.997,0	-2,4%
Coldset web offset	16.195,3	11.771,9	10.830,5	-7,7%	9.993,3	7.334,4	-7,5%
Gravure	13.314,2	11.313,5	11.064,2	-3,6%	10.879,8	10.260,3	-1,5%
Flexography	34.463,9	35.477,6	35.956,7	0,9%	36.479,6	37.740,3	1,0%
Screen	2.913,5	2.340,5	2.187,0	-5,6%	2.048,3	1.609,5	-5,9%
Other	16.015,8	16.258,2	16.504,1	0,6%	16.786,2	17.861,1	1,6%
Digital	19.686,8	24.613,6	25.706,8	5,5%	26.249,7	30.514,5	3,5%
Eastern Europe in mil. \$							
Total Eastern Europe	22.264,6	23.986,5	24.507,7	1,9%	25.185,6	27.756,7	2,50%
Offset (sheet + web)	6.541,7	6.871,4	6.911,7	1,1%	7.024,1	7.220,9	0,9%
Coldset web offset	2.975,5	2.448,5	2.360,0	-4,5%	2.306,9	2.058,2	-2,7%
Gravure	725,8	688,4	690,4	-1,0%	701,5	748,3	1,6%
Flexography	5.535,5	6.211,0	6.416,3	3,0%	6.622,4	7.505,0	3,2%
Screen	800,9	636,8	596,7	-5,7%	567,6	469,0	-4,7%
Other	3.698,2	3.958,6	4.040,3	1,1%	4.159,1	4.566,7	2,5%
Digital	1.987,0	3.171,8	3.492,3	11,9%	3.804,0	5.188,6	8,2%
Croatia in mil. \$							
Total Croatia	516,5	515,8	540,1	0,9%	556,4	576,0	1,3%
Offset (sheet + web)	235,0	218,0	216,0	-1,7%	226,0	220,0	0,4%
Coldset web offset	63,9	41,0	39,9	-9,0%	37,2	31,0	-5,0%
Gravure	10,4	9,6	10,8	0,0%	11,7	10,0	0,0%
Flexography	129,0	146,9	160,1	4,4%	168,2	185,0	2,8%
Screen	4,5	1,8	1,8	-13,0%	2,1	1,7	0,0%
Other	35,4	32,3	35,6	0,0%	38,3	36,8	0,5%
Digital	38,3	66,2	75,9	14,9%	72,9	91,5	3,9%

By analyzing the total production of Croatian printing industry, we reached total production growth of 0,9 % during the period 2012-17, where the largest growth was related to digital printing, almost 15 %, which shows that digital printing is growing at a faster rate than it does in the rest of Europe. The largest decrease occurred in screen printing (-13 %) as well as in coldset web offset (9 %). There was also a slight decrease of 1,7% in offset printing. Flexography is growing at a rate of 4,4 %, which is slightly higher than the growth in Eastern European countries, where it increased by 3 % in 2012-17. Figure 1 represents investment in machines in Western Europe in 2012., 2018 and 2022 in offset, coldset web offset, flexography and in digital. It shows investment increased in digital from 2012 to 2022 by 17 % and in flexography in the same period by 6 %. Investment in coldset web offset declined by 7 % and in offset is the biggest decline in investment by 16 %.

Figure following on the next page

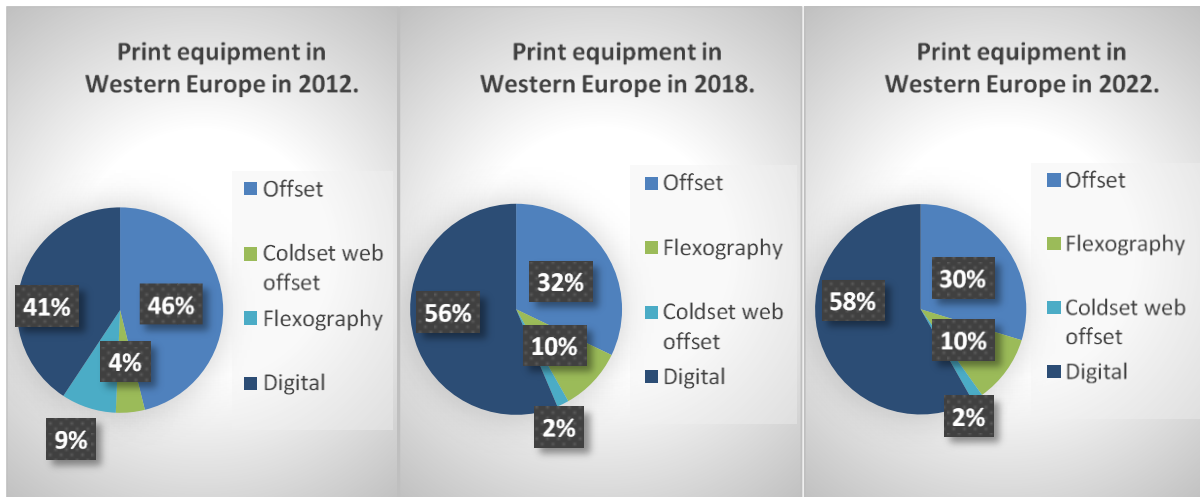


Figure 1: Print equipment market by process type in Western Europe in 2012., 2018. and 2022. (Smyth,2017, p. 211)

Figure 2 represents investment in machines in Eastern Europe in 2012., 2018 and 2022 in offset, coldset web offset, flexography and in digital. It shows investment increased in digital from 2012 to 2022 by 11 % and in flexography in the same period by 6 %. Investment in coldset web offset declined by 7 % and in offset is the biggest decline in investment by 12 %.

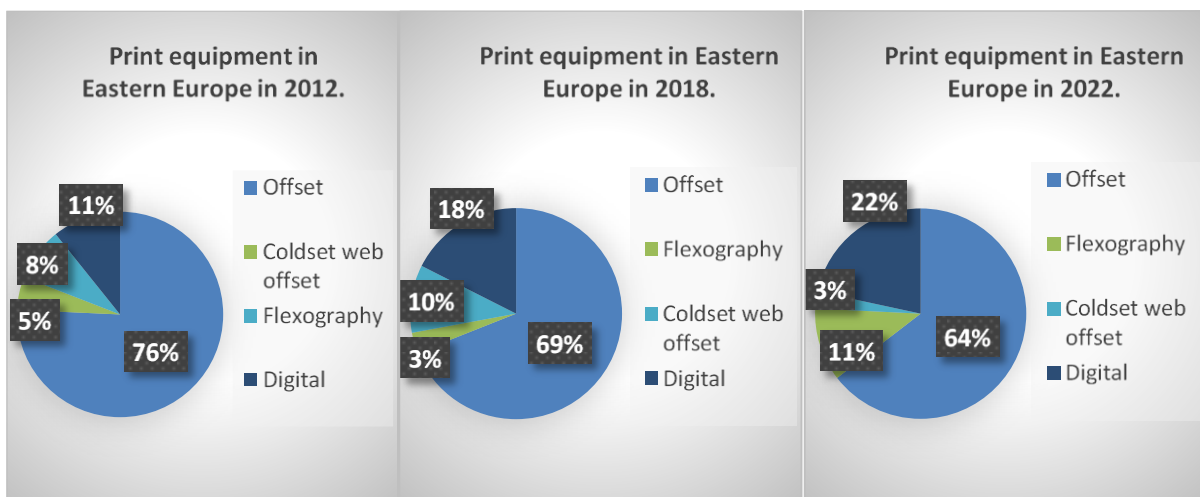


Figure 2: Print equipment market by process type in Eastern Europe in 2012., 2018. and 2022. (Smyth,2017, p. 319)

In Figure 3 we can see investment in machines in Croatia in offset, coldset web offset, flexography and in digital print. It shows investment increased in digital from 2012 to 2018 by 15 % and in offset in the same period by 27 %. Investment in coldset web offset declined by 3 % and in flexography is the biggest decline in investment by 39 %.

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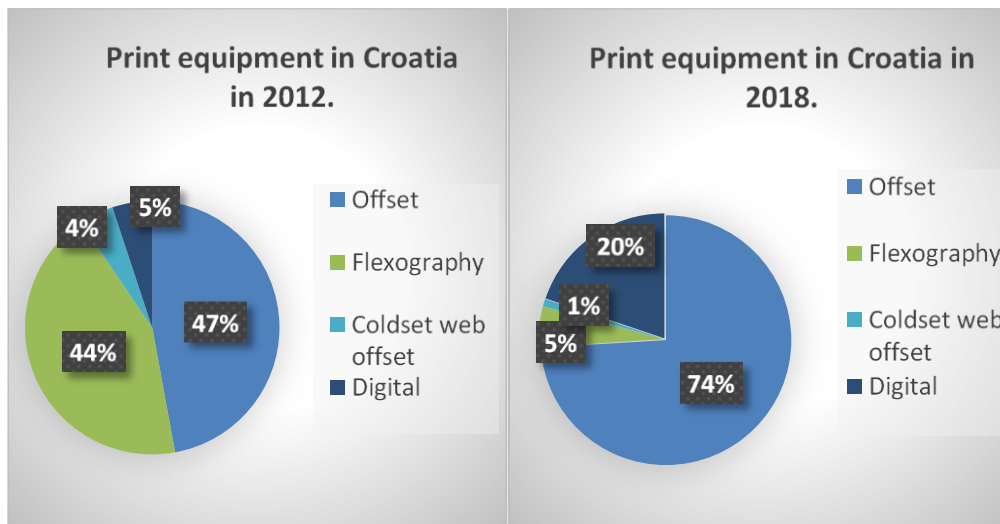


Figure 3: Print equipment market by process type in Croatia in 2012. and 2018. (author's calculation)

4. GLOBAL TRENDS IN PUBLICATION, COMMERCIAL AND PRINTED PACKAGING (2012-22)

The world's printing industry is a big business. In 2017 all print and printed packaging output were valued at a little less than \$ 780 billion. In constant value terms, the global market increased by 4,0 % from the 2012 to 2017. An increase of 9,7 % has been predicted for 2022. The period to 2022 expects real value growth. It also shows declining volume in publications and commercial, and growth in packaging. According to PIRA, there are three basic categories of printed products (Smyth, 2017):

1. Publication – newspapers, magazines, books, directories and catalogues.
2. Graphics – photo products, advertising, business forms and ID, promotional, security, transactional and general commercial print products.
3. Packaging – cartons, corrugated, flexibles.

Table 4. shows the global print market in constant prices and print volumes segmented into these categories and Table 5. shows the equivalent for Croatia, to allow for the comparison of the trends on the global print market and Croatian print market from 2012 to 2018. There is continuing growth in packaging and labels, a sector which is immune to electronic alternatives, with limited growth in commercial graphics and significant publication values, both for the global print market and Croatian print market.

Table 4: Publication, commercial graphics and printed packaging global markets, 2012-22 (Smyth, 2017, p. 7)

\$ billion	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Change 2012-22
Total	748.9	750.6	755.9	764.3	772.5	779.6	786.2	794.1	801.2	810	821.3	9.70%
Publication	179.1	173.1	168.6	163.8	159.8	154.9	151.2	146.7	142.5	138.7	135.5	-24.30%
Commercial	234.1	232.8	231.5	232.1	232.7	233	231.7	230.5	228.4	227.4	227	-3.00%
Packaging & labels	335.6	344.8	355.7	368.3	379.9	391.7	403.2	417	430.3	443.9	458.8	36.70%
% publication	23.9%	23.1%	22.3%	21.4%	20.7%	19.9%	19.2%	18.5%	17.8%	17.1%	16.5%	-31.0%
% commercial	31.3%	31.0%	30.6%	30.4%	30.1%	29.9%	29.5%	29.0%	28.5%	28.1%	27.6%	-11.6%
% packaging & labels	44.8%	45.9%	47.1%	48.2%	49.2%	50.2%	51.3%	52.5%	53.7%	54.8%	55.9%	24.7%

Table 5: Publication, commercial graphics and printed packaging in Croatia print market, 2012-18 (author's calculation)

In mil.\$.	2012	2013	2014	2015	2016	2017	2018	Change 2012-18
Total								
Publication	187,2	187,4	162,0	162,0	159,3	163,7	172,2	-8,0%
Commercial	127,1	128,6	126,0	132,0	128,1	133,7	133,4	5,0%
<u>Packaging & labels</u>	<u>201,5</u>	<u>206,9</u>	<u>224,1</u>	<u>216,5</u>	<u>228,3</u>	<u>242,6</u>	<u>250,1</u>	<u>24,6%</u>
%publication	36%	35%	31%	32%	31%	30%	31%	-13,9%
%commercial	25%	25%	25%	26%	25%	25%	24%	-4,0%
%packaging & labels	39%	40%	44%	42%	44%	45%	45%	15,4%

The 2012-2018 global change shows a 15,6 % drop in publications, a 1 % drop in commercial and a 20 % increase in packaging. In terms of percentages, printing industry in Croatia recorded a decrease in publications by 13,9 %, in commercial by 4 % and packaging growth by 15,4 %.

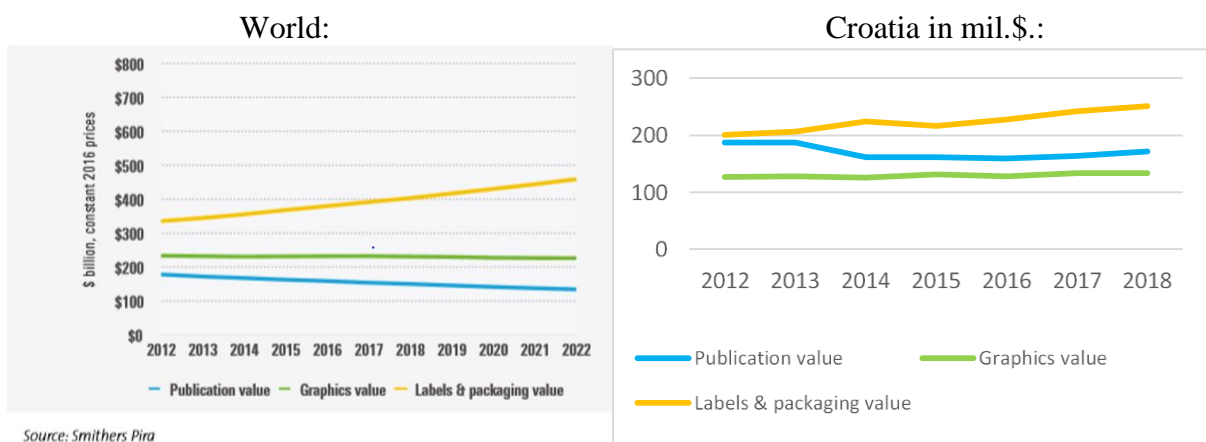


Figure 4: Publications, commercial graphics and printed packaging markets in the world in 2012-22 and in Croatia in 2012-18 (Smyth, 2017, p. 8 and author's calculation)

5. CONCLUSION

The analysis of economic trends and business development for Croatian printing industry market has been conducted based on the data analyzed in this paper. The past 7 years of trends in the printing industry, both in Croatia and in Europe (Western and Eastern), were also taken into consideration. The aforementioned analysis for the period 2018 to 2022 has been made in correlation to trends in Europe, taking into account economic indicators, as well as the situation on the labor market in the Republic of Croatia. The data we obtained from the analysis show growth trend of total printing output in Croatia from 2017 to 2022 for 1,3%. Data from analysis for printing output by process type foresees the further growth of digital printing to 2022 for 3,9%. They show recovery of flexography and it's growth from 2017 to 2022 for 2,8%. Offset will continue to stagnate in next few years and coldest web offset printing will continue to fall at the predicted rate of -5%. From the above data we can reach the conclusion that the trends of Croatian printing industry are in line with those of the Eastern European countries, so the majority of development is related to investment in digital machines and equipment, which indicates the reduction of circulation, but also the direction towards direct marketing which uses personalized document output. Additional possible conclusion is that the development trend is mainly based on the production of packaging and labels as products (this applies to all European countries), because this trend has not been affected by the constant and strong expansion of the Internet usage due to its sole purpose.

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THE IMPACT OF BANKING SECTOR REFORM ON THE NIGERIAN CAPITAL MARKET

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ABSTRACT

The study examines the specific objective to review the banking sector reform and capital market during the reform period in Nigeria and to determine the effect of bank capitalization on the growth rate of market capitalization in Nigeria economy. Secondary data was collected from 2000 to 2010 from central bank of Nigeria statistical bulletin. The data collected was on market capitalization, bank capitalization and ratio of bank and market capitalization. Ordinary least square (OLS) was used to estimate the specified model. It was found out that banking reform has positive effect on capitalization growth rate. It was recommended that there should be more comprehensive reform that will restructure the entire financial sector to complement the reform in banking sector.

Keywords: *Bank capitalization, banking sector, capital market, market capitalization, Nigeria*

1. INTRODUCTION

Commercial banks financial activities have been a bedrock of economic activities not only in Nigeria, but in the world at large. All economic and financial transactions involve money, credit and financial instruments. Banking sector, most especially commercial banks carried out the majority of the financial activities in any economy. Their functions varies from money deposits, valuables deposits, credit to public and private sector, facilitation of domestic and foreign trade, buying and selling of securities and financial advisers to economic agents. Therefore, this makes banking sector very important, and act as a fulcrum of any sectorial growth. The issue of the bank consolidation has assumed international concern because of the importance of the institution in the facilitation of domestic economic growth and international trade. There is thus no gain saying the fact that banking is a central institution in the effective working of any market, either real sector or money or capital market. However, the lingering problem of bank distress and its attendant effects had remained one of the most disturbing features of the Nigeria banking sector in recent times. While concerted efforts are being made to address the menace, the magnitude and depth of distress in the system has remained an issue of concern to the government, the regulatory authorities, bankers as well as the general public. This is because of the importance of banking sector in any modern economy (Sanusi, 2012). Unfortunately, one major cause of the financial distress in the banking sector is "capital inadequacy". Capital provides a cushion to withstand abnormal losses not covered by current earnings that is enabling bank to regain stability and reestablish a normal earning pattern. Unfortunately, a good number of the Nigerian banks were still grossly under-capitalized during the period, 1986 to 2003. This situation largely informed the decision of the regulatory authorities to raise the minimum equity share capital of commercial and merchant banks from N500 million in 1997 to N25 billion in

2005. While reforms in banking industries are aimed at addressing issues such as governance, risk management and operational efficiencies, the vortex of the reforms is around firming up capitalization. Capitalization is an important component of reform in the banking industry, owing to the fact that a bank with a strong capital base has the ability to absorb losses arising from non-performing liabilities (NPL). Capitalization could be achieved through consolidation which ultimately materialized in Nigeria on January 2, 2006 after series of reforms since 2004 by the Central Bank of Nigeria (CBN). This decision by the apex bank is supported by Sanusi (2012) that economic reforms, especially the banking sector, are undertaken to ensure that every part of the economy functions efficiently in order to ensure the achievement of macroeconomic goals of price stability, full employment, high economic growth and internal and external balances. According to Idowu & Babatunde (2009), the most widely acclaimed measure used to stimulate capital market development is reform (Banking reform). De la Torre and Schmukler (2007) advocated about four categories of reform as a policy measures for the effective development of the capital market.

1. reforms aimed at creating the enabling environment for capital markets – such as the strengthening of macroeconomic stability and the enforcement of property rights;
2. reforms aimed at enhancing efficiency and market discipline in the entire financial system through greater competition – such as capital account liberalization;
3. reforms indirectly supportive of capital market development – such as pension reforms and privatization programmes; and
4. capital market specific reforms – such as the development of regulatory and supervisory framework and improvement in securities clearance and settlement systems.

It is also worthy of note that capitalization has been an issue since the establishment of indigenous banks in the 1950s. Therefore, it is either the banks themselves are not adequately capitalized or banks do not move with decline in money value so as to maintain an adequate capital base. Also, there was a sharp increase in market capitalization from 2004 to 2008. According to Central Bank of Nigeria statistical bulletin (2013), market capitalization stood at N1807.29 in 2004 billion from an increase in 2003 value of N979.04 billion. Before the end of 2008, it rose to N10.15 trillion and decline sharply to N5.30 billion in 2009. These short period changes in market capitalization occurred during banking sector reform of 2004 which give rise to the statement of the problem. However, the major factor which is bank capitalization has not been jointly examined with other factors that determined the growth of capital market. Most especially, this study attempt to examine the effect of relevant variables that determined capital market in Nigeria on the growth rates of market capitalization which has been ignored in other studies. The effect of bank capitalization on the growth rate of market capitalization in an economy cannot be determined unless through empirical investigation. Hence, reform in Nigeria's banking sector provides such opportunity to examine how recapitalization in the sector has affected market capitalization growth. From the forgoing, one would like to ask what constitutes banking sector reform, and one would also want to know if bank recapitalization is enough to cause a growth in capital market? The broad objective of the study is to examine the impact of banking sector on capital market in Nigeria economy. The specific objectives to achieve the broad objectives are; to review the banking sector reform and capital market during the reform period in Nigeria. To determine the effect of bank capitalization on the growth rate of market capitalization in Nigeria economy.

2. LITERATURE REVIEW

This section will elucidate the banking sector reform and its relevant studies on the relationship with capital market.

2.1. Banking Sector Reform

The current minimum capital requirement which was set by Bank and other Financial Institutions Decree in 2004, places a premium on the preservation and expansion of every bank capital. With the minimum capital requirements of bank recently introduced by bank and other financial institution decree (BOFID) section 9 (nine) for existing banks and new banks N25 billion is geared towards the reduction of distress syndrome to a minimum level and also able to build up the capital base of the banks. This recapitalization of banks is a distress resolution to banking industry. This measure is seen as crucial to the community in banking business and general wellbeing not only of the banks itself but of the economy as a whole. To consolidate is to make solid or strong. According to new English Oxford dictionary, it means solidification, making solid or strong. According to Iganiga. and Obafemi (2006), consolidation and convergence are interrelated since they are both achieved through mergers and acquisition. A merger is the combination of two or more separate firms into a simple firm, the resulting firm taking either acquire or new identity; while acquisition on the other hand takes place where a company takes over the controlling shareholding interests of another with two separate companies evolving at the end. The target company either becomes a division or subsidiary of the acquiring company. Bank consolidation is viewed as the reduction in the number of banks and other deposit taking institutions with a simultaneous increase in size and concentration of the consolidated entities in the sector (BIS 2001). It is mostly motivated by technological innovations, deregulation of financial services enhancing intermediation and increase emphasis on shareholders' value, privatization and international competition (Berger, Demsetz, Straham 1999 & De Nicolo 2003). The nexus between consolidation and financial sector stability and growth is explained by two polar views: Proponents of bank consolidation opine that increased size potentially increase bank return through revenue and cost efficiency gains. It may also reduce industry risks through the elimination of weak banks and create better diversification opportunity (Berger, 2000). On the other hand, the opponents argue that bank consolidation could increase bank propensity toward risk through increase in leverage and of balance sheet operations. In addition, scale economies are not unlimited as larger entities are usually more complex and costly to manage (De Nicolo, 2003). Iganiga. et al (2006) opined that two major elements of the reform agenda are the requirement for Nigerian banks to increase their shareholders fund to a minimum of N25 billion by the end of December 2005 and consolidated through mergers and acquisition. Attaining capitalization requirement is achieved through consolidation, convergence as well as the capital market. Thus banking reforms are primarily driven by the need to achieve the objective of consolidation, competition and convergence in the financial architecture. The increase in shareholders' funds is achievable through capital market. By this, banks sourcing to increase their capital base eventually boost the capital market and raise the market capitalization during this period.

2.2. Rationale for Banking Sector Reform

Banking sector reforms in Nigeria are driven by the need to deepen the financial sector and reposition the Nigeria economy for growth; to become integrated into the global financial structural design and evolve a banking sector that is consistent with regional integration requirements and international best practices. It also aimed at addressing issues such as governance, risk management and operational inefficiencies, the centre of the reforms is around firming up capitalization. (Ajayi, 2005). Capitalization is an important component of reforms in the Nigerian banking industry, owing to the fact that a bank with a strong capital base has the ability to absolve losses arising from non performing liabilities. Attaining capitalization requirements may be achieved through consolidation of existing banks or raising additional funds through the capital market. In terms of policy thrust therefore the banking sectors reforms are expected to build and foster a competitive and healthy financial system to support

development and avoid systemic distress (Soludo, 2007). Thus Balogun (2007) averred that banking sector reforms is interpreted to mean embarking on comprehensive process aimed at substantially improving the financial infrastructure, strengthening the regulatory and supervisory framework to address the issue of low capitalization and a structured financing for cheap credit to the real sector and financial accommodation for small and rural credit schemes. Generally analysts believe in strong term that economic mal-adjustment is associated with policy pursuit which depart from free market pricing policies (Chiber and Wilton 1986, Ray 1986). Studies have shown that the objectives of financial sector reforms are broadly the same in most countries of Sub-Saharan Africa (Omoruyi 1991, CBN 2004, Balogun 2007, Ray 1986). These are summarized to include market liberalization for promotion of more efficient resource allocation, expansion of savings mobilization base, promotion of investment and growth through market base interest rates and increase the activities of capital market. It also means the improvement of the regulatory and surveillance framework, fostering healthy competition in the provision of service and above all laying the basis for inflation control and economic growth (Balogun, 2007).

2.3. Banking Sector Reform and Capital Market Growth

Sanusi (2011) in a paper delivered maintained that the reforms carried out between 2003 and 2008 in the Nigerian banking sector deepened the capital market and increased public awareness and involvement significantly. This development indicates that the interrelationship between the financial reforms, especially banking sector, and capital market cannot be understated. Before 2008, the market enjoyed a period of unprecedented growth, driven majorly by the banking sector reform. Market Capitalization (MC) rose by 318.3 per cent, from N2.06 trillion in 2005 to N10.20 trillion in 2008, while the All-Share Index (ASI) also rose by 161.6 per cent with the index rising from 24,085.8 in 2005 to 63,016.56 in 2008 (NSE, 2008). These were the same period banking sector capitalization was ongoing. Idowu & Babatunde (2009) confirmed that banking sector reforms developed capital market development through initial public offer of shares, transfer of securities and appreciation of existing shares' value of banks. Saint Paul (1992) showed that stock markets provide a vehicle Risk diversification had been discovered to influence growth through the shifting of investments into higher-return projects. This is because projects with high expected returns tend to be comparatively riskier. Thus, better risk diversification through internationally integrated stock markets will foster investment in projects with very high returns. Bencivenga, Smith and Starr (1996) In their study considered empirically how the efficiency of an economy's capital resale or equity market (as measured by the costs of transacting in them) affect the economy's efficiency in producing physical capital and, through this channel, final goods and services. Their study emphasized the role of equity markets in providing liquidity to holders of long-term and essentially illiquid capital. Their findings showed that as the efficiency of an economy's capital markets increases (i.e. as transaction costs fall), the general effect is to cause agents to make longer-term, and more transactions, intensive investments. This results support the claim of Sanusi (2011) that a strong and developed capital market spur economic growth which can be largely achieved through banking reforms.

3. MATERIALS AND METHODS

3.1. Theoretical Framework

The theoretical framework for this study is based on Calderon-Rossell behavioral structural model of stock market development which was used in Idowu & Babatunde (2009) study. In this model, economic growth and stock market liquidity are considered as the main determinants of stock market growth.

Market capitalization as a proxy of capital or stock market is defined as follows:

$$Y = PV \dots\dots\dots(1)$$

Where:

Y-is market capitalization in local currency;
 P-is the number of listed companies in the stock market; and
 V-is the local currency average price of listed companies.

The model can be presented formally as follows:

$$Y = PV = Y(G,T) \dots\dots\dots(2)$$

$$V = V(G, P), P = P(T,V) \dots\dots\dots(3)$$

The exogenous variable G represents per capita GNP in local currency and variable T represents the turnover ratio. The endogenous variables are V, P, and T.

3.2. Materials and Methods

3.2.1. Model Specification

The structural equations are then expressed in the following reduced behavioural model from equation 3:

$$\text{Log}Y = \beta_1 \text{Log}G + \beta_2 \text{Log}T \dots\dots\dots(4)$$

For the purpose of this study, equation 2 will be used to specify the model. Equation 4 can be written to suit the variables under study. From this, Y will be represented by growth rate of market capitalization, G will include the real Gross Domestic Product (RGDP), financial deepening (broad money ratio to GDP), and T will include bank capitalization and credit to private sector.

$$MGR_t = \alpha_1 BM_t + \alpha_2 RG_t + \alpha_3 BC_t + \alpha_4 CP_t + \alpha_5 MG_t + \alpha_6 CG_t + \alpha_7 MC_t + \mu_t \dots\dots\dots(5)$$

Equation 5 shows the effect of Real Gross Domestic Product (RG_t), financial deepening (MG_t), bank capitalization (BC_t), credit to private sector (CP_t), Bank capitalization contribution to market capitalization (BM_t), credit to private sector contribution to GDP (CG_t) and initial market capitalization (MC_t) on market capitalization growth rate (MGR_t). Calderon-Rossell was modified model to incorporate other financial and economic variables that might affect capital market growth. The model shows capital market growth is the result of the combined effect of bank capitalization, real income and credit to economic activities from the banking sector. This is also accompany with various contributions of variables to market capitalization and GDP.

3.2.2. Technique for Data Analysis

Trend analysis is adopted to explain the changes of market capitalization and bank capitalization. The empirical models were analyzed using Ordinary Least Square (OLS) technique to examine the impact of the banking sector reform on capital market. OLS is said to be best unbiased estimator if all assumptions are not violated. In this case, it is efficient and sufficient estimator of the model.

3.2.3. Trend Analysis of Capital Market in Nigeria, 2000 to 2010

Table 1: Market Capitalization and Bank Capitalization (₦' billion)

Year	Market Capitalization	Bank Capitalization	Ratio of Bank and market Capitalization
2000	379.72	44.21	11.64176
2001	601.05	75.17	12.50655
2002	701.94	101.28	14.42805
2003	979.04	122.74	12.53633
2004	1807.29	142.32	7.875006
2005	2066.80	172.32	8.337606
2006	3998.06	170.49	4.26444
2007	7492.05	152.95	2.041553
2008	10150.19	210.94	2.078152
2009	5296.37	216.19	4.08177
2010	6493.95	245.16	3.775205

Source: Central Bank of Nigeria Statistical Bulletin, 2013

In 2003, market capitalization value increase from N979.04 billion to N1807.29 in 2004 billion which was the year Central Bank of Nigeria announced the recapitalization process. Before the end of 2008, it rose to N10.15 trillion and decline sharply to N5.30 billion in 2009. These short period changes in market capitalization occurred during banking sector reform of 2004 to 2006. However, bank capitalization seems not to grow at the same proportion with market capitalization, due to reduction of banks from 82 to 24 banks after the consolidation. But it still shows a steady increase over time.

Figure 4.1: Market Capitalization Trend in Nigeria

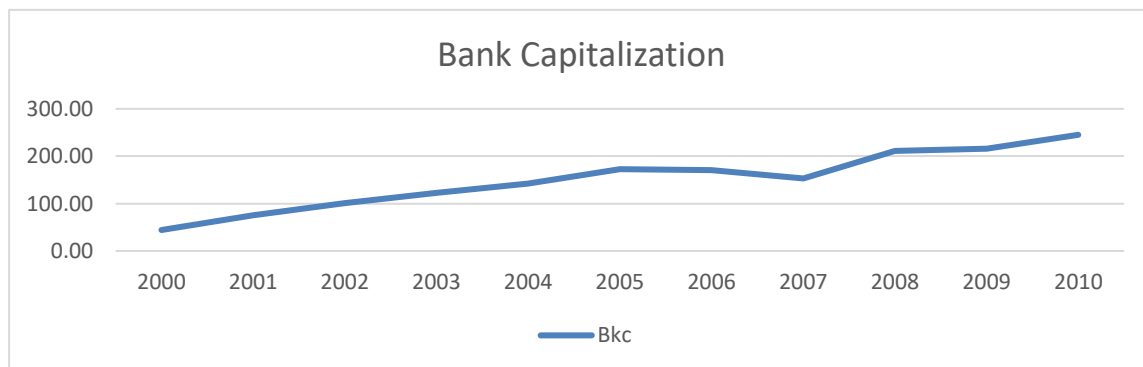
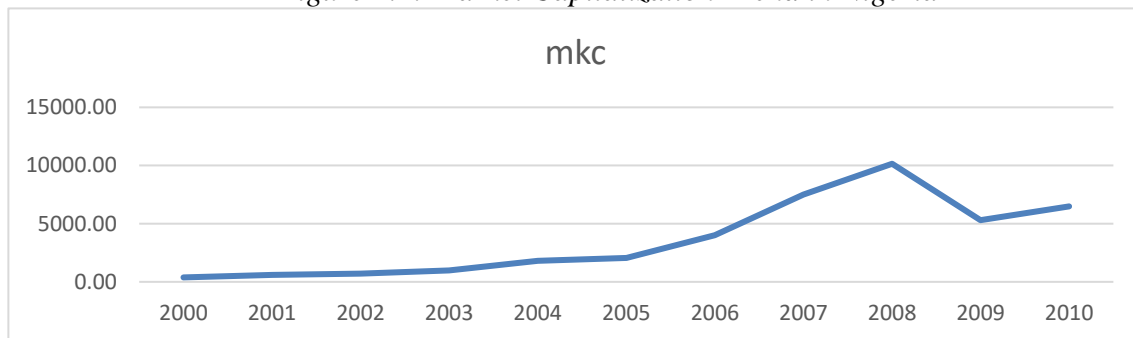


Figure 4.2: Bank Capitalization Trend in Nigeria

Figure 4.1 and 4.2 show the trend movement of market capitalization and bank capitalization respectively. Both graphs show an upward movement and a positive slope along the period. This indicates that given the situation of financial sector, capital market move along side with banking sector capital base.

3.2.4. Model Estimation

Table 2: Model Estimation Variables
Dependent Variable: MKCGRT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BM	-8.285065	2.680542	-3.090818	0.0537
RG	-0.001164	0.000220	-5.281197	0.0132
CG	-2231.429	323.5170	-6.897406	0.0062
MG	11.02412	3.082133	3.576784	0.0374
MC	0.023949	0.002581	9.279030	0.0026
BC	1.431879	0.295525	4.845203	0.0168
CP	0.245390	0.035587	6.895511	0.0062
C	517.2000	83.51238	6.193094	0.0085
R-squared	0.986310			
Adjusted R-squared	0.954365			
F-statistic	30.87584			
Prob(F-statistic)	0.008525			
Durbin Watson Stat	2.653994			

3.2.5. Interpretation of Results

Table 2 reports the results of the model specification of equation 5. All the explanatory variables are statistically significant at 5% level of significance. Specifically, bank capitalization contributions to market capitalization (BM) are negative which violates the a priori expectation. It indicates that a unit increase in BM, market capitalization growth rate will decrease by 8.29. However, bank capitalization has a direct effect on market capitalization growth rate as expected. This implies that market capitalization growth rate will by 1.43 units if bank capitalization increased by 1 unit. The real income proxy by Real GDP (RG) showed a negative relationship with the market capitalization growth rate which does not go in line with the a priori expectation. From it coefficient's value, any percentage increase in real income, market capitalization growth rate will fall by 0.1 %. The magnitude effect of credit to private sector contributions to GDP is negative which is against the a priori expectation; it shows that a rise in the ratio, will further decline market capitalization growth rate by 2231.43 units. However, the credit to private sector coefficient showed a positive value, which implies that market capitalization growth rate will increase by 0.25, if it increase by a unit. Initial market capitalization and financial deepening have positive effect on the market capitalization growth rate in the reported results. It indicates that a unit increase in the initial market capitalization, capital market will grow at the rate of 0.02, while it will increase by 11.02 if financial deepening increase by 1 unit. Other statistics tests show a robust and unbiased estimation. For instance, the coefficient of determination, adjusted R2, with a value of 0.95, indicates that the explanatory variables explained the dependent variable by 95%. This show is high goodness of fit for the regression line. The F-statistic (30.88) is significant at 1% level of significance which indicates that the overall model is significant. The test for autocorrelation, Durbin Watson test (2.65), showed that there is no presence of serial correlation. It indicate that one of the assumptions of the stochastic term that it does not exhibit correlation with the independent variables is true and the estimation results is efficient and reliable for forecasting.

3.2.6. Discussion of Results

Reject Nigeria capital market has shown remarkable growth with an average growth rate of 18.85 per cent from 2000 to 2010. During the consolidation exercise, from 2004 to 2008, it showed a considerably high growth rate. However, a negative growth rate due to the discovery of high non-performing loans and illiquidity if some commercial banks. Form the results it showed an obvious fact that all banking sector consolidation or reform indicators, namely: bank capitalization, volume of credit to private sector and financial deepening have significant positive effect on the growth rate of market capitalization. Consequently, the decline of bank effectiveness in 2009 showed that there is a need to sustain the current level of banking sector reform with strong implementation strategies by the financial authorities. Evidence from recent empirical economic studies suggests that deeper, broader, and better functioning financial markets can stimulate economic growth (Ndikumana, 2001, cited in Levine. n.d). Hence, the interrelationship between the reforms of the CBN and that undertaken by the regulators of the capital markets should not be undermined.

4. CONCLUSIONS AND RECOMMENDATIONS

This Capital markets provide a sound platform for numerous organizations seeking to raise funds. In this vein, the capital market efficiently allocates financial resources to the benefit of the economy. In the case of any sectoral reform, the outcome will definitely be beneficiary to the players in capital market. This is evidence from the empirical findings of this study that capital market has been influenced by the recent reforms in banking sector. Consequently, regulators like CBN and SEC would continue to adopt appropriate measures to ensure that the financial system, especially banking sector, is well equipped to stimulate economic growth. The following recommendations are suggested in line with the results obtained in this study.

1. There should be more comprehensive reform that will restructure the entire financial sector to complement the reform in banking sector.
2. The monetary authority should roll out periodic plan for financial reforms to address challenges in the financial sector.
3. There is need for sound reforms that will not violates fundamental principles of banking practices in order to avoid the possibility of non-performing loans.
4. The past reforms impacted significantly on the capital market development as revealed in this study, but it is highly suggested for sustainable reforms.

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IMPACT OF ONLINE STUDENTS' ENGAGEMENT ON SATISFACTION AND LOYALTY IN HIGHER EDUCATION

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ABSTRACT

The purpose of this paper is to examine the effect of online students' engagement on overall students' satisfaction and the impact of students' satisfaction on students' loyalty in the higher education context. Empirical research was conducted on a sample of 278 respondents. The hypotheses were tested using the univariate and multivariate regression analysis. The research results showed a positive impact of two dimensions of online students' engagement on students' satisfaction. Also, the relationship between students' satisfaction and their loyalty to a higher education institution was confirmed.

Keywords: *higher education, online students' engagement, satisfaction, loyalty*

1. INTRODUCTION

Higher education institutions (HEIs) are increasingly faced with the need to adapt their activities to a market, where excellence presents a determinant of institution's reputation. In order to gain a competitive advantage, HEIs can apply a marketing concept that puts the needs of users of education services – students, in the spotlight. Many factors as increased competition, decreased government funding, and the increased cost of education lead to marketisation in higher education (Guilbault, 2016). Moreover, students are considered partners in the value co-creation process in higher education (Dollinger, Lodge and Coates, 2018). Excellence achieved through a high degree of customer satisfaction affects the reputation of the institution and future students as well. The premise is that satisfied students will pass on their experience to others, and word-of-mouth communication is known to be a beneficial form of information transfer. Therefore, it is necessary to improve the quality of the educational process and to ensure the achievement of learning outcomes aimed at achieving a high level of students' satisfaction and loyalty to a HEI. In order to gain a competitive advantage in the market, it is essential that HEIs create quality student-centered educational programs. In this process, the implementation of a modern information-communication technology (ICT) is an imperative. Today, the ICT has permeated all fields of life and work, including education. The benefits of implementing the ICT in teaching processes were recognized by many HEIs around the world a long time ago, so that they have developed quality e-learning programs at all levels of higher education. As today's generations of students spend a considerable amount of time online, the question is whether their greater online engagement in the educational process contributes to their satisfaction with their studies, and accordingly to their loyalty to a HEI. Therefore, the purpose of this paper is to determine if there exists a relationship between online students' engagement, overall students' satisfaction and loyalty to a higher education institution. The paper is structured in five sections.

The introductory part is followed by an explanation of the basic concepts used in the paper and the development of hypotheses, a description of the empirical research methodology, the research results, and conclusions.

2. CONCEPTUALIZATION AND HYPOTHESES DEVELOPMENT

2.1. Online students' engagement

The term engagement is often used in the marketing literature providing different definitions of customer engagement. For example, van Doorn et al. (2010, p. 254) define customer engagement as "a customer's behavioral manifestations that have a brand or firm focus, beyond purchase, resulting from motivational drivers". Lemon and Verhoef (2016, p. 74) point out that customer engagement is "emerging as a component of the customer experience through specific interactional touch points, such as social communities and interactions with service employees or other customers". When it comes to education, students' engagement at all levels of education, including in higher education, stands out as a determinant of successful completion of a study program and the achievement of learning outcomes. For example, Pike, Smart and Ethington (2012) found out a positive relationship between students' engagement and their learning outcomes. According to Krause and Coates (2008), students' engagement refers to the extent to which students are engaging in provided activities which are linked with high-quality learning outcomes. Students' engagement is a multidimensional construct. Krause and Coates (2008, p. 493) define it as "a broad phenomenon that encompasses academic as well as selected non-academic and social aspects of the student experience". Ahlfeldt, Mehta and Sellnow (2005) concluded that students' engagement includes students' involvement, excitement and persistence. Further on, Krause and Coates (2008) reported on seven calibrated scales of students' engagement emerging from a large-scale study including the first year undergraduate students of Australian universities: Transition Engagement Scale (TES), Academic Engagement Scale (AES), Peer Engagement Scale (PES), Student-staff Engagement Scale (SES), Intellectual Engagement Scale (IES), Online Engagement Scale (OES) and Beyond-Class Engagement Scale (BES). The Online Engagement Scale (OES) reflected three main ways of the first-year students' online engagement (usage of the web and computer software to support learning and access resources, the role of ICTs in promoting independent and self-initiated learning and usage of the ICT in communication and building a community.). The authors concluded that "students' engagement with ICTs represents a separate scale that does not preclude its interaction and influence on a range of other behaviours, attitudes and learning experiences" (Krause and Coates, 2008, p. 502). The impact of university students' online social networking engagement on social learning processes and outcomes was researched by Yu, Tian, Vogel and Chi-Wai Kwok (2010). They confirmed that the online social networking had an impact on university students' learning outcomes and helped the students to attain social acceptance from others and adapt to the university culture. Students' engagement does not only influence learning outcomes and socialisation, it also affects students' satisfaction and loyalty to the institution. Yu, Tian, Vogel and Chi-Wai Kwok (2010) proved that university students' online social networking engagement (on Facebook) is positively related to their satisfaction with university life. According to the above mentioned, the first hypothesis set is:

- H1: Online students' engagement has a positive effect on overall students' satisfaction.

2.2. Satisfaction and loyalty in higher education

Customer satisfaction is one of the most researched concepts in the field of marketing. According to the American Marketing Association, customer satisfaction measures customers' perceived satisfaction with their experience of a firm's offerings (AMA), which provides a leading indicator of consumer purchase intentions and loyalty. As the concept of marketing is applied in different industries, both for-profit and non-profit sectors, so is the notion of

satisfaction explored in many areas. Therefore, university students' satisfaction is considered "a short-term attitude resulting from an evaluation of a student's educational experience" (Elliott and Healy, 2001, p. 2). It is one of the major elements in determining the quality of the programs in higher education (Parahoo, Santally, Rajabalee and Harvey, 2016). Santini, Ladeira, Sampaio and da Silva Costa (2017) performed a meta-analysis and found six consequents of satisfaction in higher education: attitude toward the higher education institution, intention to recommend, involvement, loyalty, trust and word-of-mouth. Additionally, by examining the role of customer engagement on customer loyalty through the example of a private higher education institution in Indonesia, Manggarani (2018) has found out, that students' engagement has a significant effect on students' satisfaction and that students' satisfaction has a significant effect on students' loyalty. It results with the second hypothesis:

- H2: Overall students' satisfaction has a positive effect on students' loyalty in higher education.

Figure 1 illustrates a conceptual model based on the stated hypotheses.

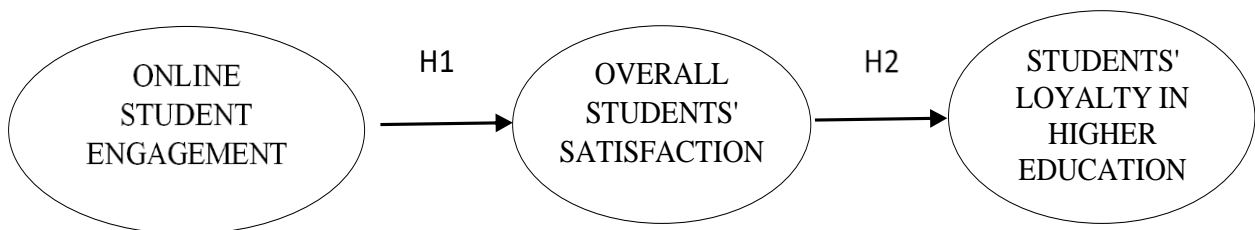


Figure 1: Conceptual model (The authors)

3. METHODOLOGY

This study takes a quantitative approach to measuring students' perceptions toward online students' engagement, satisfaction and loyalty. In order to collect the data, the survey method was applied. In addition to demographic questions, the questionnaire included constructs which were measured by items taken from the existing literature. Online students' engagement was measured by using twelve items taken from a study by Krause and Coates (2008). Four items taken over from Elsharnouby (2015) were used to measure the students' overall satisfaction. Students' loyalty in higher education was measured by using four items taken from Encinas Orozco and Cavazos Arroyo (2017). All items were measured on a five-point Likert-type scale, ranging from "strongly disagree" to "strongly agree". The questionnaire was created in English and translated into Croatian. The survey was created in an online format. Students were sent a link to the survey asking them to complete it. The research was conducted from 30 May until 10 July 2019 on a purposive sample of students. A total of 278 students of the second year of undergraduate study, i.e. students who have already acquired some university experience were polled. Data processing and analysis applied Univariate and multivariate statistical methods in IBM SPSS 25 were applied in data processing and in the course of analysis. Results of the research are presented in the text that follows.

4. RESEARCH RESULTS

The majority of the respondents were females (73%), which corresponds to the gender structure of students at the Faculty. A total of 93.5% of respondents were between 20 and 25 years of age. Out of the total number of students, 40.3% of them were full-time and 59.7% were part-time students. After analysing the sample structure, the respondents' answers were analysed by using descriptive statistics. Results are presented in Table 1.

Table 1: Descriptive statistics (N =278) (Research results)

Item number	Construct / Item	Mean	SD
ONLINE STUDENTS' ENGAGEMENT		4.09	0.56
oe1	Online discussion with other students is very useful.	4.27	0.90
oe2	Using email to contact other students is very useful.	3.56	1.22
oe3	Online tutoring (electronic access to tutoring support, e.g. Moodle) is very useful.	4.37	0.90
oe4	Computer software (e.g. simulations) designed specifically for the course is very useful for me.	3.91	1.03
oe5	Using e-mail to contact lecturers/tutors is very useful.	4.56	0.72
oe6	Online resources (e.g. course notes and materials on the web) are very useful for me.	4.63	0.70
oe7	Learning at my own pace using online resources is useful.	4.50	0.66
oe8	I regularly use web-based resources and information designed specifically for the course.	4.62	0.64
oe9	I regularly use e-mail to contact friends in my course.	2.76	1.31
oe10	I regularly use online discussion groups related to my study.	3.00	1.36
oe11	I regularly use the web/Internet for study purposes.	4.67	0.67
oe12	I regularly use e-mail to contact lecturers/tutors.	4.24	0.91
OVERALL STUDENTS' SATISFACTION		3.67	0.89
sat1	Overall, I am very satisfied with the services provided by my faculty.	3.87	0.90
sat2	My faculty has met my expectations.	3.70	1.00
sat3	My faculty has helped me to fulfill my aspirations.	3.52	1.03
sat4	My faculty has met my needs.	3.58	1.00
STUDENTS' LOYALTY IN HIGHER EDUCATION		3.76	0.92
loy1	I speak positively about this faculty to other people.	4.01	0.98
loy2	I recommend this university to anyone who asks me for advice.	3.95	1.09
loy3	I encourage friends and family to study at this faculty.	3.45	1.19
loy4	This faculty was my first choice in terms of my studies.	3.64	1.52

Research results in the above table indicate that the students expressed a relatively high degree of agreement with the aforementioned statements. When it comes to the online engagement, they mostly agree with the statement "I regularly use the web/Internet for study purposes". (M = 4.67, SD = 0.672). The statement "I regularly use email to contact friends in my course" achieved the lowest average grade (M = 2.76, SD = 1.306). Furthermore, all items regarding students' satisfaction and loyalty were rated with average values above 3.5 indicating a high degree of satisfaction and loyalty. Since the field research was conducted by using the translated scales, it was necessary to examine the dimensionality and reliability of the scales before conducting a regression analysis to find out the relationship between the online students' engagement and students' satisfaction and loyalty. Therefore, an exploratory factor analysis was performed. Prior to the analysis, the proof of the suitability of conducting factor analysis was carried out by implementing the Kaiser-Meyer-Olkin test of sampling adequacy and Bartlett's test of sphericity. The Kaiser-Meyer-Olkin coefficient (0.864) and Bartlett's test of sphericity ($\chi^2_{(66)} = 1316.115$; $p < 0.001$) showed that the online engagement scale correlation matrix was suitable for carrying out the factor analysis according to the recommendations of Tabachnik and Fidell (2007, p. 614). The other two scales suitable for the factor analysis were: the Kaiser-Meyer-Olkin coefficient (0.819) and Bartlett's test of sphericity ($\chi^2_{(6)} = 873.32$; $p < 0.001$) used for the satisfaction scale and the Kaiser-Meyer-Olkin coefficient (0.704) and Bartlett's test of sphericity ($\chi^2_{(6)} = 519.92$; $p < 0.001$) used for the loyalty scale. After the verification of the suitability of the scale for conducting a further analysis, a principal components analysis with the oblimin rotation was carried out.

The criteria for the number of factors extracted were based on eigenvalues and significance of factor loadings. Factors with eigenvalues greater than one and factor loadings above 0.35 taking into account the number of respondents (Hair, Black, Babin and Anderson, 2014, p. 115) were considered as acceptable. Items with saturation higher than 0.40 on more than one factor were eliminated as recommended by Churchill (1979). Considering this criterion, one item was excluded from the factor analysis (item oe2 "Using email to contact other students is very useful."). To check the reliability of the scales, Cronbach's alpha coefficients were calculated. The results are presented in Table 2.

Table 2: Results of the explorative factor and reliability analysis (Research results)

<i>Item number</i>	<i>Construct / item</i>	<i>Factor loadings</i>	<i>Total variance explained(%)</i>	<i>Cronbach's alpha coefficients</i>
ONLINE LEARNING ENGAGEMENT			40.13	0.863
oe6	Online resources (e.g. course notes and materials on the web) are very useful for me.	.850		
oe7	Learning at my own pace using online resources is useful.	.824		
oe8	I regularly use web-based resources and information designed specifically for the course.	.804		
oe5	Using e-mail to contact lecturers/tutors is very useful.	.711		
oe11	I regularly use the web/Internet for study purposes.	.663		
oe1	Online discussion with other students is very useful.	.663		
oe3	Online tutoring (electronic access to tutoring support, e.g. Moodle) is very useful.	.643		
oe4	Computer software (e.g. simulations) designed specifically for the course is very useful for me.	.556		
oe12	I regularly use e-mail to contact lecturers/tutors.	.510		
ONLINE COMMUNICATION ENGAGEMENT			15.45	0.642
oe10	I regularly use online discussion groups related to my study.	.849		
oe9	I regularly use e-mail to contact friends in my course.	.781		
OVERALL STUDENTS' SATISFACTION			81.18	0.922
sat1	Overall, I am very satisfied with the services provided by my faculty.	.868		
sat2	My faculty has met my expectations.	.912		
sat3	My faculty has helped me to fulfill my aspirations.	.912		
sat4	My faculty has met my needs.	.911		
STUDENTS' LOYALTY IN HIGHER EDUCATION			63.57	0.748
loy2	I recommend this faculty to anyone who asks me for advice.	.930		
loy1	I speak positively about this faculty to other people.	.894		
loy3	I encourage friends and family to study at this faculty.	.820		
loy4	This faculty was my first choice in terms of my studies.	.454		

On the scale of online students' engagement two factors were extracted. The two factors explain 55.57% of the total variance: online learning engagement and online communication engagement. Cronbach's alpha coefficient for the first factor exceeded the threshold value of 0.70 which is considered to be the accepted limit (Nunnally, 1978). Although the coefficient of internal consistency for the second factor amounts only to 0.642, it is retained, because the smaller coefficient value is caused by the factor consisting of only two items. Cronbach's alpha coefficients recorded for satisfaction and loyalty were above 0.70. Multiple regression analysis was performed to answer the questions how and to what extent is satisfaction affected by the online students' engagement. The overall students' satisfaction was used as a dependent variable, and two factors were used as independent variables. The results are presented in Table 3.

Table 3: Multiple regression analysis for variables predicting overall students' satisfaction (Research results)

<i>Independent variables</i>	<i>b</i>	<i>SE</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
Constant	1,487	,408		3,644	,000
Online learning engagement	,418	,093	,261	4,475	,000
Online communication engagement	,116	,045	,150	2,575	,011

$R^2 = 0.328$; Adjusted $R^2 = 0.108$; Standard error = 0.840; F ratio = 16.565 (p=0.000)

Dependent variable: Overall students' satisfaction

It is evident that the online students' engagement dimensions are statistically significant in estimating overall students' satisfaction and this explained a total of 32.8% % variance on satisfaction ($R^2 = .328$). Students' satisfaction was significantly influenced by both factors. Online students' engagement ($\beta = .418$, $p = .000$) had a higher impact on the overall students' satisfaction, while the factor of the online communication engagement showed a smaller impact ($\beta = .116$, $p = .011$) on satisfaction. **These results support the hypothesis H1.**

To examine whether there is a connection between overall students' satisfaction and students' loyalty in higher education, we carried out a simple linear regression analysis (Table 4).

Table 4: Simple regression analysis for variable predicting students' loyalty in higher education (Research results)

<i>Independent variables</i>	<i>b</i>	<i>SE</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
Constant	1.005	.161		6.256	.000
Overall students' satisfaction	.751	.043	.728	17.641	.000

$R^2 = 0.728$; Adjusted $R^2 = 0.530$; Standard error = 0.628; F ratio = 311.216 (p=0.000)

Dependent variable: Students' loyalty in higher education

Overall students' satisfaction significantly ($\beta = .751$, $p = .000$) affects students' loyalty in higher education. It explained a total of 72.8% % variance on loyalty ($R^2 = .728$), **which confirmed the hypothesis H2.**

5. CONCLUSION

This research contributes to the debate on the role of students' engagement on students' satisfaction and loyalty in higher education, with an emphasis on online students' engagement. The Online engagement scale (Krause & Coates, 2008) was applied in conducting the empirical research. It was found out that students regularly use the Internet and web based resources for learning and communicating with lecturers using e-mail. Unlike study provided by Krause and Coates (2008), two factors were extracted by exploratory factor analysis: online learning engagement and online communication engagement.

Both dimensions contribute significantly to students' satisfaction. Therefore, we can conclude that the online students' engagement has a positive effect on the overall students' satisfaction. Also, a positive relationship between the overall students' satisfaction and loyalty was confirmed, as in previous research works (Santini, Ladeira, Sampaio and da Silva Costa, 2017; Manggarani, 2018). However, a direct relationship between the online students' engagement and loyalty in higher education has not been explored, which may be the subject of a future research. It would also be necessary to research a representative sample of students in various fields of education. This research also offers practical implications. It demonstrates that HEI have to invest effort in quality and online resources to achieve higher levels of satisfaction and loyalty to the institution. Educators also play a significant role in this process. They must be equipped with the specific competencies and skills for successful teaching in the future, like it is promoted in a project: "Future Proof Your Classroom – Teaching Skills 2030" (ref. 2017–1–AT01– KA203-034984). Its objective is to deliver an innovative educational blended-learning course, including a web based training in an appealing eBook format for teachers, trainers and educators that can be accessed without limitations and is free of charge. By enhancing the competencies of teachers and encouraging the online students' engagement, HEI will also contribute to students' loyalty, and ultimately to the reputation of a HEI.

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ANALYSIS OF COMPANIES OF THE WIG20 SECTOR BASED ON THE EXAMPLE OF COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE IN POLAND WITHIN 2009-2019

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ABSTRACT

This paper examines share price of the companies listed on the WIG20 and their fair value between 2009-2019. Data from Q3 2009 to Q3 2019 was collected from the Stooq.pl (Polish portal of shares). Two hypotheses are tested: (1) value of the shares based on the market price; (2) value of the shares as the fair value of shares.

Keywords: *stock exchange, share valuation, fair value, companies, WIG20*

1. INTRODUCTION

Evaluation of shares allows to some extent for determining the company's value as a share value does not depend exclusively on demand and supply on the market, but also on many factors which shape its rate starting from valuation of an enterprise by means of different methods up to showing the mechanisms changing the share value in a way increasing its value or underrating it. Therefore, valuation of shares and estimation of their fair value is extremely important. This must be done in an objective manner. Repeatedly, the value of shares listed on WIG20 of the Stock Exchange is distorted and underrated, which is connected with an incorrect valuation of an enterprise's value listed on the Warsaw Stock Exchange. The research concerns the determination of fair value of shares listed on the index of WIG20 when analyzing simultaneously chosen rates of particular companies from WIG20. The value of enterprises listed on this index was checked for proper determination of their fair value as currently their values appears to be underrated.

2. VALUATION OF SHARES

Shares are the most important group of financial instruments listed on the Warsaw Stock Exchange. In 1991, during the first quotation, the shares were the only financial instrument. At the end of the 90s, the structure of the Warsaw Stock Exchange changed as other financial instruments, including forward contracts, were introduced to turnover. On the first exchange session, shares of 5 companies were listed. In the subsequent years, there was observed an increase in the number of companies and their market value. A share is an instrument combining rights of property and non-proprietary character which result from shareholder's participation in a joint-stock company or a limited joint-stock partnership, and the sum of rights and obligations that a shareholder has within the framework of a company or a partnership or a part of a share capital. When purchasing shares, it is possible to distinguish the rights vesting with a shareholder and group them into property and non-proprietary (corporate) rights. These rights, in principle, are equal. However, it is possible that on the basis of a company's articles of association some shares are assigned with special rights or particular obligations. The following property rights are vital for the valuation of shares (Borowski, 2013, Bossa.pl):

- right to a dividend (share in a company's profit assigned for division among shareholders),
- right to participation in the division of assets of a company in the case of its liquidation,
- right to subscription of shares of a new stock issue (The Code of Commercial Companies and

Partnerships grants the hitherto shareholders a right to taking up of shares on a new sock issue in the case of an increase of a capital by a company). A share is a part of a company's capital. A person holding shares of a joint-stock company becomes a shareholder of a company who is, in a way, a co-owner of everything that constitutes company's assets (immovables, machines, etc.). Two basic types of shares can be distinguished: registered and bearer's shares. A fundamental difference concerns the turnover of these shares. Registered shares, contradictory to bearer's shares, are not placed on a public market. Registered shares may be preference shares connected, for instance, with a right to vote (2 votes – 1 share) or dividend. One of the elements of a fundamental analysis, which is most important, is valuation of shares. When making investment decisions, an investor should know if a company they want to invest in is not underrated or overestimated by a market. By means of valuation it is possible to estimate the risk associated with an investment. There are 4 approaches of valuation of shares (Copeland, 1997, pp. 65-69; Kufel, 1992, pp.78-89):

1. Accounting approach
2. Liquidation approach
3. Multiplier approach
4. Revenue approach

- Re 1. An accounting approach is also known as a method of a net asset value. It consists in estimating a company's value (as for a single share) by means of reducing the value of assets by company's liabilities. Then, the result is divided by the number of issued shares. This method is used rarely as it does not make allowances for market realities and development prospects.
- Re 2 A liquidation approach consists in determining the value of income due to the sale of assets in the moment of liquidating a company. This method is used when a company is liquidated or merged with another one.
- Re 3 A multiplier approach, aka comparative or indicative, relies on valuation of a company on the basis of shares belonging to other companies that are similar to the one in question. Usually, such comparison refers to companies of the same area of activity in a given sector. Most common indicators used in this method are:
 - price/profit
 - price/accounting value
 - price/sale
- Re 4 Approach based on a revenue model Valuation is made by means of a method of discounted cash flows.
 - Model of discounted dividends.

A ratio analysis is most commonly used by investors due to its simplicity. The above-mentioned indicators were used to illustrate this valuation for an analysis. The first one is an indicator: price/profit.

$P/P = \text{price of one share} / \text{net profit for one share}$

Another indicator is the price/company's accounting value ratio. As it was in the previous case, the calculation requires the use of a price of one share and accounting values (assets – liabilities) per one share of a company, where the value is achieved by dividing an accounting value by a number of company's shares (Jajuga, 1996, pp.34-57).

$P/BV = \text{price of one share} / \text{accounting value for one share}$

The last indicator is price/net sales. In order to obtain this measure, it is necessary to hold data about sale per one share (quotient of incomes from sales and a number of issued shares), and a value of one share.

$P/S = \text{price of one share} / \text{net sales for one share}$

All information concerning an accounting value, net profit and sales includes an annual financial statement prepared by companies. One may use quarterly reports of companies to forecast indicators. Apart from the aforementioned indicators, there are many other types of them which may make the financial situation of a company known. When valuating shares, one should also use the model of discounted dividends. This model is one of the oldest and most commonly used ones. It is dedicated to minority shareholders. In an adverse situation, when valuation is made by a person having control over a company, a decision regarding the pay out of some part of the profit is made by the person themselves. Here, a dividend policy is of no importance for the valuation. There are the following models of discounted dividends:

- constant dividend value model
- constant dividend growth model (by Gordon)
- two-stage model
- H model
- three-stage model

A constant dividend value model, as indicated by its name, assumes that a dividend will be paid out in the same amounts at all times (Pierce, 2004, pp.124-145; Thompson, 2008, pp.45-67; Valea, 2001, pp.88-125):

$$P = (D / R)$$

D – dividend

R - return rate expected by an investor

Situations arising from this model are encountered very rarely.

Another method is worked out by Gordon. It is one of the easiest and commonly used models. It assumes that a growth rate of a dividend will be stable:

$$P = [D_1 / (r - g)], \quad r > g.$$

P - share value,

g - dividend growth rate,

D₁ - dividend (per share) paid out in the following year,

r - required return rate.

Formula for a growth rate of a dividend:

$$g = ROE \times f$$

ROE – rate of return from equity capital

f – retention rate (quotient of a retained profit and a net profit)

The two-stage model, as its name suggests, consists of two phases: a growth period at a constant speed g_0 , and then at a constant speed g :

$$P = D(1 + g_0) \left[\frac{1}{r - g_0} - \frac{(1 + g_0)^N}{(r - g_0)(1 + r)^N} + \frac{(1 + g_0)^{N-1}(1 + g_1)}{(r - g_1)(1 + r)^N} \right]$$

The H model assumes that a growth rate of a dividend will decrease linearly at the beginning (from the level g_0 to g), and later on it will increase at a constant growth speed g :

$$P = \frac{D_0(1+g) + D_0H(g_0 - g)}{r - g}$$

H – half of the period when there is a linear decrease in a growth speed of a dividend.

The remaining signs are equal with the previous model by Gordon. The difference between the three-stage model and the H model is that at the beginning there is an additional regular period in which a dividend rate grows in at a constant speed g_0 , whereas other assumptions are identical as it was in the previous model. Thus, valuation of shares consists in determining its value to identify underrated or overestimated shares. For that reason, it is necessary to carry out a technical (fundamental) analysis and check if the price of a share corresponds to a company's value.

3. FAIR VALUE OF LISTED COMPANIES

Share price of the companies listed on the Stock Exchange should reflect also their fair value (Pierce, 2004, pp. 124-145). The fair value can be defined in several ways. In view of the foregoing, the fair value is a value used repeatedly in accounting, and thus in Article 28 (6) of the Accounting Act of 29.09.1994 as "the amount for which a given asset component could be exchanged, and the liability could be paid on market transaction terms between interested and well-informed, unrelated parties. In view of whether the price of shares that are quoted on the stock exchange corresponds to their fair value, should be found in the value alone, since, after all, the values may be diverse, like the value of a similar company, producing similar goods and operating in the same industry, will also be diverse for various reasons. The subject of trade covers minority shares, and the main market participants are retail investors or minority institutional investors, thus the price of shares should reflect the fair value characterizing the liquid minority interest (Borowski, 2013, bossa.pl). The value presented in this way seems righteous, which is confirmed by the premium paid by the investors who announce calls for subscription for shares and plan in this way the purchase of the controlling interest. Then the premium reflects the difference between the level of liquid minority interest and the level of controlling interest. Sometimes the level takes into account benefits resulting from synergy. An investor purchasing the controlling interest in this way receives premiums that appear after taking over control of a company, in the form of funds, business management and making a number of strategic decisions. The fair value of the share price should be determined in accordance with the idea of capital market, namely the market participants should have equal access to data, information and all messages concerning a given company. However, the investors are divided into three groups:

- a) People with access to the most closely guarded information that affects the price and the business value, namely those can the company's management board or shareholders,
- b) Institutional investors with blocks of shares with simultaneous access to the company's management board,
- c) Individual investors who have access to public information.

At this point, there should be no differences in particular groups, at least officially, however, it happens that a group that is closest to the company has information which can obviously change

its value overnight or distort its value artificially, e.g. other data or informal data, and even fictitious data. Worldwide we can also appreciate companies that treat individual investors seriously, namely provide them data concerning a company and treat them as equal and as strategic investors, with a large impact on a company in the present and in the future. Transactions that are concluded on the Warsaw Stock Exchange relate to transactions between interested parties, namely a purchase or sale order should be submitted. Sometimes there are cases of wrongly submitted orders, but these are marginal orders that do not have a large impact on the transactions conducted on the Warsaw Stock Exchange. Share liquidity is understood as a percentage quantity of shares in a company that are in the possession of minority shareholders. This is, at the same time, free float and the face value of such shares and the value of average daily trade in shares in a given company (Kufel, 1992, pp. 78-89). Thus, we may presume that if during a day a large trade in shares takes place and a greater part of shares remains in the hands of minor shareholders, the share price reflects their fair value. We cannot agree with the fact that at small or minimum trade the value of shares is reduced to its daily minimum and it would be its fair value. Then it is only a change in the share price to a lower one and it does not indicate its fair value, as the trade alone suggests that this is only a pure coincidence. Such an impact can be exerted by large shareholders, as they can, by using one block, decrease the share value, preventing smaller players from raising the price for one reason: the capital of smaller shareholders does not enable them to raise the share price (Veale, 2001, pp. 88-125; Frąckowiak, 1998, pp. 34-42). There is one premise more to determine the fair value of share price. The investors are fond of investing in shares, namely they buy them as in the past they managed to earn on them and they feel that presently the share price is ideal and reflects their fair value and will enable them to obtain fair dividend in the future. Such a purchase or sale of shares can largely overestimate or underestimate the share value of a quoted company. Here the IT industry may serve as an example, namely shares in technological companies at the beginning of the new millennium, when shares in these companies were being purchased without any analysis in technical terms, but looking at their name and value, which was increasing overnight. In view of the foregoing, this led to excessively high business value above its fair value (Thompson, 2008, pp. 45-67). The share price should thus reflect the fair value of a company listed on the Warsaw Stock Exchange. For the value of these companies be fair, the market must make available to all investors information regarding companies listed on the Warsaw Stock Exchange. The shareholders should be treated equally; therefore we cannot distinguish majority shareholders as those who should have information unavailable for minority shareholders. First of all, shares should be liquid securities, therefore they should be in free float and have real-time transferability, namely at any moment and at any time during the office hours of the Warsaw Stock Exchange on a business day (The analysis of 233 recommendations or analytical reports issued by broker's offices in the period from January 2014 to January 2015, concerning 41 companies comprising the WIG20 and mWIG40 indexes of the Warsaw Stock Exchange).

4. WIG20 AND SHARES IN THE COMPANIES LISTED ON IT

The WIG20 stock exchange index is an index of the 20 largest joint-stock companies listed on the Warsaw Stock Exchange. A base date for the index is 16th of April 1994 and a base value is 1000 points. It is an index of a price type (only prices of transactions included therein are taken into consideration when calculating its value). The lowest value of WIG20 was recorded upon closure on the 28th of March 1995 as 577.90 points, and the highest one on the 29th of October 2007 as 3917.87 points. A selection of companies included in the WIG20 index depends on their market capitalization and turnover value of their shares. A sine qua non condition of entering the index is:

- number of shares in a free circulation is higher than 10%,

- value of shares in a free circulation over 1 million EUR,
- company cannot be marked,
- company cannot belong to certain specified segments of the market.

A ranking of companies is created on the basis of points granted according to the formula:

$$R(i) = 0,6 * St(i) + 0,4 * Sc(i)$$

whereas the symbols mean:

- $R(i)$ – company's position in the ranking (i),
- $St(i)$ – participation of a company (i) in total dealing in shares of companies included in the ranking during the last year,
- $Sc(i)$ – participation of a company (i) in a share value in a free circulation of companies included in the ranking as per date of its preparation.

The ranking is common for the indices: WIG20, mWIG40 and sWIG80. The WIG20 index is calculated according to the formula:

$$WIG20 = \frac{M(t)}{M(0) * K(t)} * 1000$$

whereas the symbols mean:

- WIG20 – value of the WIG20 index,
- $M(t)$ – capitalization of the index portfolio in a session t,
- $M(0)$ – capitalization of the index portfolio on a base day
- $K(t)$ – correction factor of the index in a session t

The correction factor is calculated according to the formula:

$$K(t) = K(t - 1) * \frac{Mz(t)}{M(t)}$$

whereas the symbols mean:

- $K(t)$ – correction factor in a session t,
- $Mz(t)$ – modified value of the market capitalization for a session t (e.g. added share value of a new participant of the index).

Allowing for a correction factor is intended to naturalize changes in the amount of capitalization of the market, such as: changes in the composition of an index portfolio, payout of a dividend.

Figure following on the next page

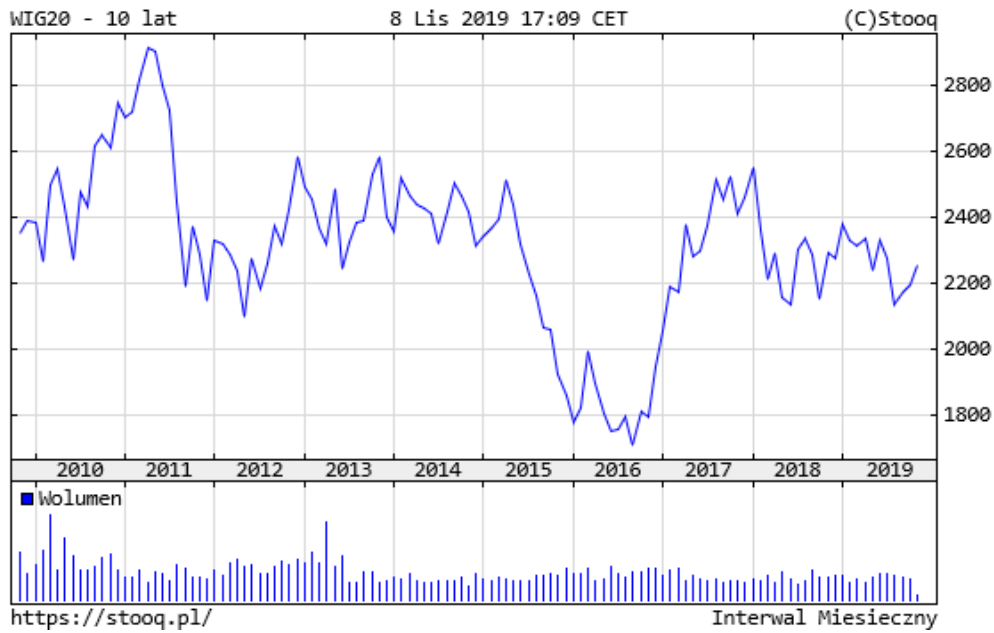


Figure 1: WIG20 index in the years 2009 – 2019 (source: stooq.pl)

In the diagram of the WIG20 index (stooq.pl) within recent 10 years after the crisis in 2008, it must be observed that companies listed in this index did not return to their values from 2007 as it was in other EU countries in the indices: DAX, CAC or in the USA in the indices: S&P and NASDAQ. The companies listed in the mentioned indices recovered from the incurred losses and their value estimates even over the value recorded before 2007, which means that the WIG20 index should reach the value of approx. 6000 points. This would be reflected in the fair value of companies listed therein (Fig. 1). The diagram of WIG20 P/E (stooq.pl) presents the value as per the 10th of November 2019 (value of 14.796) which proves that a total relation of price to income is on the increase and should reach at least the value of 24. This is because the companies listed in this index have a great financial potential investing properly their financial resources. Yet they have been overrated considerably and their fair value has been underestimated (Fig. 2).

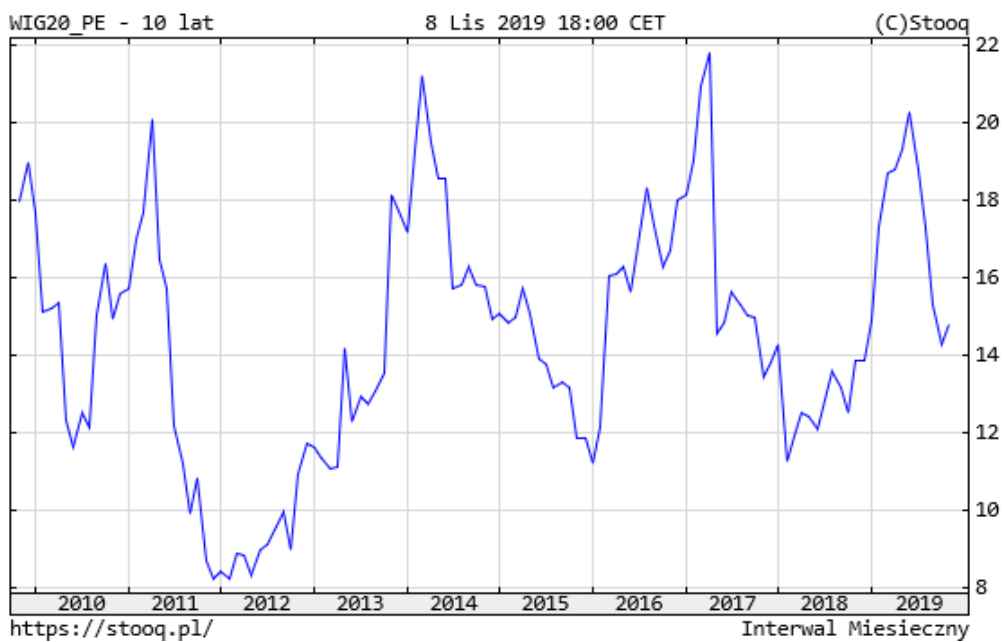


Figure 2: WIG20 P/E in the years 2009 – 2019 (source: stooq.pl)

The best companies listed in the WIG20 index are characterized by a good financial condition: KGHM, CDPROJEKT, LOTS, PEKAO, PGNIG, PKNORLEN, PKOBP, ORANGEPL, CYFRPLSAT and PLAY. The current price of shares of the companies listed on the WIG20 should reflect their business value and their fair value, however, bearing in mind their maximum value, we should note that for well prospering companies their current value differs strikingly from the average or maximum value that was determined during quotations over the last few years, as shown in Table 1. The share price of some of them has been reduced by 1% (LOTOS) and of some by less than 66% (ORANGEPL), which proves their diverse structure and diverse financial possibilities.

Table 1: Companies listed on the WIG20 in Poland as of 10.11.2019 (prepared by the author on the basis of the financial data of the WIG20 companies)

Name	Average assessment	rating	Current price PLN	Max price PLN
MBANK	4.0/5.0	B	382.80	540.00
SANPL	4.0/5.0	B	308.80	412.00
CCC	3.5/5.0	CCC+	112.00	312.00
KGHM	4.5/5.0	A	96.40	158.00
LOTOS	4.5/5.0	A-	94.80	95.80
LPP	4.0/5.0	B	8520.00	9129.00
CDPROJEKT	4.5/5.0	AAA	260.80	267.90
PEKAO	4.0/5.0	B	105.05	142.00
PGNIG	4.5/5.0	AAA	5.00	7.50
PKNORLEN	4.5/5.0	AA+	105.50	120.00
PKOBP	4.0/5.0	B	39.00	46.00
ORANGEPL	4.0/5.0	BB	6.33	19.00
CYFRPLSAT	4.0/5.0	BB	28.70	30.00
PGE	3.5/5.0	BBB-	9.52	21.50
PZU	4.0/5.0	B	37.97	42.50
TAURONPE	4.0/5.0	B+	1.86	5.40
JSW	4.5/5.0	AA-	20.80	119.00
ALIOR	4.0/5.0	B-	28.46	85.00
DINOPL	4.0/5.0	B-	141.60	158.00
PLAY	3.5/5.0	CCC	30.30	38.00

Table 1 contains the most important core values that show financial standing of the WIG20 companies. With good financial data and generating earnings per share, the companies should resist crisis. However, it is unjust to quote rating for some companies in a manner showing their weakness, since those companies generate profit and are capable of surviving on the market and maintaining financial liquidity, which is proved by the financial results in tables 2 and 3. PGNIG, ORANGEPL and TAURONPE may serve as an example (Parvi, 2014, pp. 33-36; Parvi, 2014, pp. 52-60). In the rating, only two companies, CCC and PLAY, differs from the rest by the lowest grade CCC. Other companies have the grade of the "A" or "B" category. The share price of some of them has been reduced by 65% (CCC) and of some by less than 1% (LOTOS), which proves their diverse structure and diverse financial possibilities. With good financial data and generating earnings per share, the companies should resist crisis and stagnation prevailing currently on the world markets. However, it is unjust to quote rating for some companies in a manner showing their weakness, since those companies generate profit and are capable of surviving on the market and maintaining financial liquidity, which is proved by the financial results in table 2. LPP may serve as an example. Table 2 contains the most important ratios that show financial standing of the WIG20 companies.

Table 2: Technical assessment of companies listed on the WIG20 as of 30.09.2019 (prepared by the author on the basis of the financial data of the WIG20 companies)

Name	Net profit (net loss) in thousands	Profit per share	Book value per share	Depreciation
MBANK	353922	8.357	379.912	104339
SANPL	625657	6.129	244.273	157547
CCC	-32700	-0.794	21.240	176800
KGHM	417000	2.085	99.355	468000
LOTOS	125900	0.681	66.400	226800
LPP	205477	111.715	1565.069	242377
CDPROJEKT	33883	0.353	10.147	8216
PEKAO	656214	2.500	86.911	123578
PGNIG	248000	0.043	6.509	669000
PKNORLEN	1266000	2.960	89.350	893000
PKOBP	1229000	0.983	32.836	286000
ORANGEPL	224000	0.171	8.193	669.000
CYFRPLSAT	231300	0.362	21.108	710100
PGE	1117000	0.597	25.765	1010000
PZU	1613000	0.850	16.573	No data
TAURONPE	141903	0.081	10.824	467365
JSW	133300	1.135	73.448	254100
ALIOR	124504	0.954	51.927	61263
DINOPL	109449	1.116	15.236	42087
PLAY	253800 (EUR)	1.000 (EUR)	-0364 (EUR)	221300 (EUR)

Profit per share is interesting, and another operating profit plus depreciation, which shows more effectively the companies with large fixed assets which require a very high capital expenditures characterized by a long period of return. In view of the above, Net profit is a better ratio than EBIT, as it shows a better image of financial standing of an analyzed company (Parvi R., 2014, 33-36; Parvi R., 2014, pp. 52-60; Copeland, 1997, pp. 65-69). In view of the so conducted analysis, we can clearly see that four companies had problem with generating operating profit per share in the 3rd quarter of 2019: CCC, PGNIG, ORANGEPL and TAURONPE. The other 16 companies generated operating profit per share as presented in Table 2. Almost all companies (16 companies) reduced assets to equity ratio, which resulted in release of equity and larger investment possibilities [6, 7].

Table following on the next page

Table 3: Financial ratios of the companies listed on the WIG20 as of 10.11.2019 (prepared by the author on the basis of the financial data of the WIG20 companies)

Name	Price/Profit	P/OE (price/ operating earnings)	Price/Book Value
MBANK	2.44	7.51	1.01
SANPL	2.88	7.00	1.19
CCC	0.81	23.52	4.70
KGHM	0.86	5.61	0.97
LOTOS	0.58	7.67	1.43
LPP	1.87	19.37	5.48
CDPROJEKT	61.31	225.67	25.70
PEKAO	2.92	7.78	1.21
PGNIG	0.67	9.33	0.77
PKNORLEN	0.40	7.49	1.18
PKOBP	2.92	8.17	1.19
ORANGEPL	0.73	13.08	0.77
CYFRPLSAT	1.58	9.70	1.30
PGE	0.57	5.77	0.36
PZU	1.23	4.60	0.90
TAURONPE	0.17	3.95	0.17
JSW	0.26	1.57	0.27
ALIOR	0.77	5.37	0.55
DINOPL	1.95	26.38	9.29
PLAY	1.11	5.28	-83.34

Price to earnings and price to shares express the value in PLN and it is a value characterized by the results of the companies which affect these values (Parvi R., 2014, pp. 262-267; Parvi R., 2014, pp. 169-177). Similarly, price to book value of a company ranges from PLN 6.509 (PGNIG) to PLN 1565.069 (LPP). Comparing these values to the maximum values reached by the companies, we should note that the value of PLN 1565.069 PLN as maximum (LPP) and of PLN 379.912 (MBANK) were values reached by the companies during their quotations on the market over the last few years (2009-2019). Generally, the value of the index P/OE is a useful tool for determining an absolute share value referred to the operating profits (table 3). Using the operating profit instead of a net profit (the C/Z index) allows for rejecting single events. Moreover, a net profit is easier to handle. Fewer companies incur losses at the level of an operating profit rather than a net value, which allows for a broader use of P/OE. An operating profit helps to determine the efficiency of an enterprise's activity on the market regardless of a financial situation. It does not depend on a structure of financing, i.e. a relation of foreign and own capitals. An operating profit stands for the profitability of an enterprise. It is clearly visible that these values are added in the case of each company, and even 5 companies have two-digit (three-digit – only one) vales, which means that these companies have a very good financial situation (Parvi, 2015, pp. 177-184). The P/BV index informs how the company's own capital is valued by the market at a given moment. A general interpretation of the index consists in the fact that the P/BV indices below 1 mean a low price of a company, whereas a value over 3 that a company is overrated. The number of companies of a low value below 1.0 amounts to 9. Thus, these companies are attractive for investors, whereas the value of 3.0 is exceeded solely by two companies, which means that they are overrated. The remaining 11 enterprises are also worth recommendation and attention. In view of the foregoing, we should note that from the above financial data we can calculate fair values of particular companies listed on the WIG20 (Parvi,

2016, pp. 53-64). The value of the P/P index is expressed in the way that when the value of the index is lower, then the price for the purchased company's shares is theoretically lower too, which means that the enterprise is more attractive. It is used in order to demonstrate cyclic profits and losses of the analyzed companies (the income is much more stable than the company's profit). Therefore, it is evident that most companies (9) have the index close to the value of 2.0 - this stands for the company's attractiveness (Parvi, 2015, pp. 83-88). From table 4, it can be concluded that the fair value is significantly higher than the current share price of the companies listed on the WIG20. A particular "pearl" in the index may be a well prospering LPP, LOTOS and PGNIG that is largely undervalued.

Table 4: Values of the companies listed on the WIG20 as of 10.11.2019 (prepared by the author on the basis of the financial data of the WIG20 companies)

Name	Present value	Maximum value
MBANK	382.80	540.00
SANPL	308.80	412.00
CCC	112.00	312.00
KGHM	96.40	158.00
LOTOS	94.80	95.80
LPP	8520.00	9129.00
CDPROJEKT	260.80	267.90
PEKAO	105.05	142.00
PGNIG	5.00	7.50
PKNORLEN	105.50	120.00
PKOBP	39.00	46.00
ORANGEPL	6.33	19.00
CYFRPLSAT	28.70	30.00
PGE	9.52	21.50
PZU	37.97	42.50
TAURONPE	1.86	5.40
JSW	20.80	119.00
ALIOR	28.46	85.00
DINOPL	141.60	158.00
PLAY	30.30	38.00

It should be noted that fair values of particular companies listed in the WIG20 index can be calculated on the basis of the above-mentioned data and financial data (Parvi, 2015, pp. 51-67; Parvi, 2015, pp. 82-85).

Deviation from the fair value in PLN = DevFV

DevFV = Fair value – current value.

Table following on the next page

Table 5: Values of the companies listed on the WIG20 as of 10.11.2019 (prepared by the author on the basis of the financial data of the WIG20 companies)

Name	Deviation from the fair value in PLN	Fair value
MBANK	42.20	425.00
SANPL	76.20	385.00
CCC	100.00	212.00
KGHM	28.60	125.00
LOTOS	1.20	96.00
LPP	580.00	9100.00
CDPROJEKT	4.20	265.00
PEKAO	19.95	125.00
PGNIG	1.50	6.5
PKNORLEN	9.50	11500
PKOBP	6.00	45.00
ORANGEPL	8.67	15.00
CYFRPLSAT	1.30	30.00
PGE	11.48	21.00
PZU	4.03	42.00
TAURONPE	2.64	4.50
JSW	89.20	110.00
ALIOR	46.54	75.00
DINOPL	13.40	155.00
PLAY	4.70	35.00

The Table 5 shows that the fair value is much higher than the current value of the share price of the companies listed in WIG20. Particular jewels in the index may be thriving companies such as: MBANK, LPP, CDPROJEKT, PGNIG, CYFRPLSAT and TAURONPE which are greatly underrated.

5. CONCLUSIONS

The share price of companies listed in WIG20 is considerably underrated. However, it may be suspected that the value of these shares is underrated intentionally for the investors moving around the globe with an investment capital which depends exclusively on the profit, i.e. quick purchase and sale of shares, whereas they are not interested in investing and receiving dividends, which is connected with maintaining shares in an investment portfolio. Explicitly, it may be observed that the share price of companies listed in WIG20 differs considerably from the fair value that was calculated and presented in the elaboration. For this reason, it must be particularly stressed that the value should be reached in the future periods, which may be supported by a increasing value of a price/income relation (P/E) in the WIG20 index where the minimum level is left behind. The fair value of companies listed in WIG20 should be reached in the period of two years, i.e. until 2020.

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TOURIST INFRASTRUCTURE OF POLTAVA REGION

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ABSTRACT

The article considers the tourist infrastructure of Poltava region identifies six main elements: accommodation, catering system, transport, entertainment, related services and travel companies. The hotel industry today is an industry with a growing level of competition in the hotel services market. Despite the difficult formation of market relations in Ukraine in recent years, many hotels have opened. After considering the elements of the infrastructure of the region, authors noted that Poltava Region has the necessary resources for the development of tourism, including excursion activities: human, natural conditions, historical-cultural, material, etc., but they are in poor condition. It was proved that significant competition to hotel industry enterprises, including the Big Hotels, is created by individuals - business entities that mainly contain small hotels and are the owners of private houses and apartments. This article has an aim to analyze touristic and recreational infrastructure of Poltava region and make some suggestions about its sustainable development. Despite the importance of available resources, the organization and management of excursion activities in the Poltava region require a certain system of measures to be improved. There are concrete suggestions for creation conditions for attracting foreign and domestic investment and credit funds for the development of the material and technical base of the tourism industry through the development and implementation of mechanisms for attracting and distributing extrabudgetary funds.

Keywords: *tourist infrastructure, accommodation, catering system, transport, entertainment, related services, travel companies*

1. INTRODUCTION

Tourism infrastructure is a set of enterprises, institutions and organizations whose activities are aimed at meeting the needs of people involved in rehabilitation or recreation, as well as means of communication and transport and tourist accommodation facilities that ensure stable operation conditions. Note that Poltava region is located in the central part of Ukraine, and is an agrarian-industrial region. It occupies an area of 28.8 thousand km. There are 15 cities, 21 urban-type settlements in the region, more than 1800 villages. The largest cities are Poltava, Kremenchug, Gorishni Plavni, Lubny. The administrative center is Poltava [18]. Let's sketch out the tourist infrastructure of Poltava region figure 1.

Figure following on the next page

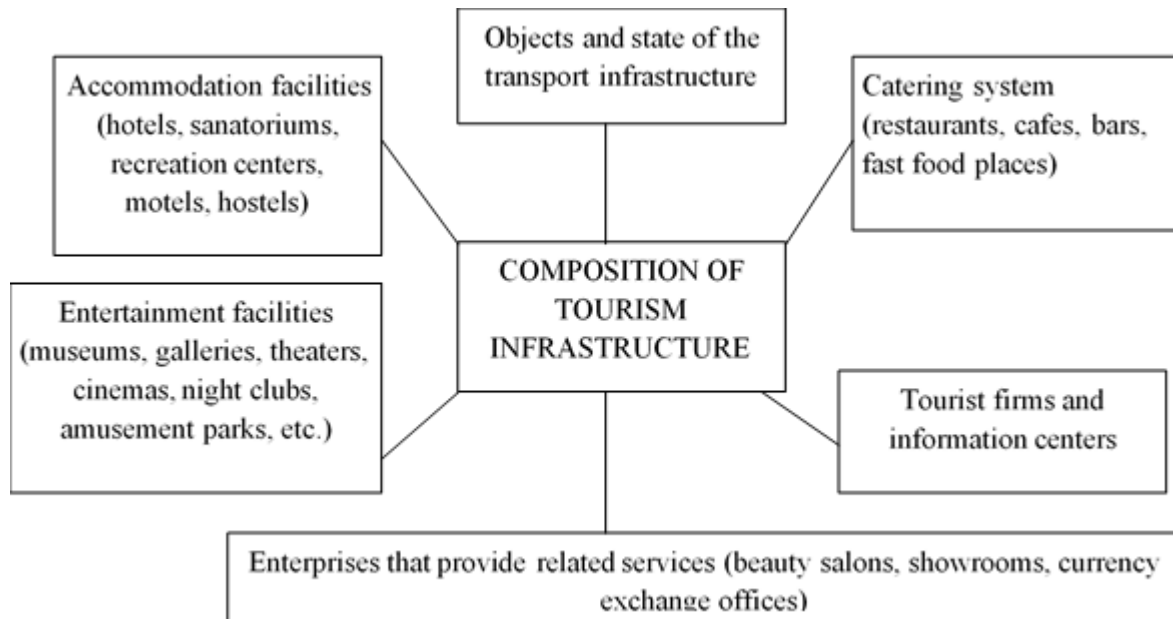


Figure 1: Tourist infrastructure of Poltava region (Main statistics in tourism industry of Ukraine <http://pl.ukrstat.gov.ua>)

Let us consider in more detail the dynamics of the infrastructure elements of the Poltava region.

2. MAIN INFRASTRUCTURAL COMPONENTS FOR TOURISM DEVELOPMENT: ANALYSIS AND DIFFERENTIATION

The hotel industry today is an industry with a growing level of competition in the hotel services market. Despite the difficult development of market relations in Ukraine in recent years, many hotels have opened. New enterprises are created, but after a while, some of them do not withstand competition and go out of business. Competition is a strong incentive to improve hotel performance [5]. Physical person-entrepreneur - business entities, which mainly contain small hotels and are owners of private houses and apartments, create substantial competition to enterprises of the hotel industry, including the big Hotels. They offer visitors a full range of basic and additional hotel services at a much lower cost. The proportion of such enterprises in 2016 was almost 63% [8]. Another component of the tourism industry is the hotel infrastructure (Table 1).

Table following on the next page

Table 1: Hotels and other places for temporary residence (Main statistics in tourism industry of Ukraine <http://pl.ukrstat.gov.ua>)

years	Number of collective placement units, units			The number of places, units			The number of persons who were in the collective accommodation facilities, people		
	Total	including		Total	including		Total	including	
		hotels and similar accommodation	specialized accommodation facilities		hotels and similar accommodation	specialized accommodation facilities		hotels and similar accommodation	specialized accommodation facilities
2011	126	86	40	10054	3648	6406	177575	113848	63727
2012	133	94	39	10383	4196	6187	195083	130543	64540
2013	154	115	39	10465	4396	6069	218208	153102	65106
2014	143	106	37	9781	4113	5668	195865	134794	61071
2015	139	105	34	9732	4172	5560	229173	172931	56242
2016	109	76	33	9215	3993	5222	234527	173137	61390
2017	107	77	30	8866	4052	4814	261530	195405	66125

Only those hotels that can offer high-quality service to their customers can withstand a tough competition, and this is impossible without professionally trained staff. Statistical data on the hotel infrastructure of the Poltava region indicate the negative dynamics of its development. Compared to 2013, the number of hotels decreased by 33% compared to 2017, but the number of beds decreased by only 8%, but the number of people in collective accommodation increased by 27%. It should be noted that the main problem for the tourism industry of Poltava region is the lack of hotels that meet international standards. 70% of hotels were built over 20 years ago and have never undergone a major renovation. The level of service also lags behind the world average. Poltava region is in the 10 most popular regions of Ukraine by rating of their brands and recreational facilities (table 2).

Table 2: Sanatoriums and health institutions (Main statistics in tourism industry of Ukraine <http://pl.ukrstat.gov.ua>)

Years	Sanatoriums and boarding houses with treatment		Sanatorium-preventorium		Houses and holiday resorts		Bases and other recreation facilities	
	Total	beds, th.	Total	beds, th.	Total	beds, th.	Total	beds, th.
2011	13	3,7	6	0,4	2	0,4	7	0,6
2012	13	3,7	5	0,4	1	... ¹	10	0,6
2013	13	3,7	5	0,4	1	... ¹	11	0,7
2014	13	3,7	5	0,4	1	... ¹	11	0,7
2015	13	3,7	2	0,3	1	... ¹	12	0,7
2016	13	3,5	2	0,3	–	–	13	0,8
2017	13	3,4	2	0,3	–	–	12	0,8

The level of tourist services in the region is provided by the infrastructure, which is currently stocked - 77 hotels and other accommodation facilities (29 certification) - 13 sanatorium-resort institutions, - 100 houses of green tourism. The association "Poltavasilgoszdrovnitsya" has six regional enterprises: the sanatorium "Sosnovy Bor" (Zenkovsky district, Vlasovka village), the sanatorium "Forest glades" (Poltava district, village of Terentievka), the sanatorium "Psel" (Bolshaya Aleksandrovka) and three summer camps. PJSC "Mirgorodkurort" of the association "Ukrprofzdravnitsa" has four sanatoriums in the city: "Birch Grove", "Mirgorod", "Khorol", «Poltava" [17]. Over the last 3-5 years, hotels and other accommodation facilities in Ukraine have changed the concepts of their development to a certain extent, which is reflected in a decrease by 7-12% in the number of sanatoriums and boarding houses with treatment. Although for 2017 the beginning of 2018, this trend has decreased to 1.5-2.6%. The budget accommodation services (hostels and hotels without a category) are used by dynamic, unpretentious tourists, mostly of young age, or those traveling for business purposes, since the number of hostels in which they had previously stayed gradually decreased [12,13]. An important factor in the development of the tourism industry is the development of transport links and ensuring the necessary level of travel safety. On the territory of Poltava there are such types of transport infrastructure - rail, road, trolleybus, in a small number of river, and from 2018 the airport began to operate (air). The leading place in passenger turnover belongs to road and rail transport. By the operational length of general use railways - 3.9%, by the length of paved roads -5.4%, by the turnaround of motor vehicles - 5%. In preparation for Euro 2012, a number of measures were taken to improve the transport infrastructure, in particular, more than 2000 km of roads were built and repaired, high-speed traffic of passenger trains up to 200 km / h was introduced in certain directions. However, the situation with transport provision remains extremely difficult [16].

Table 3: Number of passengers carried by types of transport (Main statistics in tourism industry of Ukraine <http://pl.ukrstat.gov.ua>)

Years	Types of transport		
	Railway ¹	Automobile ²	Trolley bus ¹
2011	14989,1	59466,3	35637,6
2012	14725,6	51584,0	40431,4
2013	14786,2	52634,5	43801,4
2014	14610,7	52682,0	45754,2
2015	14940,2	51947,4	55449,1
2016	14949,8	50202,2	48897,1
2017	5513,1	45268,1	50164,9

It is worth noting that the convenient location of the highway Kiev-Kharkiv, which passes through Poltava, is sufficiently rosaleable, as well as the waterway, p. Dnieper promotes tourism. Now the main problem of the development of transport infrastructure of any type of transport is insufficient investment, which could be directed not only to the creation of new infrastructure facilities in accordance with international and European standards, but also to the modernization of existing ones. Stores of food establishments (restaurants, cafes, bars, fast food items). The restaurant creates conditions for achieving the social goals of tourism development.

The restaurant receives a significant share of revenues from both domestic and international tourism, activates foreign exchange earnings, creates conditions for the “export” of services and their entry into the international market. Over the past 15 years, along with traditional full-service restaurants, more and more specialized enterprises are appearing for a reduced set of services and dishes. This is usually a specialization in the manufacture of national dishes. But we note that it is the restaurants of the national Ukrainian cuisine that are given the advantage of about 36.8%, considerable attention in Poltava is paid to European cuisine (French, Italian), then the Japanese cuisine, and over the past five years, the Caucasus has become popularized. Themed restaurants are also very popular among both Ukrainian and tourists. Of course, they offer a limited number of dishes, their main task is to create a mood and a certain atmosphere [2]. Institutions for entertainment in the region - 858 club institutions, 6 centers of culture and leisure, 3 parks of culture and recreation (m. Poltava., G. Kremenchug, city. Lubny). There are professional art institutions in the region: the regional Ukrainian Music and Drama Theater named after M.V. Gogolya, the regional puppet theater and the Municipal Enterprise of Culture and Arts "Poltava Regional Philharmonic Society", the Palace of Leisure "Falling Leaves" and the 1200-seat auditorium hall are equipped with a lot of sound and lighting equipment, which makes a worthy competition to the buildings of not only Ukraine, but also Europe. Poltava region is the land of Ukrainian traditions and original culture, imbued with the Cossack spirit and folk beliefs. Such we know it from the works of Gogol. Loud national fairs are organized annually in Poltava region. Sorochinsky Fair - a real festival of folk art, attracts not only Ukrainian residents, but also foreigners. The most interesting objects to visit are the Poltava region: the museum of pottery, the historical and cultural reserve “The Battle of Poltava Field”, the estate-museum of I. Kotlyarevsky, the reserve-museum of Gogol, the Mgarsky Monastery, the Savior Church, the Poltava Monastery of the Exaltation of the Cross, etc. There are more than 200 churches and three large monasteries on the territory of the Poltava region. Some of them have survived to the present day from the 17th to the 19th centuries. The most significant tourist attractions of the region are the monuments of architecture: the Lubensky (Mgarsky) Transfiguration of the Savior, the Poltava Cross Cross, the Kozelshchinsky Christmas Nativity of the Virgin monasteries of the seventeenth and nineteenth centuries, the Scythian fortress of the VII-III centuries BC. in with BolshoyKotelevsky district, Troitskaya and Nikolayevskaya churches, bell tower and the Triumphal Arch in the village of Dikanka, monuments of architecture and museum (in the region of 23 museums of national importance) - local lore, artistic, literary-memorial Panas Mirny and VG Korolenko, museum-farmstead I.P. Kotlyarevsky in the city of Poltava, museum MV Gogol in the village. Great Sorochinty and the preserve museum MV Gogol in the village. Gogolevo Shishatsky District, Historical and Cultural Reserve "The Field of Poltava Battle", Museum-Reserve of Ukrainian Pottery in Opishni settlement, G. Skovoroda museum in Chernukhy, museum of aviation and astronautics with exposition of planes in the regional center, etc. Cultural and educational tourism is promising, ethnographic routes (Oposhnia, Mirgorod, Pyriatyn - ceramics, Reshetylivka - embroidery and weaving) are actively used with the involvement of folk crafts and crafts, their preservation and restoration, and the organization of master classes. At the same time, the festival tourist product has not been sufficiently developed and used. Traditionally, each district has its own holidays, during which it is possible to hold presentations, exhibitions and sales of products of folk craftsmen for tourists, to organize groups from among the visitors of the Mirgorod resorts [2]. In the Poltava region there are 337 territories and objects of the natural reserve fund; 151 reserves (18 state values), 117 nature monuments (one state value), Ustyimovskiy dendropark, 18 parks - monuments of landscape art (four state values), three regional landscape parks, 49 nature reserves [1].

3. TRAVEL COMPANIES AND NEW TYPES OF TOURISTIC INFORMATIONAL CENTERS AS A TOOL FOR PROMOTING OF REGIONAL TOURISTIC PRODUCT

Travel companies and information centers. Subject interaction in the market of excursion services are: tourists and sightseers, tour operators, travel agents, travel agencies and excursions. These are legal entities and individuals who are consumers and manufacturers of the excursion product. The development of tourist business in the region is provided by 226 travel companies (of which 10 are tourist operators), the register of the region's guides consists of 201 specialists, who are constantly updated with new personnel [3]. Tourist information centers are important structural elements of the advertising and information infrastructure of the tourism industry. The international experience of creating and operating such a series demonstrates the real direction of tourist flows to the region and the increase in financial revenues to local budgets. Tourist information centers in the Poltava region (table 4).

Table 4: Tourist information centers in the Poltava region (Regional State department of tourism in Poltava Region. <http://poltava-tour.gov.ua/page/turistichni-informaciyni-centri>)

	Title of Tourist information center	Functions and services provided
	TIC under the management of culture of the executive committee of the Poltava city council	Information about the available accommodation facilities, tours and tourist travel, food, distribution of promotional and informational products.
	TIC at the NGO "Regional tourist cluster"	Information services on organization of excursions.
	TIC "Alliance Tour"	Information about available accommodation establishments, excursions and tourist trips, catering establishments, distribution of advertising and informational products. Tourist bus stroll.
	Department of Regional TIC in the Poltava Regional Library for Youth named after Oles Honchar	Providing on-line information about available tourist, excursion and resort and recreation services.
	TIC of Department of Culture and Tourism of Poltava Regional State Administration	Information about available accommodation establishments, excursions and tourist trips, catering establishments, distribution of advertising and informational products.
	TIC "Dikankazelentur"	Information about available accommodation establishments, excursions and tourist trips, catering establishments, distribution of advertising and informational products.
	TIC "Old Farm"	Accommodation, catering, master classes on pottery, folk cuisine, fishing, children's rest.
	TIC at the Resting Complex "Velyka Krucha"	Information about available accommodation establishments, excursions and tourist trips, catering establishments, distribution of advertising and informational products.

Consumers of an excursion product are citizens who have a certain motivation to travel, that is, tourists and sightseers, and the corresponding purchasing power. The manufacturers of the excursion product are tourist and excursion enterprises (tour operators, travel agents, travel agencies and excursions), which work with the aim of obtaining profit and meeting the needs

of the population in organizing excursion activities. Almost all areas of the region are promising for the development of various types of tourism: religious pilgrimage, cultural, educational, cultural and ethnographic, recreational (sanatoriums, dispensaries, camp sites), ecotourism, qualified, with active movement (equestrian, water, bicycle, ski). Enterprises providing related services in Poltava and cities of the region (Kremenchug, Lubny) are shown in Table 5.

Table 5: Enterprises providing related services in the tourism industry for 2016 (Main statistics in tourism industry of Ukraine <http://pl.ukrstat.gov.ua>)

Establishments	Quantity
Beauty salons	137
Sports facilities	56
Shopping centers, shops, exhibition halls	1230
Services (photo printing, shoe and clothes repair, flower delivery, etc.)	298
Banking Institutions	181
Insurance and law firms	123

The format of the development of the tourism sector is clearly reflected in the development program. The state program first of all should solve these and other problems of Ukrainian tourism. It is planned to create conditions for attracting foreign and domestic investment and credit funds for the development of the material and technical base of the tourism industry by developing and implementing mechanisms for attracting and distributing extrabudgetary funds [3].

4. CONSLUSION

It is clear that Poltava region has the necessary resources for the development of tourism, in particular excursion activities: human, natural conditions, historical and cultural, material, etc. Despite some positive trends, the tourism industry of the Poltava region did not receive a sufficient level to realize the tourism potential. Finally, we note that despite the significance of the available resources, the organization and management of excursion activities in the Poltava region require a certain system of measures to improve and streamline. In our opinion, the following activities are worth implementation: improving the training program and raising the qualification requirements for the “guide” position; to provide high-quality excursion services, it is necessary to update the mechanism for studying excursion activities of subjects of the tourist sphere; improve and clarify requirements in the training of specialists; compulsory practical internship after the completion of preparatory courses. Tourism can and should become one of the most effective means of generating income, promoting market relations development of joint sectors of the economy, employment, improvement of work on the protection of historical monuments, raising the cultural level of the population. For the effective development of tourism in the region should follow the development of sightseeing activities. Our subsequent research will be devoted to these aspects.

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THE IMPORTANCE OF PROMOTING SUSTAINABLE DEVELOPMENT GOALS FOR THEIR IMPLEMENTATION WITHIN SOCIETY - CASE STUDY: BOSNIA AND HERZEGOVINA

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ABSTRACT

The sustainable development goals represent a holistic approach to the development of all spheres of society on global and national levels. Therefore, their implementation will strongly determine the development of the world by 2030 and beyond. Although the emphasis on their importance is present in public discourse, in media and academic circles, these goals are still insufficiently known to citizens. In this context, the authors will analyze the theoretical and conceptual basis of sustainable development goals. The specific research focus is on media promotion of these goals. A better understanding of the sustainable development goals should contribute to their faster implementation, which is why their adequate promotion is of great importance. In this context, promotion should raise the level of awareness of the citizens about the importance of these implementation processes, and it should have a positive effect on decision-makers for faster implementation of these goals.

Keywords: *Media coverage, Promotion, Public discourse, Society, Sustainable Development Goals, Sustainable Development*

1. INTRODUCTION

In addition to the introductory and concluding considerations, the article has three mutually correlated parts. In the first part of the article under the title, A Brief Historical Overview of the Origins of Sustainable Development, the authors analyze crucial developmental conferences, reports, and programs administrated by the United Nations System and member states. A specific focus is on identifying and comparing problems and challenges in previous developmental programs. Most of these problems and challenges are still part of ongoing efforts to achieve sustainable development. In the next part of this article, the authors discuss the Theoretical Basis of Development. They briefly analyze the most important theories, concepts, and models of development from the perspective of social sciences. Based on findings from previous parts of this article, the authors analyze the Promotion of the Sustainable Development Goals in Bosnia and Herzegovina. Without diminishing other activities managed by the UN system in Bosnia and Herzegovina, the research focus was placed on promotion through two main initiatives Imagine2030 and SDG private sector, working group.

2. A BRIEF HISTORICAL OVERVIEW OF THE ORIGIN OF SUSTAINABLE DEVELOPMENT

Development researchers have a very complex and challenging task of exploring social development in a historical context since the whole history is a demonstration of how our society has developed. Considering this fact, and in the context of research of sustainable development, it is necessary to limit the time frame of research to the period after the Second World War (WWII). The scientific community within this field has reached a consensus that a serious study of sustainable development begins with the end of WWII and the establishment of the UN system. The most common arguments found in the literature are related to the fact that after the Second World War, we have built an international system that allows global governing of development. This primarily refers to the UN system and its specialized agencies (Spahić, 2015, pp. 22). The research focus of this paper will be on development solutions created within the UN system focused on global development management. Agenda 2030 is based on previous developmental conferences, reports, and programs administrated by the UN system and member states. The scientific community (worldwide and within the UN system) has reached a consensus on crucial conferences and programs that have set ground bases for the development of MDGs¹ and a later on SDGs². The review of the historical origin of the SDGs is based on the list created by the UN DESA³. Furthermore, after studying the list of main conferences, reports, and programs, the list⁴ was reduced to those sources that address development as a global challenge (the reduced list is presented in the chart below).

Chart following on the next page

¹ MDGs - Millenium Development Goals.

² SDGs – Sustainable Development Goals.

³ UN DESA -The United Nations Department of Economic and Social Affairs.

⁴ Without diminishing the importance of the following developmental programs Barbados Programme of Action, 1994 (BPOA); Barbados Programme of Action (BPOA)+5, 1999; BPOA+10: Mauritius Strategy of Implementation 2005; Five-year review of the Mauritius Strategy of Implementation: MSI+5, 2010; SIDS Accelerated Modalities of Action (SAMOA) Pathway, 2014 (United Nations/ DESA, 2019).

Chart 1: The reduced list of conferences, reports, and programs that address development as a global challenge made by authors on the bases of the list created by United Nations/ DESA, 2019, and The United Nations MDGs, 2015



The UN system recognized crucial developmental challenges and problems since 1972, which are listed in the table below.

Table 1: Crucial developmental challenges and problems since 1972, recognized by UN system

CONFERENCES, REPORTS, AND PROGRAMS	DEVELOPMENTAL CHALLENGES AND PROBLEMS
A/CONF.48/14/Rev.1 Report of United Nations Conference on the Human Environment Stockholm 5-16 June 1972	Principles: Fundamental right to freedom, equality and adequate conditions of life; safeguarded of natural resources; safeguard of the heritage of wildlife and its habitat; reduction of emission of toxic waste and pollution; creation of favorable living and working environment; transfer of substantial quantities of financial and technological assistance to the developing countries; national management of the resources should be based on coordinated approach to the development planning; creating national institution with task of planning, managing or controlling the environmental resources; sciences, technology, and education should address developmental issues; governments should interact with international community and cooperate with international organization in order to ensure development.
A/42/427 - Report of the World Commission on Environment and Development- Our Common Future. (1987).	The Policy Directions: Population and Human Resources; Food Security: Sustaining the Potential; Species and Ecosystems: Resources for Development; Energy: Choices for Environment and Development; Industry: Producing More with Less; The Urban Challenge. International Cooperation and Institutional Reform: The Role of the International Economy; Managing the Commons; Peace, Security, Development, and the Environment; Institutional and Legal Change.
United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992 AGENDA 21. (1992)	Social and Economic Dimensions: International cooperation to accelerate sustainable development in developing countries and related domestic policies; Combating poverty; Changing consumption patterns; Demographic dynamics and sustainability; Protecting and promoting human health conditions; Promoting sustainable human settlement development; Integrating environment and development in decision-making. Conservation and Management of Resources for Development: Protection of the atmosphere; Integrated approach to the planning and management of land resources; Combating deforestation; Managing fragile ecosystems: combating desertification and drought; Managing fragile ecosystems: sustainable mountain development; Promoting sustainable agriculture and rural development; Conservation of biological diversity; Environmentally sound management of biotechnology; Protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources; Protection of the quality and supply of freshwater resources; application of integrated approaches to the development, management and use of water resources; Environmentally sound management of toxic chemicals, including prevention of illegal international traffic in toxic and dangerous products; Environmentally sound management of hazardous wastes, in hazardous wastes; Environmentally sound management of solid wastes and sewage-related issues; Safe and environmentally sound management of radioactive wastes. Strengthening the Role of Major Groups: Global action for women towards sustainable and equitable development; Children and youth in sustainable development; Recognizing and strengthening the role of indigenous people and their communities; Strengthening the role of non-governmental organizations: partners for sustainable development; Local authorities' initiatives in support of Agenda 21; Strengthening the role of workers and their trade unions; Strengthening the role of business and industry; Scientific and technological community; Strengthening the role of farmers.
Millennium Developmental Goals (2000-2015)	MDGs: Goal 1: Eradicate Extreme Poverty & Hunger; Goal 2: Achieve Universal Primary Education; Goal 3: Promote Gender Equality and Empower Women; Goal 4: Reduce Child Mortality; Goal 5: Improve Maternal Health; Goal 6: Combat HIV/Aids, Malaria and Other Diseases; Goal 7: Ensure Environmental Sustainability and Goal 8: Develop A Global Partnership for Development
A/RES/66/288 - The Future We Want. (2012)	Reaffirmed commitment by world leaders to make every effort to accelerate the achievement of the internationally agreed development goals, including the Millennium Development Goals by 2015.
A/RES/70/1 - Transforming our world: the 2030 Agenda for Sustainable Development. (2015)	SDGs: Goal 1. End poverty in all its forms everywhere; Goal 2. End hunger achieve food security and improved nutrition and promote sustainable agriculture; Goal 3. Ensure healthy lives and promote well-being for all at all ages; Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all; Goal 5. Achieve gender equality and empower all women and girls; Goal 6. Ensure availability and sustainable management of water and sanitation for all; Goal 7. Ensure access to affordable, reliable, sustainable, and modern energy for all; Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation; Goal 10. Reduce inequality within and among countries; Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable; Goal 12. Ensure sustainable consumption and production patterns; Goal 13. Take urgent action to combat climate change and its impacts; Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development; Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss; Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels; Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.
<p>Table 1. Recognized developmental challenges and problems within global conferences, reports, and programs (Sources: A/CONF.48/14/Rev.1 Report of United Nations Conference on the Human Environment Stockholm 5-16 June 1972. 1973, pp. 4,5; A/42/427 - Report of the World Commission on Environment and Development- Our Common Future. (1987); United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992 AGENDA 21; United Nations MDGs. (2015). Millennium Summit; A/RES/66/288 - The Future We Want. (2012); A/RES/70/1 - Transforming our world: the 2030 Agenda for Sustainable Development (2015); United Nations/ DESA, 2019.</p>	

However, most of the global development challenges and problems listed in the table above are not solved. They were reduced, transformed, and contextually adjusted to be integrated into MDGs and later on in SDGs.

Both MDGs and SDGs are the result of continued efforts of the scientific community to create a better future for the whole world. In this context, a scientific community created a suitable theoretical and practical frame within development studies.

3. THEORETICAL BASIS OF DEVELOPMENT

Creating a comprehensive theoretical framework for sustainable development is a challenging task since sustainable development is an interdisciplinary field of research, in which theories, approaches, and concepts from different sciences very often overlap, complement, and result in new hybrid solutions. Developmental problems have been in the focus of scholars and researchers for a long time. They were analyzed from different angles and on the bases of different approaches, theories, and concepts from Natural Sciences, Engineering and Technology, Medical Sciences, Agricultural Sciences, Social sciences and humanities (UNESCO, 2015). Without diminishing the contribution of other sciences in the field of sustainable development research, the focus of this paper will be on research conducted within the field of social sciences. In this context and based on conducted analysis of relevant literature in the field, the essential theories, approaches, models, and concepts of economic growth and development were systematized. In the theoretical sense, the most important theories are a theory of cumulative effects, theories and patterns of structural change, revolution theory of international dependence, public choice theory, the theory of unbalanced development, theory of poles of development and new growth theory. Relevant approaches are the neoliberal counter-revolutionary approach, approach to the free market and market-oriented approach. Crucial models of economic growth and development are the model of development in stages, the model of structural change, the international model of dependence, the model of neo-colonial dependence and false paradigm model (Osmanković, Pejanović, 2009. pp. 19-38 in Spahić, 2015, pp. 27). In addition to the presented theories, we have identified an unconventional critical theories of development such as: structural Marxism, imperialism, world-system theory, the theory of regulation, critics Marxist, neo-Marxist theory, post-structuralism, post-colonialism and post-development approach (Peet, Hartwick, 2009, pp. 103-139, 159-181, 197-227, 240-272 in Spahić, 2015, pp.27). Bearing in mind the theories, approaches, and concepts mentioned earlier, it is evident that development problems have been preoccupying scientists for a long time, and since development itself is a dynamic category, it is possible to expect further evolution of theoretical and conceptual interdisciplinary reflections on development. Today, we can see that the segments of these theories and concepts are contextually adapted and integrated into the global concept of sustainable development.

4. PROMOTION OF THE SUSTAINABLE DEVELOPMENT GOALS IN BOSNIA AND HERZEGOVINA

The promotion and implementation of the sustainable development goals in Bosnia and Herzegovina is a complex and challenging task. Bosnia and Herzegovina has a complex political system⁵ that makes the implementation of the SDGs as well as its promotion very difficult.

⁵**Administrative-Territorial Organization** Bosnia and Herzegovina is a compound state, which in line with the General Framework Agreement for Peace in BiH, consists of the Federation of Bosnia and Herzegovina (51% of territory) and the Republika Srpska (49% of territory). Brcko, which was a subject of disputes and international arbitration, was proclaimed a district. Thus, Bosnia and Herzegovina has two entities and Brcko District.

Entities The Federation of Bosnia and Herzegovina and Republika Srpska are entities having their own constitutions, which have to be in conformity with the Constitution of Bosnia and Herzegovina.

Federation of Bosnia and Herzegovina- The Federation of Bosnia and Herzegovina, as the entity, consists of ten cantons (which, in administrative terms are further split into 80 municipalities) as follows: – Una-Sana Canton, Posavina Canton, Tuzla Canton, Zenica-Doboj Canton, Bosnia –Podrinje Canton, Central Bosnia Canton, Herzegovina-Neretva Canton, West Herzegovina Canton, Sarajevo Canton and Canton 10. The Parliament of the Federation of BiH has legislative powers and is comprised of the House of Representatives and the House of Peoples. Executive powers are performed by the President of the

These challenges were addressed by the United Nations in Bosnia and Herzegovina in cooperation with representatives of state and entity-level governments together with other stakeholders⁶. They went through the complex process of analyzing and assessing the 69 strategic documents in order to identify the extent of their alignment with the SDGs. The result of the assessment indicated that sustainable development in Bosnia and Herzegovina is generally well covered. The strategic documents, programs, and action plans reflect all 17 SDGs from Agenda 2030 (Voluntary Review, 2019, pp.16). These findings together, with recommendations and results of continuous process of consultations with stakeholders, will be used in the process of implementing the SDGs in Bosnia and Herzegovina. Without diminishing the importance of other activities⁷ conducted by the UN in Bosnia and Herzegovina in cooperation with partners⁸ and stakeholders, the focus of this research is on two main initiatives: the Imagine 2030 Initiative and the Private Sector Working Group. These initiatives are structured as a platform for engagement, research, consulting, advocacy, and promotional activities for the SDGs.

4.1. Imagine2030 Initiative in Bosnia and Herzegovina

Imagine2030 Initiative was created during 2016 by the UN in Bosnia and Herzegovina and supported by the Swedish International Development Cooperation Agency (SIDA). Imagine2030 is a promotional, advocacy, consulting, and engagement initiative. The authors divided all promotional activities within this initiative into two parts. The first part is the consultation tool for workshops (SDG Consultation tool⁹) that have generated the necessary data about SDGs priorities. The second part is the promotion of SDGs via the website (www.zamisli2030.ba) and social media (Imagine2030' Facebook page). The SDG Consultation tool and presentation were used during the implementation of over 70 workshops across the country that has engaged nearly 3000 citizens representatives from all levels of governments and stakeholders (Voluntary Review, 2019, pp.12).

Federation and two Vice Presidents, as well as the Government of the Federation of BiH. Sarajevo is the capital city. **Republika Srpska**- Republika Srpska is the entity, with 61 cities/municipalities. The National Assembly of the Republika Srpska and the Council of Peoples in the Republika Srpska exercise legislative powers in the RS. Executive powers are exercised by the President and two Vice Presidents of the Republika Srpska, as well as by the Government of the Republika Srpska. Banja Luka is the administrative center of Republika Srpska. **Brcko District**- The territory of Brcko was under arbitrage and was attached neither to the Federation of BiH nor to the Republika Srpska. By decision of the International Arbitration Commission, close to the end of 2000, Brcko was put under administration of Bosnia and Herzegovina, as the separate district. Brcko District has its own multi-ethnic government, Assembly, Executive Board, jurisdiction and police forces (United Nations in Bosnia and Herzegovina, 2019).

⁶Two-day multi-stakeholder consultations, organized under the auspices of the Presidency of Bosnia and Herzegovina, were held in Sarajevo on the 29 and 30 May 2018. A total of 250 representatives from all levels of government, CSOs and the private sector attended (Voluntary Review, 2019, pp.19).

⁷Policy review using the Rapid Integrated Assessment tool; SDG Dashboards and data, and complexity analysis; SDG multi-stakeholder consultations in May 2018; Drafting the SDG Framework in Bosnia and Herzegovina and the first Bosnia and Herzegovina Voluntary Review and the consultations and validation process of the key SDG documents (Voluntary Review, 2019, pp.16-26).

⁸Joint activities of all institutions in Bosnia and Herzegovina related to the SDGs began in 2018 with the creation of the SDGs Rollout Working Group. The SDGs Rollout Working Group coordinates all activities related to the SDGs in Bosnia and Herzegovina through the institutions represented in the working group. The SDGs Rollout Working Group is not linked to the political processes in the country and functions on a regular basis, regardless of the political issues. It makes all decisions by consensus. Final approval of all key conclusions and the implementation of all decisions are issued at the sub-national government level and that of the Council of Ministers of Bosnia and Herzegovina (Voluntary Review, 2019, pp.32-33).

⁹SDG Consultation tool is qualitative data gathering method that explores the positive and negative associations of citizens with both the past and present, their vision of the future, the way they see the future in terms of what values, actions and structures need to be in place and what threats and/or opportunities need to be addressed across the SDGs/targets. The ultimate aim of the tool is to identify solutions/ideas on how to address or accelerate the achievement of the SDGs/targets within the local context (Voluntary Review, 2019, pp.12,13).

Data gathered in these workshops will be used for the creation of Vision 2030¹⁰ and the SDG Framework document in Bosnia and Herzegovina¹¹. The systematized results (selected SDGs and targets) of these workshops are shown in the table below.

Table following on the next page

¹⁰ The 'Imagine2030' initiative provided an opportunity for citizens across the country to co-create the future. Their perspectives helped shape Vision 2030 and the development pathways that the country is to embrace (Voluntary Review, 2019, pp.6).

¹¹In 2019, the finalization of the Voluntary Review (VNR) and its presentation at a high level political forum to be held in July 2019 is foreseen along with the finalization of the SDG Framework document in Bosnia and Herzegovina. Once drafted, the latter will be the subject of further consultation both with experts and policymakers and even more importantly with CSOs, the private sector, the academia and the general public. It is foreseen that the SDG Framework document in Bosnia and Herzegovina will be finalized in 2019 in order to allow for its proper integration into the strategic planning processes initiated by different levels of government in 2019 (Voluntary Review, 2019, pp.9).

Table 2: Systematized results (selected SDGs and targets) of workshops

SDG- TOP THREE TARGETS FOR SDG SELECTED BY WORKSHOPS PARTICIPANTS
SDG 8 Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all (This goal was selected as a priority by 195 participants).
8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
8.6 By 2020, substantially reduce the proportion of youth not in employment, education, or training.
8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.
SDG 1 End poverty in all its forms everywhere (This goal was selected as a priority by 151 participants).
1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.
1.4 By 2030, ensure that all men and women, in particular, the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership, and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services, including microfinance.
1.2 By 2030, reduce at least by half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions.
SDG 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (This goal was selected as a priority by 139 participants).
4.1 By 2030, ensure that all girls and boys complete free, equitable, and quality primary and secondary education leading to relevant and effective learning outcomes.
4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship.
4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.
SDG 16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels (This goal was selected as a priority by 117 participants).
16.2 End abuse, exploitation, trafficking, and all forms of violence against and torture of children.
16.5 Substantially reduce corruption and bribery in all their forms.
16.1 Significantly reduce all forms of violence and related death rates everywhere.
SDG 3 Ensure healthy life and promote well-being for all at all ages (This goal was selected as a priority by 75 participants).
3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services, and access to safe, effective, quality and affordable essential medicines and vaccines for all.
3.c Substantially increase health financing and the recruitment, development, training, and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.
3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
SDG 5 Achieve gender equality and empower all women and girls (This goal was selected as a priority by 65 participants).
5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.
5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic, and public life.
5.1 End all forms of discrimination against all women and girls everywhere.
SDG 10 Reduce inequality within and among countries (This goal was selected as a priority by 63 participants).
10.2 By 2030, empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or other status.
10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies, and practices and promoting appropriate legislation, policies and action in this regard.
10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable, and legitimate institutions.
SDG 13 Take urgent action to combat climate change and its impacts (This goal was selected as a priority by 57 participants).
13.3 Improve education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning.
13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.
13.2 Integrate climate change measures into national policies, strategies, and planning.

SDG 6 Ensure availability and sustainable management of water and sanitation for all (This goal was selected as a priority by 45 participants).
6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and substantially increasing recycling and safe reuse globally.
6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes.
6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
SDG 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (This goal was selected as a priority by 45 participants).
15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.
15.1 By 2020, ensure the conservation, restoration, and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains, and drylands, in line with obligations under international agreements.
15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.
SDG 2 End hunger, and achieve food security and improved nutrition and promote sustainable agriculture (This goal was selected as a priority by 42 participants).
2.1 By 2030, end hunger and ensure access by all people, in particular, the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.
2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.
2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources, and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.
SDG 11 Make cities and human settlements inclusive, safe, resilient, and sustainable (This goal was selected as a priority by 23 participants).
11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
11.1 By 2030, ensure access for all to adequate, safe, and affordable housing and basic services and upgrade slums.
SDG 12 Ensure sustainable consumption and production patterns (This goal was selected as a priority by 13 participants).
12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water, and soil in order to minimize their adverse impacts on human health and the environment.
12.2 By 2030, achieve sustainable management and efficient use of natural resources.
12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation (This goal was selected as a priority by 12 participants).
9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.
9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.
SDG 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development (This goal was selected as a priority by 6 participants).
17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress.
17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.
17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries.

Table continues on the next page

SDG 7 Ensure access to affordable, reliable, sustainable and modern energy for all (This goal was selected as a priority by 0 participants).
7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.
7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.
7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.
SDG 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development (This goal was selected as a priority by 0 participants).
14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.
14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.
Table 2. SDG priorities from prioritization exercise. Adaptation of authors based on UNDP Bosnia and Herzegovina (2019). <i>One-page analysis per SDG Imagine2030 Bosnia and Herzegovina.</i>

Based on the results of the Imagine2030 workshops, it can be concluded that participants perceive economic and social development as a fundamental basis for achieving sustainable development. From their perspective, and based on their experience and knowledge, governments at all levels need to ensure full, productive, and decent employment based on job creation, entrepreneurship, creativity, and innovation implemented through small and medium-sized enterprises. These governmental actions should reflect on the reduction of poverty, as well as the creation of equal economic and social rights. Furthermore, participants have recognized the importance of improvements in the educational system alongside with the health care system, which implies that Bosnia and Herzegovina should invest in human capital development. Governments at all levels should create policies that will reduce violence, corruption, and bribery. Simultaneously, they should focus on creating equal opportunities for women and girls. The Imagine2030 workshops have managed to actively motivate participants to use their knowledge, skills, and experience in the process of identifying crucial problems within society and aligning them with SDGs. Furthermore, participants were empowered to promote SDGs in their communities based on their personal experiences. This initiative is presented through the webpage and social media pages (FB and Twitter) that are updated regularly. Contents on these online platforms are created in order to inform, motivate, and encourage all citizens, representatives of institutions from all government levels, and stakeholders to take action. Promotional contents are based on the concept that SDGs are our shared set of values, ideas and goals. The contents published on the web page and social media are presented in a comprehensive, logical and holistic manner. The next crucial promotional activity was a High-level SDG Conference aimed at kick-starting Agenda 2030. The conference was held in the building of the Parliamentary Assembly of Bosnia and Herzegovina in Sarajevo on 3 April 2017, with support of the Presidency of Bosnia and Herzegovina. This Conference had significant media coverage by public and private media. From the perspective of this research, one of the most relevant results of this conference was the establishment of Dialogue for the future platform (DFF)¹² supported by the United Nations and the Presidency of Bosnia

¹²Dialogue for the Future (DFF) project has two phases. The first phase was implemented between 2014 and 2017, which established dialogue platforms and youth fora across the country supported **42 community** projects and reached out to **30% of the population**. The project in the second phase (until December 2019) intends to enhance the inclusiveness of local-level governance by undertaking joint assessments of common problems and creating local dialogue platforms (United Nations in Bosnia and Herzegovina, 2019a).

and Herzegovina. DFF has created a positive multiplying effect on the promotion of the SDGs by supporting community projects and promoting them via media and social networks, but also encouraging supported projects to promote themselves via media and social networks. It has made SDGs more comprehensive and familiar to all stakeholders by involving them in practical implementations of SDGs throughout their projects.

4.2. SDG and Private Sector Working Group

The SDG and Private Sector Working Group was created in March 2018 by the UN in Bosnia and Herzegovina with the purpose of mobilizing and engaging actors in the private sector and other stakeholders in SDG implementation within the business community (Voluntary Review, 2019, pp. 10). This group used its influence and connections to promote the Business Community and Sustainable Development Goals Conference as well as other planned activities. The conference was held in Sarajevo on 12 June 2018 and aimed to raise awareness of the role of businesses in delivering on the promise of sustainable and inclusive development. More than 400 representatives from all levels of government, the business sector and academia gathered at the conference that allowed them to discuss global topics within the context of Bosnia and Herzegovina¹³. A live web-stream was organized that drew more than 3,500 views in the 24 hours of the Conference (Voluntary Review, 2019, pp. 22). A significant part of the conference was dedicated to the promotion of Swedish experience in the implementation of SDGs and best practices within the business community in Bosnia and Herzegovina. Furthermore, all participants at the conference had the opportunity to engage in active discussion on topics covered by SDGs 8, 12 and 16. Consequently, it can be concluded that the business community decided to talk about issues and problems covered by these SDGs. More precisely, the discussion addressed issues such as responsible resource management and environmental protection, ethical business conduct, economic growth, and quality employment, corporate social responsibility, equal opportunity, and gender equality (Voluntary Review, 2019, pp. 24). According to the date we have received via mail from the representatives of UNDP in Bosnia and Herzegovina, promotional activities for this initiative were structured as presented in the table below.

Table following on the next page

¹³This included, among others, responsible resource management and environmental protection, ethical businesses and the opening of quality workplaces and its effect on the image and competitiveness of a business (Voluntary Review, 2019, pp. 22).

Table 3: Structure of promotional activities for the initiative

VISIBILITY SEGMENT -SDGs	
Visibility materials	There were two professional campaigns to reach the beneficiaries and promote SDGs.
	The project worked with influencers from BiH to promote SDG Business Pioneers Award. Twenty-two promotional videos were produced during this reporting period. One of the videos (Be the change you want to see) was seen by 45K+ viewers in the first week of the broadcast and was used to start the presentation of BIH at the HLPF in New York this year
	An additional 1000 sets of visibility materials that promote SDGs, and the actions of the project (SDG branded bags, mousepads, pens, pins, stickers, and folders) were distributed. The project also added additional promotional materials (note pads, SDG socks) to the sets of promotional materials.
Project website	The existing website for the initiative - zamisli2030 - has been kept up to date to serve the purpose of the project. Two separate sub-web pages were developed for the SDG Business Week and SDG Business Pioneers Award. Web-based e-application was used for the SDG Business Pioneers Award.
Advocacy	In cooperation with the Bit Alliance, the project assured that the IT Manifesto signed by majority IT companies in BiH explicitly refer to the SDGs and UN agenda 2030 and reflect the importance of private sector engagement in its implementation.
	U-reporter, a newly developed tool by UNICEF, was used to summon the opinion of students and youth about topics discussed during the Digital SDG Business Week. U-reporter tool reached <u>6000+</u> youth representatives and got feedback from more than <u>4100</u> young people.
SDG Business Week	The project prepared special media briefs for the SDG Business Week that were delivered to <u>69</u> individual journalists and more than <u>200</u> media outlets.
Social media	The project has its designated Facebook page, Twitter, and Instagram profile. The project activities are also promoted through official UN/UNDP social media channels, as well as through the social media controlled by SIDA in BiH. There were two separate media campaigns organized on social media during the reporting period (SDG Business Pioneers Award & SDG Business Week 2019).
	The campaign on social media for SDG Business Pioneers Award for 2019 resulted in <u>650,571</u> views on Facebook and <u>834 567</u> views on Instagram, resulting in total outreach to 1,573 484 persons.
Media promotion	The project contracted a professional company (PRIME Communications) to implement media promotion for the SDG Business Week. The results of the campaign show the messages shared by the project were served to <u>1,693,366</u> people in BiH and the region. There were <u>52 articles</u> about the SDG Business Week published on different platforms and four interviews on TVs with the national broadcasting license. Individual media briefs were distributed to <u>69</u> journalists and <u>200+</u> media outlets in BiH.
Table 3. Promotion of SDGs. Adaptation of authors based on UNDP Bosnia and Herzegovina (2019a). <i>Visibility segment - SDG Progress Report, July 2018- June 2019.</i>	

5. CONCLUSION

Based on the findings of the research presented in this article, we can conclude that SDGs promotion is well organized within Bosnia and Herzegovina. The UN system manages crucial promotional activities in Bosnia and Herzegovina alongside with partners and stakeholders.

Everyone (citizens, governments, private sector, NGOs) is empowered to promote and implement SDGs. Promotional activities are a suitable mix of traditional media (TV, radio and newspaper), new media (web pages, social media such as Facebook, Twitter, and Instagram) and engaging advocacy participatory promotion by actively implementing SDGs through projects. It can be concluded that although it is still an ongoing process, the efforts made by the UN in Bosnia and Herzegovina in cooperation with partners and stakeholders made the SDGs more familiar and closer to citizens.

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NON PROFIT ORGANISATIONS: FUTURE RESEARCH PROSPECTS BASED ON BIBLIOMETRIC ANALYSIS

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ABSTRACT

This article presents a bibliometric overview of the academic research on non-profit organisations. Non-profit organisations play an important role in society. They constitute the third sector, also known as voluntary, civic or non-profit sector. Non-profit organisations serve to fulfil the needs unmet by the public or the private sector, that others deemed necessary. The aim of the paper is to identify the most relevant authors, institutions, countries, and analyse their evolution through time. The articles identified related to the non-profit organisations were submitted to a bibliometric analysis using VOSViewer software. The paper uses the Web of Science Core Collection in order to search for the bibliographic information. Our study develops a graphical mapping of the bibliometric material by using the visualization of similarities (VOS) viewer. This software enables us to analyse bibliographic coupling, citation and co-citation analysis, co-authorship, and co-occurrence of keywords. This article identifies research paths that can be explored in order to give greater consistency and substantively increase theoretical and empirical knowledge in this area. We intend further to contribute to a better understanding of the flow of scientific production and practices in this stimulating area of research.

Keywords: *bibliometric analysis, non-profit organisations, VOSviewer*

1. INTRODUCTION

This article aims to a bibliometric overview of the academic research on non-profit organisations. Non-profit organisations play an important role in society. They constitute the third sector, also known as voluntary, civic or non-profit sector. Non-profit organisations serve to fulfil the needs unmet by the public or the private sector, that others deemed necessary. The aim of the paper is to identify the most relevant authors, institutions, countries, and topics of research in this field. We will analyse articles on topic of non-profit organisations as found in the Web of Science Core Collection. For that we use Web of Science analytics and VOSviewer application. We focused on the authors, journals and countries important in the research in this domain. We also analyses the topics of research in this domain by analysing the occurrence and co-occurrence of keywords through visual mapping.

2. METHODS

In this article, we used the Web of Science Core collection database to search for articles on non-profit organisations. We used the Web of Science Core collection database because it is one of the leading databases of peer reviewed scientific papers. We did it by searching for term “non-profit organisations” in titles of articles in the database. We search in the titles of articles, because a search for the same term in topic searches also in abstracts which means a lot of articles just mentioning the words non-profit organisation or their combination are popping up. To analyse the results of the search, we used two types of tools. Firstly, we used the tool provided by the Web of Science database to analyse the search results in their database.

This tool was used to analyse the authorship of articles, countries of origins, the number of citations on articles and the origin of articles – who published them. The other tool we used is the VOSviewer or the visualization of similarities (VOS) viewer, in its version 1.6.11 as available on its website <http://vosviewer.com/>. This software enables us to analyse co-occurrence of keywords, bibliographic coupling, citation and co-citation analysis and co-authorship. We used it mainly for the analysis of co-occurrence of keywords as other uses proved useless.

3. RESULTS

While searching the Web of Science Core Collection, we found 725 entries with non-profit organisation in title as of November 2019.

3.1. Analysis of the search results

Most of these entries were articles – full 57% or 419 entries out of 725. Next, there were 210 proceedings papers in the search results. The rest includes book chapters, book reviews, editorial material, meeting abstracts and more, but their count was negligible. Out of those, 201 records, or 27,72%, were from the field of management, 134 or 18,48% were in the field of business and 119 or 16,41% from the field of economics according to the Web of Science Categories. These were the 3 most counted categories, followed by the fields of public administration with 65 records, business finance with 51 and social sciences interdisciplinary with 45 records. These categories contained approximately 85% of the records in the domain. When we look at the publication years for articles, we see a surge in the number of articles per year after 2004 as can be seen in figure 1. In 2004, there were 7 articles published and in 2017, there were 69 articles published, which represents an almost 10-fold increase. We are currently not assessing the years 2018 and 2019 because articles from journals and conferences from these years might not have been fully processed for indexation by the Web of Science database.

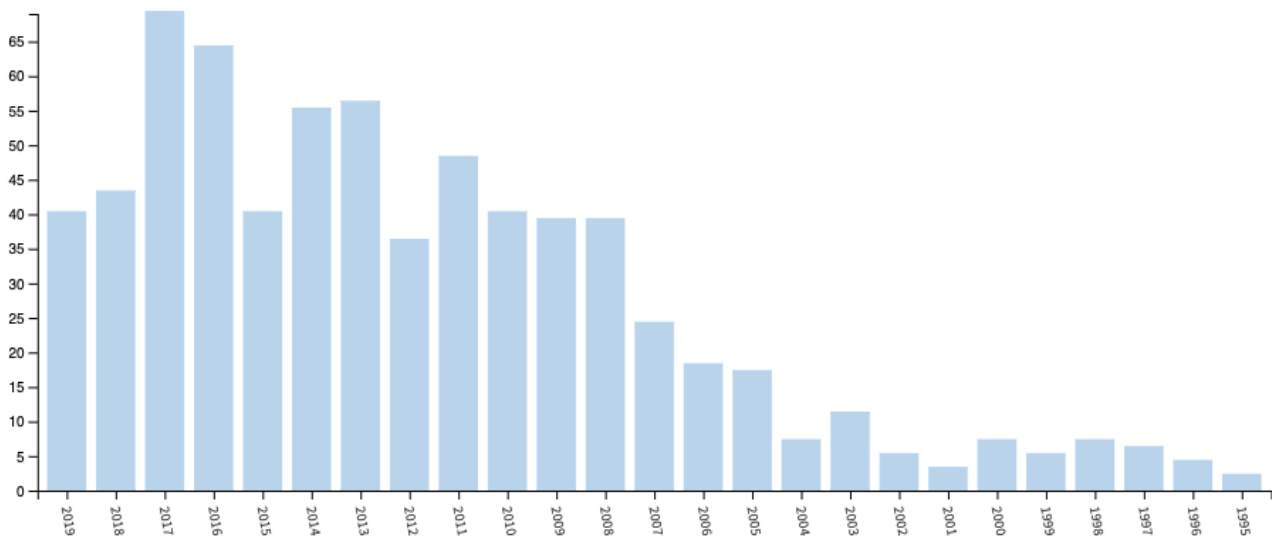


Figure 1: Articles published per year (Web of Science Results analysis by the author)

If we look at the research on non-profit organisations in the Web of Science database from the point of view of countries of origin of the articles, we can conclude that the top spot belongs to the USA with 119 records, followed by People's Republic of China with 68 records and England with 48 records. We can see the detailed statistic in the treemap Figure 2.

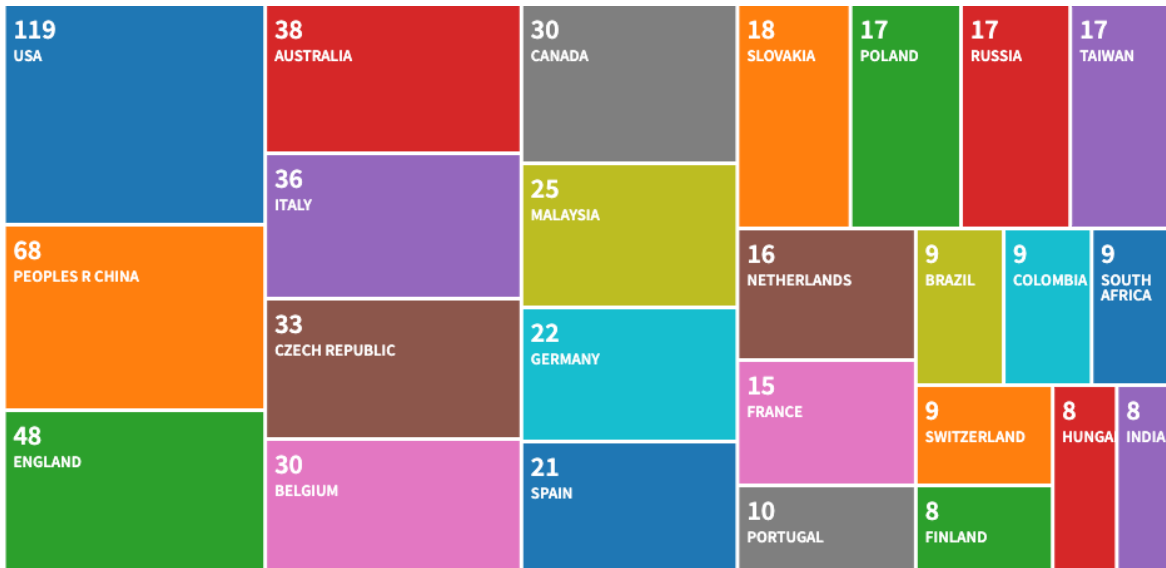


Figure 2: Articles by countries (Web of Science Results analysis by the author)

We can also see the prevalence of some small countries, notably Czech Republic and Slovakia, with higher number of articles than countries much bigger than them, like Germany, France or India.



Figure 3: Source of the records (Web of Science Results analysis by the author)

If we want to look at the sources of the records found, we see a fragmented field in the Figure 3. The source with the highest number of records is Voluntas, International Journal of Voluntary and Nonprofit Organizations, the official journal of the International Society for Third-Sector Research (Voluntas, 2019). It has 16 records in the search results. It is one the leading journals in the area of non-profit organization research. It is followed by Routledge studies in the management of voluntary and non-profit organizations with 12 records, Managerial economics of non-profit organizations with 11 records, Business and non-profit organizations facing increased competition and growing customer demands with 9 records and Civil Szemle with 9 records. These were the most common sources of records. Figure 4 shows us the authors with most articles, that we found on this topic. The most prolific authors is Marc Jegers, who has 18 articles in the results and is followed by Vladimir Hyanek with 6 articles. His articles focus on the relationship between public funding and non-profit organisation.

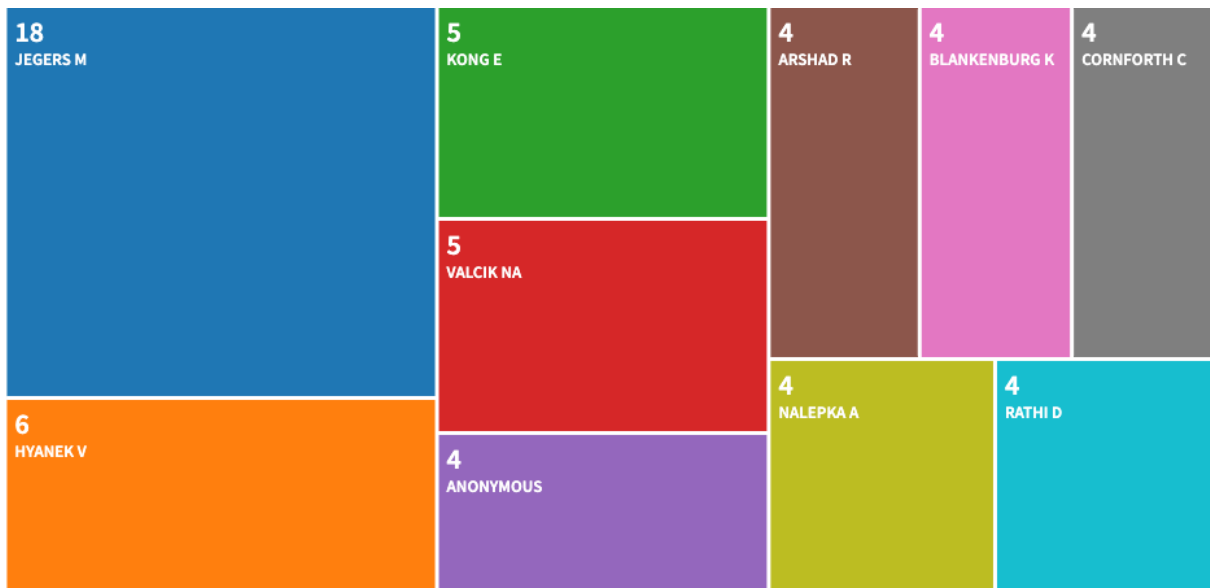


Figure 4: Top 10 authors of articles (Web of Science Results analysis by the author)

However, these names don't show up if we look at the most cited articles in our results. The most cited article in our search results is Nunamaker (1985) with 128 times cited. This article deals with the evaluation of the use of data envelopment analysis to measure efficiency of non-profit organisations. Second most cited article is Kong (2008) with 104 citations who examined the applicability of strategic management concepts including SWOT, Balance scorecard and many others in the strategic management of non-profit organisations. We can distinguish some of the research trends in the top 30 of most cited articles. We can find a large body of articles dealing with organisational performance of non-profit organisations, measuring their efficiency or their impact. Such works would be Felicio et al. (2013) who studied impact of social entrepreneurship and transformational leadership on organisational performance of non-profit social organisations, finding they have positive impact on organisational performance with their influence being impacted by socioeconomic context. Cheng at al. (2012) explores a case study in implementation of the Lean Six Sigma framework in non-profit organisation. Pinho et al. (2014) studied the role of corporate culture, market orientation and organisational commitment on organisational performance. Greiling (2010) examined Balanced scorecard implementation in German non-profit organisations. Also, Nunamaker (1985), the most cited article, deals with the measuring efficiency of non-profit organisation. Another field of study we can see among the most cited articles is marketing in non-profit organisations. For example, Macedo et al. (2006) who investigated in their article the relationship between the type of revenue strategy and organisation's market orientation towards donors or users on a sample of Portuguese non-profit organisations. Knox et al. (2007) studied the application of stakeholder theory to relationship marketing strategy development in non-profit organisations. Dolnicar et al. (2009) studied marketing activities in non-profit activities across USA, UK and Australia. They found that most non-profit organisations have an "organisation-centered" marketing mindset as opposed to the "customer-centered" approach heralded in marketing theory. They also found that only one fifth of marketing staff of surveyed non-profit organisations is trained in marketing. Some of the research also focuses on volunteers of non-profit organisations. For example, Stirling et al. (2011) studied the link between non-profit organisation management practices and volunteer sustainability using the concept of psychological contract suggesting that the relational expectations of volunteers are an important aspect of the psychological contract between them and the non-profit organisation they are helping. Another research on volunteers was done by Bang et al. (2013).

Altogether, records found have been cited 2948 times, averaging 4,06 citations per item. H-index for our search results is 26. Other research, more recent one, is for example Michalski (2018) who proposed a model for finding an optimal debt to equity level in non-profit organisations, done on Polish non-profit organisations. Valaskova et al. (2018) focused on financial risk facing Slovak entities with the aim to find the best predictors using multiple regression analysis. Kral et al. (2015) for their part studied the project risk management and the issue of diversification and the degrees of diversification of project portfolio using Herfindal index. Reicher (2019) studied the corporate social responsibility and its potential impact and importance on the attracting and retaining generation Y employees through appeal on voluntary contribution. Lazaroiu (2018) studied the role of social media platforms for social protest campaigns and volunteering. Others doing research are for example Borowiecki et al. (2019) and Bin et al. (2018).

3.2. Analysis of obtained bibliographic information through VOSviewer

To further analyse the bibliographic information obtained through our search of the Web of Science database, we use VOSviewer to analyse it and visualize it. First, we analysed the date for co-occurrence of keywords, with the result seen in figure 5.

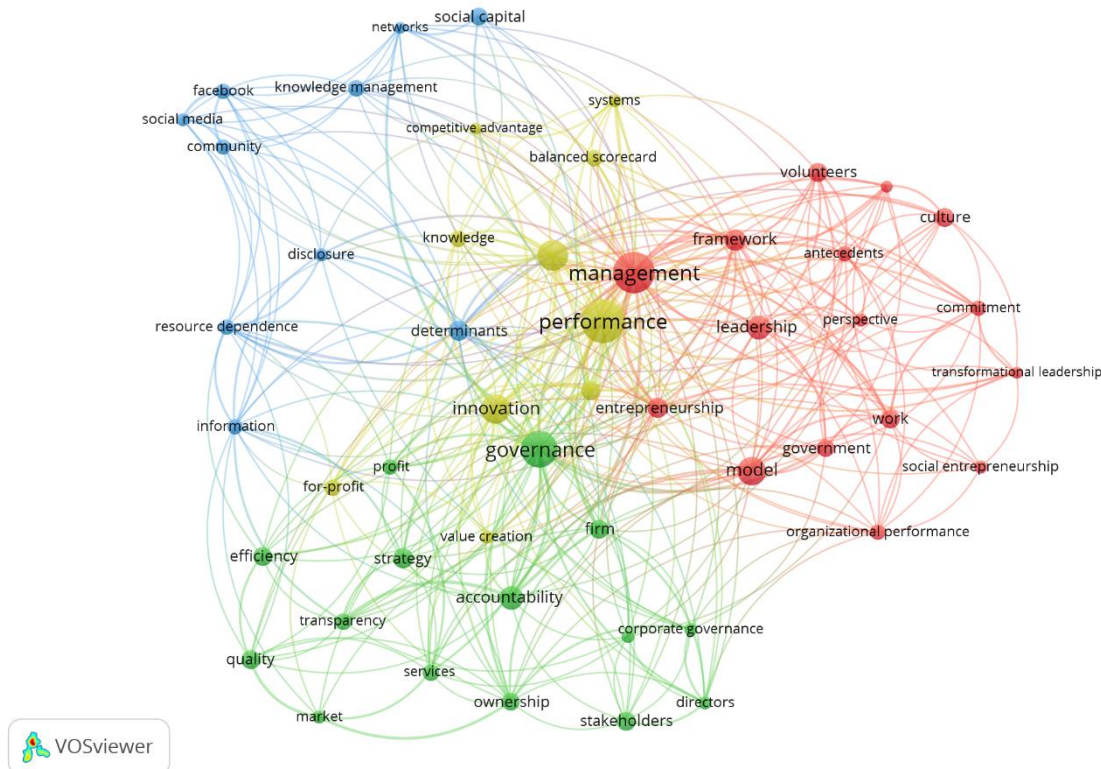


Figure 5: Analysis of co-occurrence of keywords (done by the author through VOSviewer)

The analysis yielded the following results. VOSviewer divided analysed keywords into 4 clusters, each with its one colour. We can see that the green cluster contains keywords such as governance, strategy, accountability, stakeholders. Therefore, we can conclude that an important part of research deals with governance of non-profit organisations, the accountability of their managers to their stakeholders. The yellow cluster contains words such as performance, impact, innovation, thus we can conclude that performance of the non-profit organisation is another big topic of research. The important word might be “impact” because that is usually what is measured for non-profit organisations as a goal, instead of profit as in for-profit entities.

The red cluster contains words such as management, framework, leadership, culture, volunteers, model. We can therefore conclude, that another part of research deals with the managerial aspect of non-profit organisations. The blue cluster contains words such as networks, social media, community, facebook, information, disclosure, thus suggesting a branch of research in the communication of non-profit organisations. As for the analysis of co-authorship, this analysis showed us little co-authorship of authors within the domain. The same goes for other types of analysis, which we deemed not beneficial for our research.

4. CONCLUSION

In this article, we aimed to provide an overview of research in the area of non-profit organisations. We successfully identified the most prolific authors, the most important publications and countries doing research in this field. Moreover, we identified also topics of the research done on non-profit organisations – assessment of performance/effectiveness of the organisation, the governance of non-profit organisations and the managerial aspect of non-profit organisations. These topics provide avenues for possible future research, for example by focusing on the assessment of effectiveness of non-profit organisation which we might do in the future. However, our research has its limitations. Due to the limits for the extent of the article, we had to limit ourselves to a stricter search, because an extended analysis of non-profit research would need much more space. We therefore acknowledge this assessment not to be exhaustive.

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ACQUISITIONS OF BUSINESSES IN THE DRUGSTORE MARKET FOR EXAMPLE OF MÜLLER TRGOVINA ZAGREB D.O.O.

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ABSTRACT

Company acquisitions are one of the more common forms of corporate strategies in the global industry, and its popularity in business practice has been in an upward trend over the last thirty years. An acquisition is a kind of investment. The theoretical basis of acquisition in the narrow sense, acquisition, and acquisition in the broad sense, mergers, is to consider motives and reasons for recognising several levels of synergies achieved by such business combinations and to look at the elements that lead to the acquisition decision, as well as evaluate the success of the acquisition. The number of acquisitions in Croatia has increased in recent years. Kozmo drugstores showed signs of declining financial capacity, but on the other hand it had a developed market, which Müller saw as a good move to take it over. This situation is a good indicator for those companies that intend to expand into new markets or strengthen their position in the existing market and approach the leader by thinking of taking over companies that are financially weak in the market but still have a good reputation in it. Businesses that plan to grow in markets and strengthen their position in new markets by taking over companies that have a good market profile are securing the strategic goals they have set for themselves.

Keywords: *acquisition, motives and reasons for acquisition, financial valuation of acquisition, market expansion*

1. COMPANY ACQUISITIONS IN THE CASE OF CROATIA'S DRUGSTORE MARKET

Nowadays, globalisation and turbulent economy make it increasingly difficult for companies to achieve high market growth, which is why they are increasingly turning to business in the global market, that is, the global economy. The bearers of today's world economy are multinational companies, which are bearers of world economic growth, driven by motives such as: saturation of the domestic market, penetration and domination in foreign markets, the battle for reputation and position in the world market, finding and using cheap labor, cheap energy sources and raw materials, and the dominance in cutting edge technology.¹ Factors influencing the increase in competitiveness in the global market include: competitive advantage, global experience, product differentiation, economies of scale in logistics, marketing, procurement and production, and production mobility. The drugstore market, as well as all other companies in the market, in order to be successful, should constantly and constantly seek new ways to improve, innovate, offer something new to existing consumers, but also new ones that they want to attract. Drugstores dictate lifestyles and set a goal throughout the market that is reflected in gaining and maintaining the trust of their customers. Since 2012, the drug market in Croatia has been growing steadily, as a result of the expansion of the sales network of leading drugstores: DM drugstores, Müller, Bipa and investments in increasing customer satisfaction.

¹ Kovačević, B. (2001.) Osnove poslovne ekonomije, Mikrorad, Zagreb. nr. 399.

Müller operates in Croatia as a part of Other retail trade (Croatian business activity classification) in non-specialized stores. As acquisitions, acquisitions take place on a daily basis in the world's advanced economies, it is not uncommon for the Croatian economy to have one business purchase another business or to merge two or more companies into one.

1.1. Characteristics and trends of acquisitions of Croatian drugstore companies

The importance of mergers and acquisitions is best illustrated by the fact that in 2015, approximately 46.5 thousand acquisitions were made in the world, with a total value of approximately US \$ 4.7 billion, the highest value since 2007.² Acquisitions and mergers in the Croatian market are not frequent, but there have been several in the last 10 years that will be discussed in the following section. In 2015, a total of 41 merger and acquisition transactions totaled € 1.07 billion in Croatia. Although this is the smallest number of transactions since 2012, their value is significantly higher than in previous years.³ Most takeover and merger transactions are for the manufacturing sector, followed by the food and beverage sector. However, prior to the example of acquisitions in the drugstore market, it is necessary to emphasise the takeover of retail, and the prime example is the acquisition of the Slovenian Mercator by Agrokor. This is the largest takeover by Croatian company that was realised outside of Croatia. In 2013, there was a purchase agreement between Mercator and Agrokor, with Agrokor acquiring a 53 percent ownership stake.⁴ The sale was followed by a refinancing of Mercator's debt, a recapitalisation of Agrokor and a public offer to take over the license of the antitrust agencies. Furthermore, by taking over, Agrokor pledged not to lay off workers or financially burden Mercator. The aim of the restructuring was to recover debts and to restructure them from short-term financing to long-term financing. Finally, with this takeover, Agrokor and Mercator together became the largest retail chain not only in the region but also in Central Europe. Another good example of a retail acquisition is the takeover of Droga Kolinska by Atlantic Grupa in 2010, which is a multinational company whose growth and development has been marked by a series of acquisitions. The acquisition of Droga Kolinska is interesting because it is an example of an acquisition of a larger company by a smaller one. At the end of 2009, Droga Kolinska showed a decline in its financial capacity on the market, while on the other hand, it had a developed market and products that were followers. Since 1990, Atlantic Grupa has grown into a leading distributor of food and pharmaceutical products in the region and has recognised Droga Kolinska as a good investment. In 2010, after five years of operations, Kozmo separated from Konzum and the business within the Agrokor Group and began to exist as an independent company owned by the Nexus Alpha Fund. In 2005 year saw the vigorous development of the drugstore market in Croatia, in which the Agrokor Group realized that there was an opportunity for it, which led to the launch of the Kozmo drugstore. Through the years, Kozmo has been developing and expanding, but at one point the idea came up that maybe the brand would develop a lot better and more successfully if it had more independence in the decision-making process. For this reason, Kozmo was sold to the Nexus Alpha. In other words, the contract on the transfer and acquisition of a business shares in the company Kozmo d.o.o. for Trade and Services, by which Konzum d.d. has sold its 100% business stake in Kozmo d.o.o., was made with Nexus alpha, an open-end venture capital fund with a private offering. With the act of selling Kozmo, Agrokor decided to focus its business by exiting activities that are least integrated into their core business or are not part of the production and distribution of mainly food products.⁵

² According to the data IMAA-e – Institute for Mergers, Acquisitions and Alliances, available at: <https://imaa-institute.org/statistics-mergers-acquisitions/>

³ Available at <http://www.tportal.hr/biznis/trendovi/417466/Spajanja-i-preuzimanja-u-Hrvatskojpremasila-milijardu-eura.html> [07.05.2018.]

⁴ Available at: www.banka.hr, [10.05.2018.]

⁵ Available at: <http://www.poslovni.hr/hrvatska/kupac-kozma-otvara-20-novih-trgovina-136209> [16.05.2018.]

With acquisition by the Fund, Kozmo gained more flexibility and autonomy in its decision-making, and in parallel with independence, the business strategy was reimbursed. The Fund entered the project with ambitious plans, their focus remains on the consumer and they believe in the company that they know best what the needs of the Croatian customer are and thus best respond to their needs. They continued to do business with the Agrokor Group by purchasing certain goods, primarily products of private brands. In 2015, Konzum re-purchased Kozmo and thus returned to the retail market of cosmetics and toiletries in specialized stores. With this act, Konzum has returned Kozmo to its portfolio, and the reasons for this are the need for financial consolidation of Kozmo's business through increased competitiveness, especially in the context of the main competitors in the relevant market. They also thought that the concentration would enable long-term sustainability and further development of Kozmo's business. By restructuring Kozmo's business, Konzum has contributed to increased competition between its market competitors. The year 2017 began with the acquisition of the drugstore market by Müller taking over Kozmo, closing in on thus far untouchable drugstore chain DM with its presence on the Croatian market. According to information available at the company, Müller is aggressively growing at double-digit rates. Also, Bipa is showing steady growth, while DM is holding its breath and struggling to maintain its primacy in the drug market. During the period when Müller took over Kozmo, there was also the acquisition of Billa (a member of the REWE group) by Spar, and Bipa drugstores are part of that group. The REWE Group and Spar Handels-AG concluded the acquisition at the end of 2016 to take over Billa in Croatia, thereby withdrawing from food retail in Croatia. This takeover for Spar represented an important strategic step and a new phase of its development in the Croatian market, taking over 62 of Billa's stores and 1900 of its employees. Since Bipa was part of this group, with this acquisition, she began to independently confirm her position on the Croatian drugstore market. As Spar is exclusively involved in the retail of food, it was not interested in taking over BIPA in the Croatian market except for Billa.

1.2. Reasons and motives for acquisitions in the drugstore market

The acquisition should increase the productivity of the company's assets, there will be a faster growth of current business than would be achieved by the company's internal growth. One of the reasons Müller has taken over Kozmo outlets is to expand into markets, access to new markets to make Müller equal with market leaders, most notably DM drugstores as a major competitor. Furthermore, as Kozmo's outlets are smaller and more located away from shopping centers, Müller wants to get closer to existing consumers but also to win new ones. With acquisition of Kozmo outlets, Müller entered the markets of counties of Ličko-senjska, Požeško-slavonska and Vukovarsko-srijemska. According to Kozmo management⁶, one of the reasons for selling Kozmo drugstores to Müller was also the focus of Konzum as its owner on its core business and leaving the drugstore part of the market to Müller. They believed that this business strategy would strengthen Konzum's market position and reduce its operating costs. Furthermore, the other reason and motive is that the takeover of Kozmo by Müller has reduced the number of players in the drugstore market. And as Müller's market share will increase to 20-30 percent, this will create additional competitive pressure on DM as a leading player in the drugstore market in Croatia, which has a share between 60-70 percent. Also, when creating competitive pressure in the drugstore market, we should not forget Bipa, which has a market share between 10-20 percent.⁷ The takeover of Kozmo by the Nexus alpha fund was all about the financial reasons. The reason for Kozmo's return to Konzum's portfolio was due to the financial consolidation of its business and further development of Kozmo through increasing its competitiveness in the drugstore market.

⁶ Available at: <https://www.tportal.hr/biznis/clanak/muller-preuzeo-todoricev-kozmo> [25.05.2018.]

⁷ Available at: <http://www.aztn.hr/aztn-odobrio-koncentraciju-mullera-i-kozma/> [25.05.2018.]

Namely, with the re-takeover of Kozmo, Konzum returned to the drugstore market of cosmetic and toilet products retail in specialised stores in Croatia. At that point, Kozmo ranked third out of four market players in terms of market share and operated in 17 Croatian counties, with the most significant 10-20 percent shares in the area of Dubrovačko-neretvanska, Ličko-senjska, Istarska and Požeško-slavonska counties. The political aspect of the takeover of Mercator by Agrokor was reflected in the positive effect on the overall economy, so it was thought, of the vitality of one part of the economy, and of its expansion into the large European market. It was believed that this takeover would strengthen relations between Slovenia and Croatia.

2. ANALYSIS OF THE EFFECTS OF THE ACQUISITION OF COSMO OUTLETS BY MÜLLER COMPANY

2.1. Elements of market structure analysis

In order for management to make optimal management decisions and to plan well for the further growth and development of the company, it is necessary first of all to define the industry, that is, the market in which the company operates, and then adjust its decisions to changes in the behaviour of enterprises in the industry. In the previous part of the paper, after defining the industry and the market, it is necessary to analyse its market structure. When analysing the market structure, it is necessary to investigate the interdependence of factors such as: number of companies in a market, relative size of a company, ie concentration of industry, technological and cost conditions, demand conditions, degree of ease (barrier) of entering and leaving an industry.⁸ Some of these analyses are presented below.

2.1.1. Enterprise size and size distribution measures

The size of the company is an important factor for managerial decision making, but its measurement depends primarily on the purpose of the analysis. Business size can thus be measured using different categories such as number of employees, value of total assets, added value, profit or sales.⁹ Not every industry offers equal opportunities for growth and development. Depending on the markets in which some businesses operate, they remain small or medium-sized throughout their life cycle, while some businesses develop and grow. In the global economy, certain activities are more effectively carried out within large enterprises, such as the retail market and the drugstore market, which is in some ways a component of the retail market. A factor that significantly influences managerial decision-making is the distribution of company size within an industry. In an industry or market, many small businesses or just a few large ones can operate. The optimal decisions of managers whose company faces little competition are different from those made by managers operating in a saturated market. In a concentrated market, firms have significant market power and control most resources and market behaviour, especially pricing.¹⁰ Table 1 shows the shares of four selected companies operating in the Croatian drugstore market according to the criterion for the number of outlets in 2017. Given the diversification of activities according to the National Classification of Economic Activities, which classify these companies, they are compelled to add up the total revenues of all enterprises operating in this category. It follows that in Activity 47.19 - Other retail sale in non-specialised stores the total revenue in 2017 was HRK 14,859,911,200, while in Industry 47.75 - Retail sale of cosmetic and toilet articles in specialised stores, the total revenue of all enterprises is much smaller and they amount to HRK 2,028,688,800. Thus, these sums amount to HRK 16,888,600,000 and represent the total sales revenues of the mutual sectors in which they operate.

⁸ Rupčić, N. (2016.) Upravljačka ekonomika – teorija i praksa, University of Rijeka, Faculty of Economics and Business, Rijeka

⁹ Ibid.

¹⁰ Ibid.

Table 1: Shares of companies operating in the drugstore market of the Republic of Croatia in 2017

	Year 2017 *	
Other retail sale in non-specialised stores	14.859.911.200	
Retail sale of cosmetic and toilet articles in specialised stores	2.028.688.800	
Total relevant market	16.888.600.000	Share
Müller	1.404.418.100	8,32%
BIPA	460.440.100	2,73%
DM-drogerie	1.755.001.000	10,39%
Douglas parfumerije	123.984.800	0,73%

Source: Data taken from www.poslovnahrvatska.hr, author processing

* Given the different start date of the business year at Müller beginning 1.07. and runs through June 30, DM and Douglas Companies beginning 1.10. and runs until 30.09. current year and BIPA from 1.01. to 31.12. the data is taken from Bisnode's reports classified by year and does not match individual financial statements that are different in date. Furthermore, the above table shows the shares in the total revenues of the four largest drug companies, it can be seen that DM's share was 10.39%, while Müller's share was 8.32%. Small shares in relation to the two largest companies on the market are BIPA with 2.73% and Douglas Perfumery with 0.73%. In total, these four companies make total revenues of HRK 3,743,844,000, which is 22.17% compared to the total market in which they operate. In making managerial decisions, it is also important to consider the measures used to determine the degree of concentration in an industry. The most significant are the concentration ratio and the Herfindahl-Hirshman index.¹¹

2.1.1.1. Concentration ratio or index

Concentration ratio or index measures how much of the total output generated in an industry is produced by the largest companies. The most commonly used concentration ratio of four companies (C4), which indicates the share of total industry sales of some of the four largest companies in that industry.¹² Because of inability to obtain data from the total sales of the sector, data from the total revenues of the market in which the drug companies operate in Table 2 are included in the formula.

Table 2: Enterprises with the highest total revenues in 2017 in industries Other retail sale in non-specialised stores and Retail sale of cosmetic toilet articles in specialised stores

Company name	Revenue 2017	Industry according to NCEA 2017
Spar Hrvatska d.o.o.	3.761.928.900	Other retail sale in non-specialised stores
DM Drogerie Markt d.o.o.	1.755.001.000	Retail sale of cosmetic and toilet articles in specialised stores
Pevec d.d.	1.676.692.800	Other retail sale in non-specialised stores
KTC d.d.	1.478.636.700	Other retail sale in non-specialised stores
Müller trgovina Zagreb d.o.o.	1.404.418.100	Other retail sale in non-specialised stores
Fliba, d.o.o.	774.942.200	Other retail sale in non-specialised stores
Bipa d.o.o.	460.440.100	Other retail sale in non-specialised stores
Trgostil d.d.	311.024.500	Other retail sale in non-specialised stores
TOTAL:	11.623.084.300	

Source: Data taken from www.poslovnahrvatska.hr, author processing

¹¹ Ibid.

¹² Ibid.

Mathematically speaking, the concentration ratio of the four companies is expressed as follows;

$$C_4 = \frac{S_1 + S_2 + S_3 + S_4}{S_T}$$

Where S_T represents the total revenues of all enterprises of an industry, while S_1, S_2, S_3, S_4 refers to the revenues of the four largest drugstore companies. In the sectors Other retail sale in non-specialised stores and Retail sale of cosmetic and toilet articles in specialised stores

$$C_4 = \frac{S_{SparHrv.} + S_{Pevvec} + S_{DM} + S_{KTC}}{S_{Totalmarket}}$$

$$C_4 = \frac{3.761.928.900 + 1.755.001.000 + 1.676.692.800 + 1.478.636.700}{16.888.600.000}$$

$$C_4 = 0,5135$$

When an industry consists of a large number of enterprises, each enterprise is relatively small, so the concentration ratio of the four companies is close to zero. When four or fewer companies produce the entire output of an industry, this ratio is equal to one. In other words, the closer the value of the ratio is to zero, the less concentrated the industry is. The higher value of the indicators indicates the greater concentration of the industry and the fact that a smaller number of larger companies make the majority of the sales of an industry.¹³ Based on the above, it can be argued that the concentration ratio of four companies in industries, Other retail sale in non-specialized stores and Retail sale of cosmetic and toilet articles in specialized stores, with a result of 0.5135 is equally concentrated because its result is between zero and one. Their industry and concentration ratio. In order to include as many drug companies as possible in the analysis, it is also necessary to calculate the concentration ratio of the eight largest companies that generate the highest total revenues.

$$C_8 = \frac{S_{SparH.} + S_{DM} + S_{Pevvec} + S_{KTC} + S_{Muller} + S_{Fliba} + S_{Bipa} + S_{Trgostil}}{S_{Totalmarket}}$$

$$C_8 = \frac{11.623.084.300}{16.888.600.000}$$

$$C_8 = 0,6882$$

The concentration ratio of the eight largest companies in the industry is 0.6882, which would mean that the eight largest companies make up 69% of the industry, so it can be concluded that the industry is more concentrated when considering eight companies compared to the four largest enterprises in the industry.

¹³ Ibid.

2.1.1.2. Herfindahl-Hirschman index

Another measure of market concentration is the Herfindahl-Hirschman Index (HHI). This index is obtained by summing the sum of the squared market shares of an industry of a company multiplied by 10,000 to eliminate the need for decimals. Quadrating market shares before aggregating them with this index better reflects the strength of large companies. Assuming that the market share of the company i is equal $w_i = S_i/S_T$, the Herfindahl-Hirschman index reads:

$$HHI_4 = 10.000 \times \sum w_i^2$$

$$HHI = 10.000 \times \left(\frac{3.761.928.900}{16.888.600.000} \right)^2 + \left(\frac{1.755.001.000}{16.888.600.000} \right)^2 + \left(\frac{1.676.692.800}{16.888.600.000} \right)^2 + \left(\frac{1.478.636.700}{16.888.600.000} \right)^2$$

$$HHI_4 = 779,38$$

The US Department of Justice classifies the market into three types: an unconcentrated market where HHI is below 1500, a measured concentrated market where HHI is between 1500 and 2500, and markets that are highly concentrated with an index above 2500. The results show that HHI is a measure for industry in the business of the companies is 779.38 and it is below 1500 and according to the types of the US Department of Justice falls into the category of non-concentrated markets. The HHI index for the eight largest companies in the industry will also be shown, following Table 2;

$$w_i = S_i/S_T \quad HHI_8 = 10.000 \times \sum w_i^2$$

$$HHI_8 = 10.000 \times w_{Spar}^2 + w_{DM}^2 + w_{Pevac}^2 + w_{KTC}^2 + w_{Muller}^2 + w_{Fliba}^2 + w_{Bipa}^2 + w_{Trgostil}^2$$

$$HHI_8 = 880,41$$

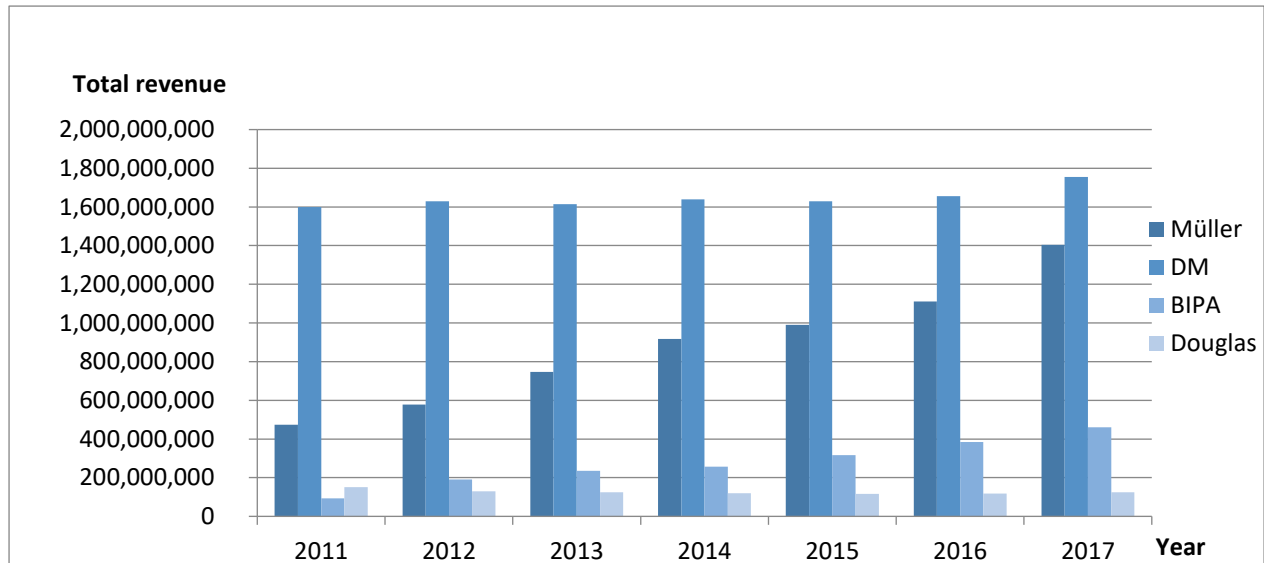
The HHI index score for the eight largest companies in the industry is 880.41 and, like the HHI index, for the four largest companies is less than 1500, it belongs to the Unconcentrated Markets category by type of US Department of Justice. Ministry agencies apply general standards for intervention in the merger and acquisition process. Thus, mergers taking place in highly concentrated markets include an increase in the index between 100 and 200 units can cause adverse competitive effects and are subject to analysis. Mergers in highly concentrated markets that cause an index increase of more than 200 units are considered likely to cause an increase in market power and are prohibited. But the decision can be challenged by evidence that the merger will not lead to an increase in market power.¹⁴ When analyzing industry concentration indicators of an economy, it can be observed that industries that show a lower concentration ratio based on four companies also have a lower HHI index.

2.1.2. Statistical time series of market share

The statistical time series of market share shown in this section of the paper is based on the total revenues of drug companies and the number of employees in the same companies. The drugstore market shares were shown for four selected companies, and Kozmo was excluded from the presentation due to methodological processing because the company operated within Konzum and their separate information was not available.

¹⁴ Ibid.

Graph 1: Total revenues of drugstore companies on the market of the Republic of Croatia



Source: Data taken from www.poslovnahrvatska.hr, author processing

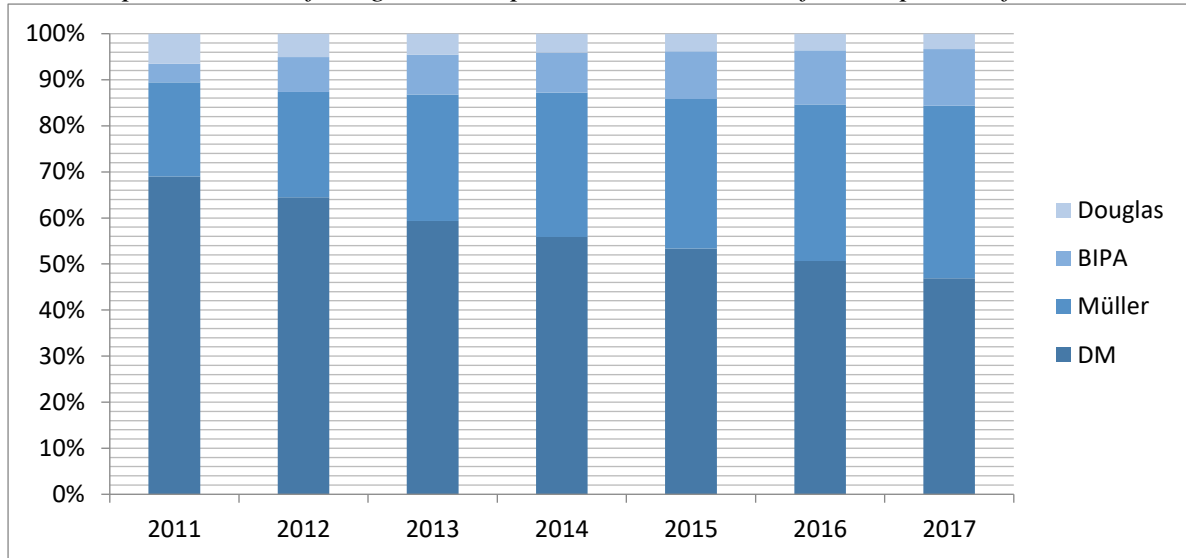
Graph 1 shows the total revenues and their mutual relations over a period of seven years. The Croatian economy has been in recession since 2009, with GDP falling 13% from 2009 to 2012.¹⁵ This data also affects the results of consumer spending, so graph 1 shows that Müller and Bipa's revenues have been growing for a period of seven years, while Douglas perfumery's revenues have been slightly declining. DM generates high total revenues during this period and we can see from the chart that their revenues are constant and have smaller variations. Since 2015, the Croatian economy has been showing signs of recovery, and Croatia is coming out of recession the same year when it achieved three consecutive GDP growths (in quarters). GDP growth by September 2017 is approximately 8%.¹⁶ Based on this information, the drug market is expanding and the management of their companies is opting to open new drug stores which is also leading to higher revenue. In 2017, the highest revenue was generated in Müller, DM and Bipa in the last seven years. Chart 2. The ratio of total revenues of drug companies from 2011 to 2017.

Graph following on the next page

¹⁵ Available at: http://ec.europa.eu/economy_finance/eu/forecasts/2013_spring/cc_croatia_en.pdf

¹⁶ Available at: <https://www.hgk.hr/documents/kretanje-bdp-a-u-hrvatskoj-izvori-rasta-i-posljedice5addcdb7bc19c.pdf>

Graph 2: Shares of drugstore companies on the market of the Republic of Croatia

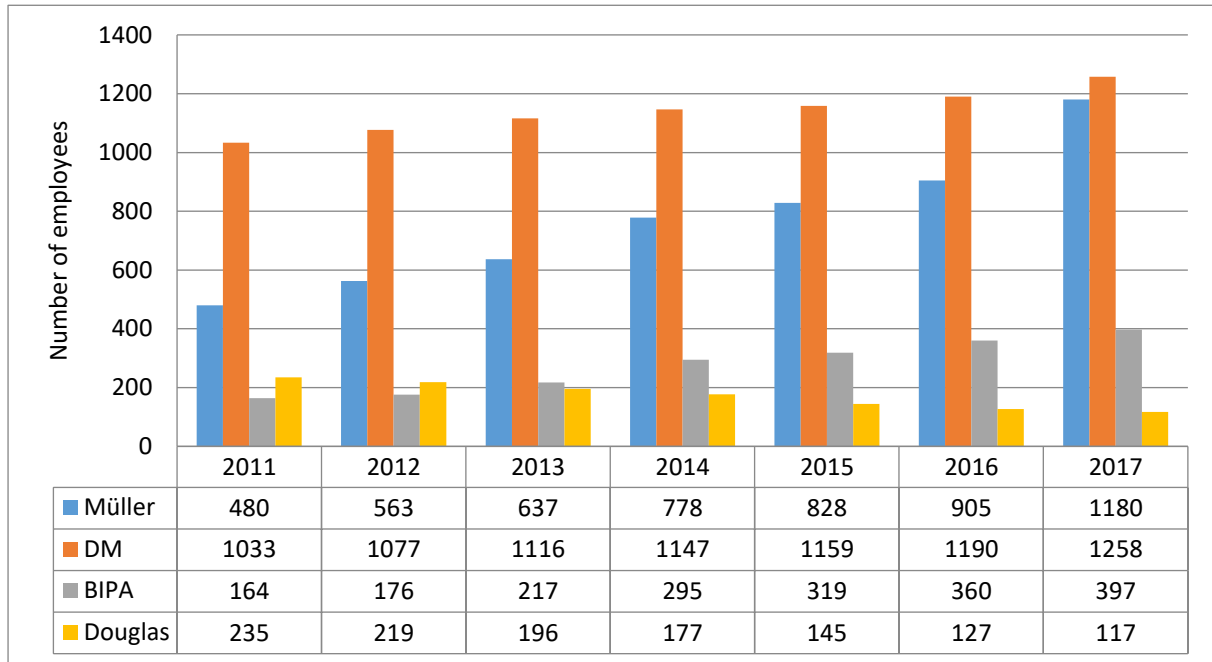


Source: Data taken from www.poslovnahrvatska.hr, author processing

Graph 2 shows that in 2011, the ratio of drug companies (excluding Kozmo) was on the side of the oldest drugstore company on the market, DM, at 68% compared to the three remaining companies. Müller, with 13 branches at the time, accounts for 20% of the market according to total revenue indicators. BIPA and Douglas perfumes together account for 12% of the total market. In the course of time, the ratio in total revenues is changing, so we can see that from the initial 68% DM they have fallen to 50% of the market, while Müller and Bipa have stabilised in the market and generated higher revenues than in previous years. In 2016, Müller grew from an initial 20% to 34% of the market, while BIPA climbed from an initial 4% of the market to 12% of the market. Their mutual relations are also characterised by the growth rates of total revenues, where the graph 2 shows that the companies that generate revenue growth are thus also the companies with an increasing market share if we look at the category of total revenues. In 2017, we see an increase in Müller total revenues resulting from acquisitions over DM, which now accounts for 47% of the market if we look at the total revenue criterion. For the purposes of this analysis, we have also produced a chart of the number of employees in enterprises to show how individual companies expanded and created jobs in the observed period, such as Müller and Bipa, or stagnated as DM.

Graph following on the next page

Graph 3: Number of employees in drug companies in the Republic of Croatia



Source: Data taken from www.poslovnahrvatska.hr, author processing

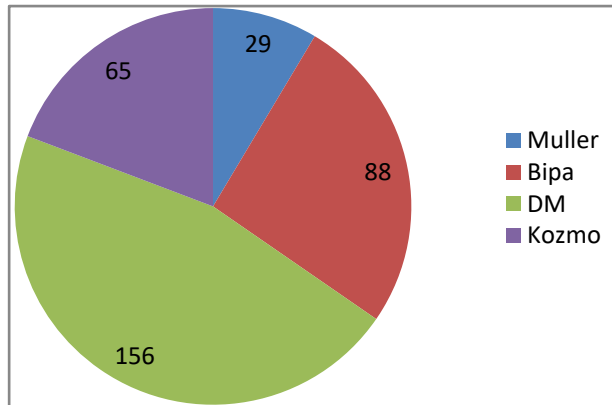
One of the indicators of the relationship between companies can be the number of employees in enterprises. In the aforementioned period, the total number of employees in most companies has grown year by year except for Douglas, where it decreased from an initial 235 employees in 2011 to 117 in 2017. As can be seen in Graph 3, the impact of the expansion of the sales network at Müller and BIPA is evident. The Müller Company had 480 employees with 13 branches and their sales network expanded year after year, to reach 905 employees in 2016, before taking over Kozmo. Following the takeover, according to reports taken from Poslovna hrvatska, in 2017, they employ 1180 employees. Likewise, Bipa, with an initial 164 employees in 2011, climbed to 360 in 2016, and after acquisitions in competing companies, the number of employees climbed to 397. A slight increase was also recorded with DM, especially in 2017. with the opening of only one branch, the number of employees increased to 1,258, which is 68 employees more than in the previous year. Similar to Graph 2, where total revenues over the period are presented, so are the number of employees over the period, showing the situation and relations on the mutual market of these four enterprises. As mentioned above, the acquisition of additional Kozmo outlets by the German Müller Group had a major impact on relations in total revenue and staffing. The assumption is that the growth of the sales network will have a positive impact on the growth of sales and total revenues, which should lead to a new order and structure of market share.

2.2. Analysis of sales and development of retail area before and after acquisition

2.2.1. Concentration of drug companies on the Croatian market before and after the acquisition

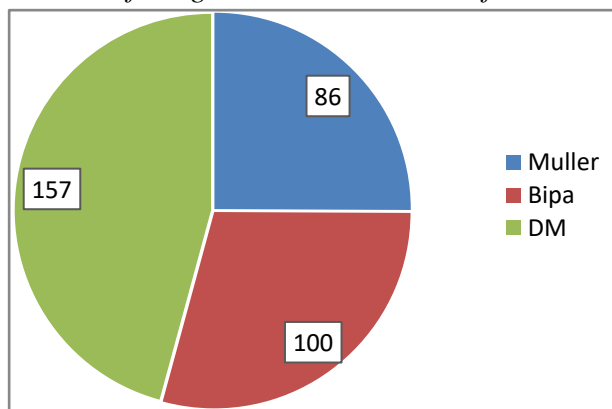
Chart 4 shows the relationships in the number of open branches of the four largest drugstore companies at that time, while Chart 5 shows the relations after the acquisition of Müller by Kozmo. At the beginning of 2016, DM was the market leader with 156 branches and as such it was held in 2017, opening only one new branch during this period. During that time, Müller took over Kozmo, not taking over all its branches, but with its then 29 branches took over an additional 57 branches, thus becoming a serious competitor to DM and Bipa in the number of branches.

Graph 4: Number of drugstore market outlets before takeover, 12/2016



Source: author processing

Graph 5: Number of drugstore market outlets after takeover, 12/2017

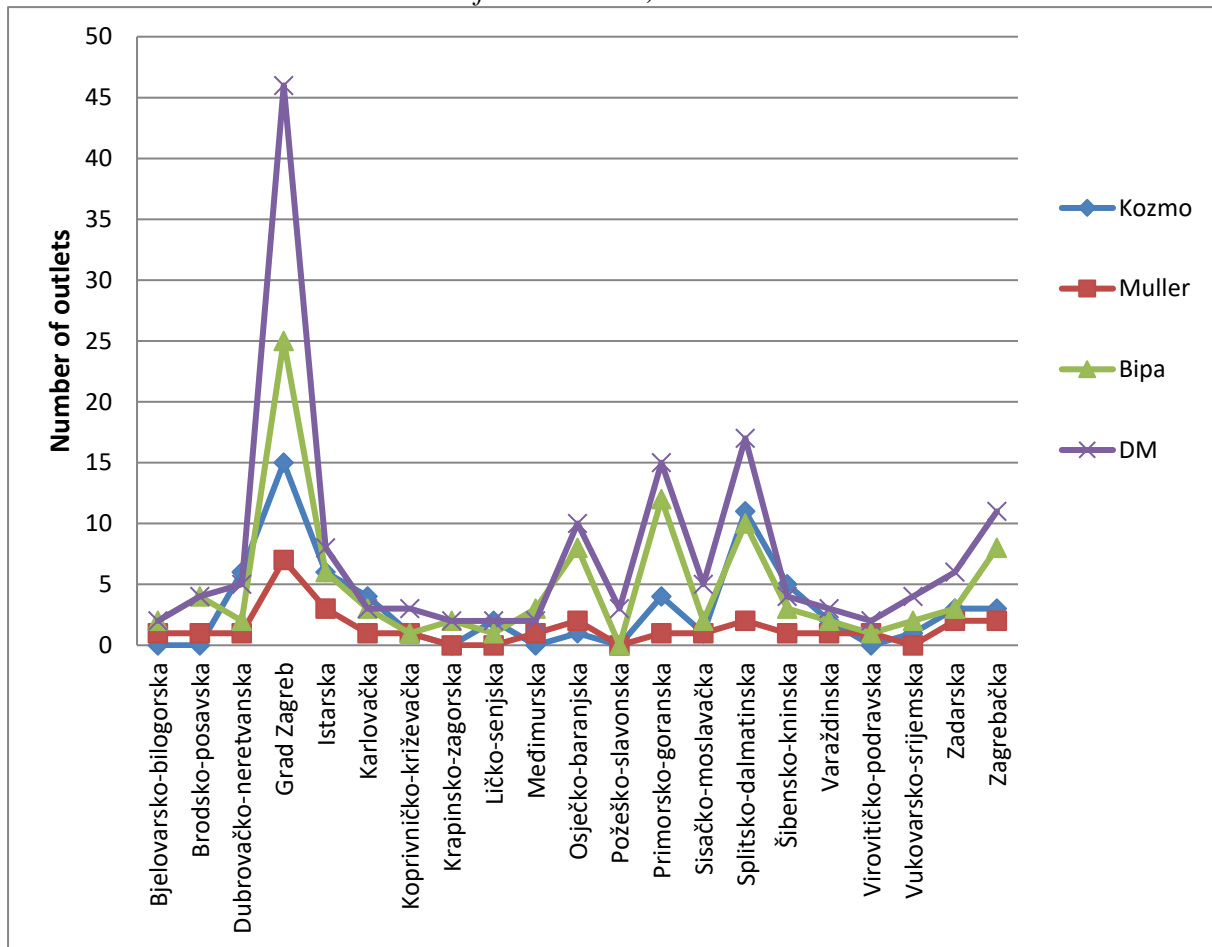


Source: author processing

It may be noted that Bipa is also responding to this takeover by opening new branches. It is evident that during the period when Müller took over Kozmo drugstores, the management of the Bipe company responded to this move by opening 12 new branches and thus became the second in the Croatian market by the number of branches. Much like Mueller's Kozma acquisitions, Bipa has been opening mostly small-scale branch offices so-called neighbourhood branches in order to approach its customers and continue retail trends by opening smaller branches. If we look at the number of open branches of the largest drugstore companies present on the Croatian market, we can see from Graph 6 and Tables 3 and 4. how the highest open branches of all companies in the City of Zagreb are expected, which makes 19% of the total population of Croatia, followed by Split-Dalmatia a county whose share is 11%. The next two counties with the most open branches are the County of Primorje-Gorski Kotar (7% of the population) and the County of Osijek-Baranja (7% of the population)

Graph following on the next page

Graph 6: Number of outlets of the largest drugstores by counties in the Republic of Croatia before takeover, 12/2016.

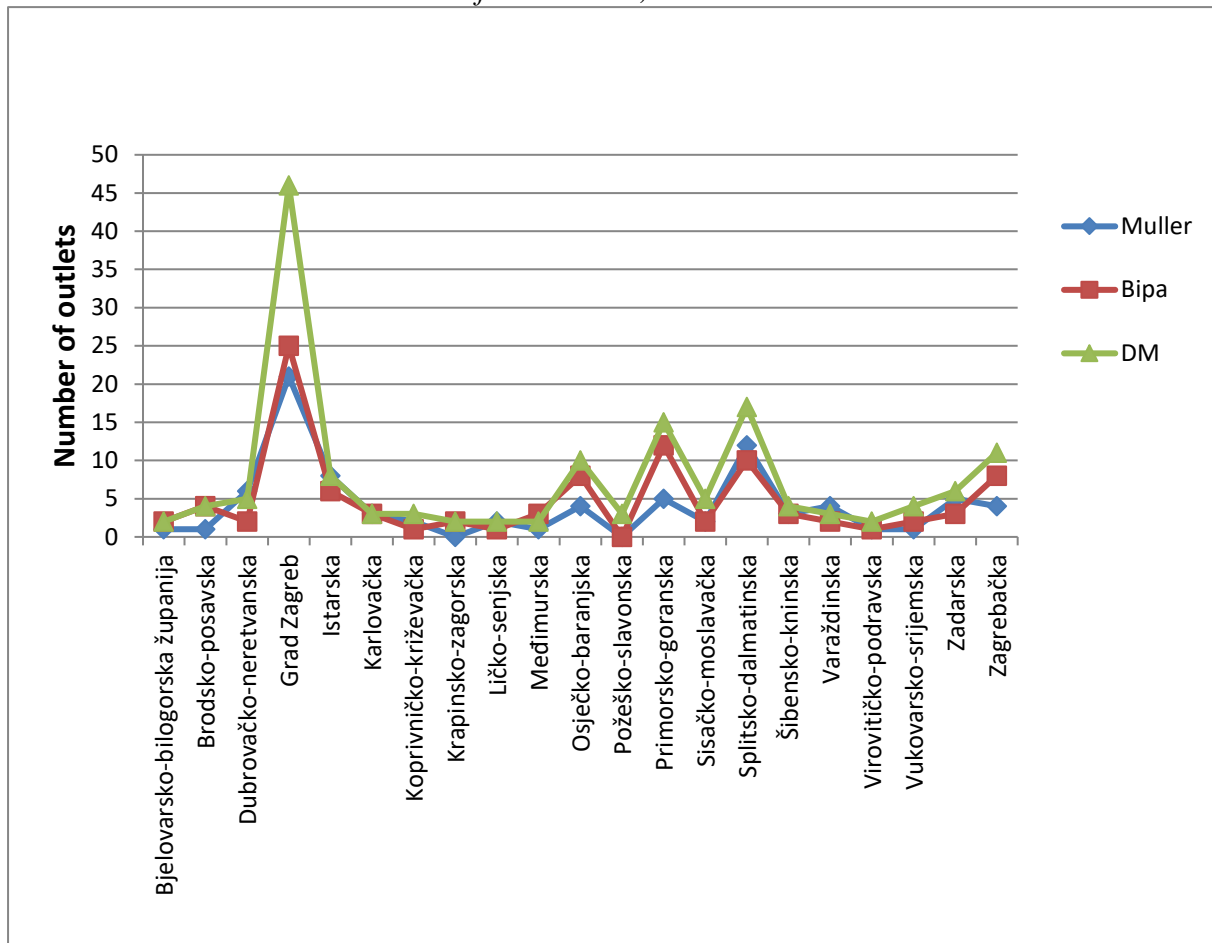


Source: author processing

Chart 6 shows and relates to open branches in counties before acquisitions in the drug market. DM is expected to be the market leader in all counties, with the most open branches in the City of Zagreb (45 of them), followed by the Split-Dalmatia County with 17 branches, Primorsko goranska with 15 branches, Zagreb County with 17 branches, Osijek-Baranja County with 10 branches, etc. The next company which in December 2016, with its 88 branches, was Bipa. Similar to DM, Bipa had the most open branches in the four largest counties by population share (Table 3). Zagreb and Split-Dalmatia counties, while in some counties Kozmo drugstores were not opened. Prior to market acquisitions, Müller was represented most of all in the City of Zagreb with 6 branches open, while in other counties only one to two branches were opened. At that time, the company was represented only within shopping centers, which are not large in every county, such as in the City of Zagreb, and for that reason they were not represented more extensively in individual counties. In December 2016, their outlets were 29 distributed in all counties except Vukovar-Srijem, Lika-Senj, Krapina-Zagorje and Pozega-Slavonia counties.

Graph following on the next page

Graph 7: Number of stores of the largest drugstores by counties in the Republic of Croatia after takeover, 12/2017



Source: author processing

If you look at Graph 7, it can be noticed that after taking over the market, Müller, with 86 branches, approached DM and Bipa in all counties by the number of branches opened. As Bipa responded to market acquisitions by opening new outlets, they are still second in the market in terms of number of outlets open. In the course of a year, DM opened only one branch office and maintained its leadership in the number of branches opened with 157 branches. Bipa, as the second largest company by number of branches, opened 12 new branches in comparison to the previous year, the City of Zagreb, 4 new branches in the County of Istria, 3 new branches, two new branches in the County of Zagreb, and one in the other counties. After the acquisitions, Müller approached market leaders by open branches, mostly in the City of Zagreb, where it acquires 14 outlets, in Primorsko-goranska 11 outlets, in Splitsko-dalmatinska 10, etc. For the purposes of this diploma paper, tables 3 and 4 were also created, which shows the market shares of the largest drugstore companies based on their total revenues by counties in Croatia. There is no actual data on the total income of the entities operating in the market of other retail trade in non-specialised stores and retail trade of cosmetics and toilet products in specialised in the counties of the Republic of Croatia. The assessment was performed based on the methodology described below. It started with the assumption of uniform consumption of the population with regard to the products they buy in the relevant relevant market. On this basis, the estimated turnover in such a relevant relevant market was estimated in proportion to the number of inhabitants in narrow geographically relevant markets that correspond to the statistical administrative boundaries of the counties, ie their share in the total population of the Republic of Croatia.

Table 3: Market share of the largest drugstore companies by total revenue per county in Croatia in 2016

County	Population 2016	Population share	Total sector revenue 2016	Number of outlets				Kozmo	Muller	Bipa	DM	Market share			
				Kozmo	Muller	Bipa	DM					Kozmo	Muller	Bipa	DM
Bjelovarsko-bilogorska	111.867	3%	419.948.131	0	1	2	2	0	38.290.017	8.739.814	21.229.951	0%	9%	2%	5%
Brodsko-posavska	148.373	4%	556.991.464	0	1	3	4	0	38.290.017	13.109.720	42.459.903	0%	7%	2%	8%
Dubrovačko-neretvanska	121.970	3%	457.874.740	6	1	1	5	22.728.527	38.290.017	4.369.907	53.074.878	5%	8%	1%	12%
Grad Zagreb	802.338	19%	3.011.972.643	15	6	21	45	56.821.317	229.740.103	91.768.043	477.673.904	2%	8%	3%	16%
Istarska	208.105	5%	781.225.078	6	3	3	8	22.728.527	114.870.052	13.109.720	84.919.805	3%	15%	2%	11%
Karlovačka	120.321	3%	451.684.403	4	1	3	3	15.152.351	38.290.017	13.109.720	31.844.927	3%	8%	3%	7%
Koprivničko-križevačka	110.976	3%	416.603.322	1	1	1	3	3.788.088	38.290.017	4.369.907	31.844.927	1%	9%	1%	8%
Krapinsko-zagorska	127.748	3%	479.565.322	0	0	2	2	0	0	8.739.814	21.229.951	0%	0%	2%	4%
Ličko-senjska	46.888	1%	176.017.306	2	0	1	2	7.576.176	0	4.369.907	21.229.951	4%	0%	2%	12%
Međimurska	112.089	3%	420.781.518	0	1	2	2	0	38.290.017	8.739.814	21.229.951	0%	9%	2%	5%
Osječko-baranjska	290.412	7%	1.090.205.124	1	3	8	10	3.788.088	114.870.052	34.959.255	106.149.756	0%	11%	3%	10%
Požeško-slavonska	71.920	2%	269.987.303	0	0	1	3	0	0	4.369.907	31.844.927	0%	0%	2%	12%
Primorsko-goranska	289.479	7%	1.086.702.647	4	1	11	15	15.152.351	38.290.017	48.068.975	159.224.635	1%	4%	4%	15%
Sisačko-moslavačka	157.204	4%	590.142.991	1	1	2	5	3.788.088	38.290.017	8.739.814	53.074.878	1%	6%	1%	9%
Šplitsko-dalmatinska	452.035	11%	1.696.937.019	11	2	10	17	41.668.966	76.580.034	43.699.068	180.454.586	2%	5%	3%	11%
Šibensko-kninska	103.021	2%	386.740.294	5	1	3	4	18.940.439	38.290.017	13.109.720	42.459.903	5%	10%	3%	11%
Varaždinska	170.563	4%	640.292.607	2	1	3	4	7.576.176	38.290.017	13.109.720	31.844.927	1%	6%	2%	5%
Virovitičko-podravaska	79.111	2%	296.982.279	0	1	0	2	0	38.290.017	0	21.229.951	0%	13%	0%	7%
Vukovarsko-srijemska	165.799	4%	622.408.576	1	0	2	4	3.788.088	0	8.739.814	42.459.903	1%	0%	1%	7%
Zadarska	169.581	4%	636.606.184	3	2	3	6	11.364.263	76.580.034	13.109.720	63.689.854	2%	12%	2%	10%
Zagrebačka	314.549	8%	1.180.815.296	3	2	6	11	11.364.263	76.580.034	26.219.441	116.764.732	1%	6%	2%	10%
In total	4.174.349	100%	15.670.484.247	65	29	88	156	246.225.706	1.110.410.500	384.551.800	1.655.936.200	2%	7%	2%	11%

Source: author processing

Table 4: Market share of the largest drugstore companies by total county revenue in Croatia in 2017

County	Population 2016	Population share	Total sector revenue 2016	Number of outlets			Muller	Bipa	DM	Muller	Bipa	DM	Market share		
				Muller	Bipa	DM							Muller	Bipa	DM
Bjelovarsko-bilogorska županija	111.867	3%	452.592.013	1	2	2	16.330.443	9.208.802	22.356.701	4%	2%	5%			
Brodsko-posavska županija	148.373	4%	600.288.152	1	4	4	16.330.443	18.417.604	44.713.401	3%	3%	7%			
Dubrovačko-neretvanska županija	121.970	3%	493.466.776	6	2	5	97.982.658	9.208.802	55.891.752	20%	2%	11%			
Grad Zagreb	802.338	19%	3.246.102.697	20	25	46	326.608.860	115.110.025	514.204.115	10%	4%	16%			
Istarska županija	208.105	5%	841.952.147	8	6	8	130.643.544	27.626.406	89.426.803	16%	3%	11%			
Karlovačka županija	120.321	3%	486.795.244	3	3	3	48.991.329	13.813.203	33.535.051	10%	3%	7%			
Koprivničko-križevačka županija	110.976	3%	448.987.201	2	1	3	32.660.886	4.604.401	33.535.051	7%	1%	7%			
Krapinsko-zagorska županija	127.748	3%	516.843.434	0	2	2	0	9.208.802	22.356.701	0%	2%	4%			
Ličko-senjska županija	46.888	1%	189.699.682	2	1	2	32.660.886	4.604.401	22.356.701	17%	2%	12%			
Međimurska županija	112.089	3%	453.490.181	1	3	2	16.330.443	13.813.203	22.356.701	4%	3%	5%			
Osječko-baranjska županija	290.412	7%	1.174.950.179	4	8	10	65.321.772	36.835.208	111.783.503	6%	3%	10%			
Požeško-slavonska županija	71.920	2%	290.974.260	0	0	3	0	0	33.535.051	0%	0%	12%			
Primorsko-goranska županija	289.479	7%	1.171.175.443	5	12	15	81.652.215	55.252.812	167.675.255	7%	5%	14%			
Sisačko-moslavačka županija	157.204	4%	636.016.652	2	2	5	32.660.886	9.208.802	55.891.752	5%	1%	9%			
Šplitsko-dalmatinska županija	452.035	11%	1.828.845.241	12	10	17	195.965.316	46.044.010	190.031.955	11%	3%	10%			
Šibensko-kninska županija	103.021	2%	416.802.826	3	3	4	48.991.329	13.813.203	44.713.401	12%	3%	11%			
Varaždinska županija	170.563	4%	690.064.554	4	2	3	65.321.772	9.208.802	33.535.051	9%	1%	5%			
Virovitičko-podravaska županija	79.111	2%	320.067.640	1	1	2	16.330.443	4.604.401	22.356.701	5%	1%	7%			
Vukovarsko-srijemska županija	165.799	4%	670.790.342	1	2	4	16.330.443	9.208.802	44.713.401	2%	1%	7%			
Zadarska županija	169.581	4%	686.091.574	5	3	6	81.652.215	13.813.203	67.070.102	12%	2%	10%			
Zagrebačka županija	314.549	8%	1.272.603.762	5	8	11	81.652.215	36.835.208	122.961.854	6%	3%	10%			
In total	4.174.349	100%	16.888.600.000	86	100	157	1.404.418.100	460.440.100	1.755.001.000	8%	3%	10%			

Source: author processing

An analysis of the market share of the most significant competitors, both at national and county level, shows that competition is strong and dynamic. At the national level, the entity with the highest market share according to the criterion of total revenue is DM drugstores with 11% before acquisitions and 10% after acquisitions. In 2016, Müller ranked second with a 7% market share before the takeover of Kozmo drugstore. It will continue to hold that ranking after the 2017 takeover, but will also increase its market share by one percentage point by increasing its total revenues. Similar to Müller, Bipa increases its market share by one percentage point only at a much lower market value than Müller. The situation is similar across counties, with DM having the leading position in half of the counties after the acquisitions, and Müller taking the lead in the rest of the counties. If we analyze the county with the largest population share in the Republic of Croatia, it is evident that in the City of Zagreb, before the acquisition, Müller had

an 8% market share, and after its acquisition it increased to 10% of the market share. Also, Bipa has increased its market share by one percentage point, opening four new outlets during this period. DM, during this period, opened only one branch and maintained its share of 16% in relation to the competition. Müller made significant deviations or jump in market shares before and after the acquisition in Dubrovnik-Neretva County, Lika-Senj County and Split-Dalmatia County, primarily because they had very few branches in these areas. As the takeover affected the growth of total corporate revenues, we can conclude that there is an interconnection of revenue growth with the opening of new branches in areas where they were not represented.

2.2.2. Size of area taken over in relation to sales

The acquisition of Kozmo comes at a time of continued retail growth as a result of several key factors, such as increased consumer optimism, real net wage growth resulting from changes to the Payroll Act (payroll taxation law), and market stabilisation across all levels of the economy. It is worth noting the record tourist season, that is, tourism inflows.¹⁷ With this in mind, Müller management is beginning to acquire and expand its sales network in smaller towns and cities in Croatia. One of the reasons for the acquisition is the increase in sales, in order to achieve a wider network of stores. In this way, they become more accessible to their customers, which is expected to result in increased sales.

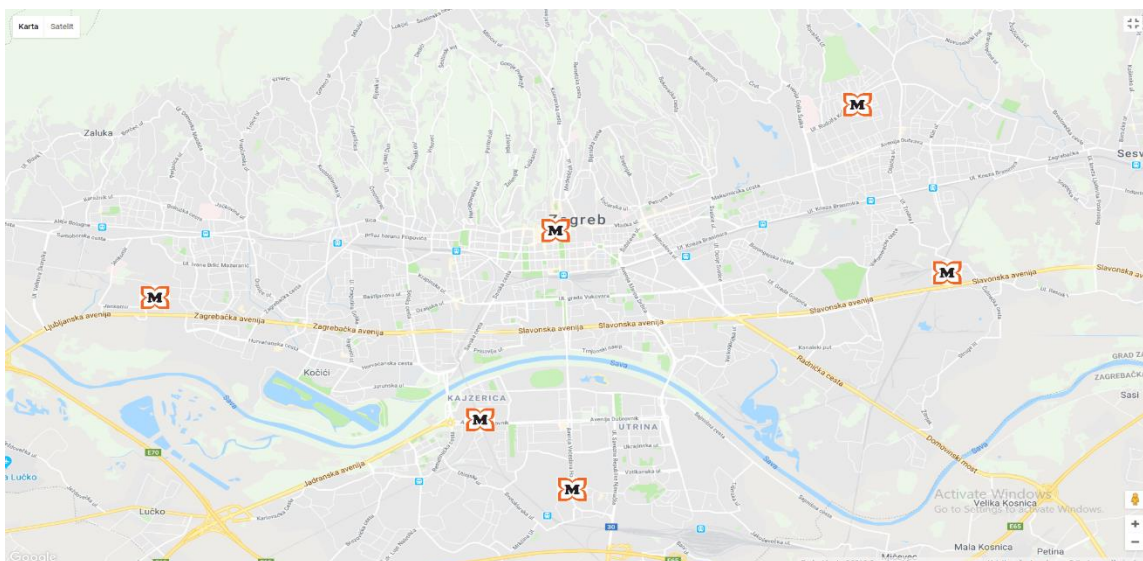
Table 5: Size of Müller outlets in the City of Zagreb prior to acquisitions

Branch	m ² of sales area	Branch	m ² of sales area
Zagreb Trg	3.255 m ²	Zagreb Buzin	1.295 m ²
Zagreb CC One East	1.185 m ²	Zagreb GardenMall	1.530 m ²
Zagreb CC One West	1.578 m ²	Zagreb Av. Mall	1.572 m ²

Source: author processing

From the example of the City of Zagreb, we can see that before the takeover of the Müller branch, six of them were spread throughout the City as part of shopping centers, as shown in Image 10, while after the takeover of 14 stores with smaller square footage opened in neighbourhoods, thus approaching their customers.

Image 1: Müller's branch offices in Zagreb before takeover



Source: author processing

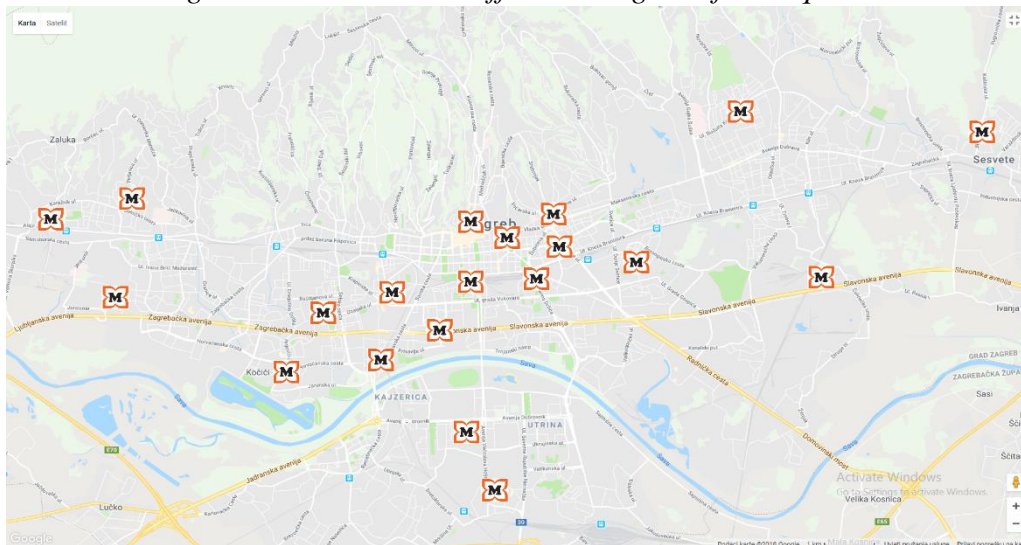
¹⁷ Available at: <https://www.hgk.hr/kretanje-u-prometu-u-trgovini-na-malo-u-prosincu-2016>

Table 6: Size of Kozmo outlets in Zagreb before acquisition

Branch	m ² of sales area	Branch	m ² of sales area
Zagreb Ljubljana	176 m ²	Zagreb Trešnjevka	150 m ²
Zagreb Savska	165 m ²	Zagreb Trg Burze	258 m ²
Zagreb Donje Svetice	207 m ²	Zagreb Vrapče	186 m ²
Zagreb Gajnice	362 m ²	Zagreb Zavrtnica	259 m ²
Zagreb Importanne	200 m ²	Velika Gorica	212 m ²
Zagreb Jarun	172 m ²	Zagreb City Plaza	142 m ²
Zagreb Kolodvor	136 m ²	Zagreb Kvaternikov	199 m ²

Source: author processing

Image 2: Müller's branch offices in Zagreb after acquisition



Source: author processing

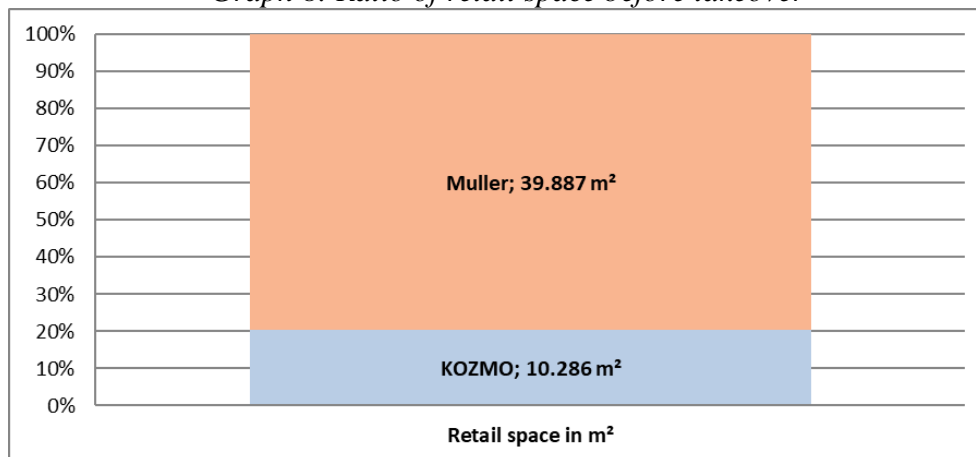
Acquired outlets have a smaller square footage of sales area than Müller outlets within shopping centers, as shown in Table 5. where it is evident that the average space of acquired Kozmo outlets is around 200 m² and outlets operating within shopping centers average 7,100 m². except for the branch office in Zagreb's main square, which is also the largest Müller branch with a surface area of 3255 m².

2.2.3. Development of retail space during acquisition

The development of retail space during the acquisition of Kozmo by Müller begins in April 2017, with a dynamics of three outlets per week. The first takeovers began in the City of Zagreb, which began in the southern parts of Croatia mid-April; in Dubrovnik, Ploče and Makarska, after which it was taken over to the cities of Split, Sibenik and Zadar and their surroundings. After the takeover in Dalmatia, at the beginning of June, it begins with the same dynamics of takeover in the coastal regions of Istria and Kvarner and its heartlands. At the beginning of May, the takeover of the remaining Kozmo outlets in the vicinity of Zagreb and Slavonia began. As of August 7, 2017, the last three branches in Novska, Osijek and Vukovar have been taken over. It can be concluded that the dynamics of taking over the outlets started in the City of Zagreb due to the number of inhabitants or consumption per capita, which is the largest in the Republic of Croatia (Table 4). Given the part of the year characterised by a greater influx of foreign nationals to coastal areas, the takeovers continued in the counties visited by a larger number of foreign nationals during this period, thereby affecting the growth of retail trade traffic.

The management of Müller estimated the takeover dynamics well, taking into account the fact that the purchasing power, that is, the consumption of the foreign tourist in relation to the domestic buyer (domicile and domestic tourist), in the food and beverage segment, is about 2.4 times higher.¹⁸ Prior to the acquisition, Müller had 29 branches in almost all counties in Croatia except Krapina-Zagorje County, Lika-Senj County, Požega-Slavonia County and Vukovar-Srijem County. The largest number of outlets prior to the takeover was in the City of Zagreb, which had six outlets as part of the Shopping Centers and the central outlet on Zagreb's main square, the largest area. After the City of Zagreb, branches were placed mainly by criteria of number of inhabitants in larger counties such as Split-Dalmatia, Osijek-Baranja, Zagreb County. Kozmo started working in the retail trade of cosmetics and toiletries in specialized stores in 2005 with the first stores opened in Zagreb. Before taking over, the company comprised a sales network of 65 outlets. Much like Müller, Kozmo drugstores were most present in the City of Zagreb (as many as 15), followed by the Split-Dalmatia with 11 outlets and other Adriatic counties with more than 4 outlets each.

Graph 8: Ratio of retail space before takeover



Source: author processing

The pre-takeover ratio was largely on Müller's side with regard to Kozmo drugstores. Müller, with its 29 branches, had a total of 39,887 m² of retail space at the end of 2016, while Kozmo had only 10,286 m² of retail space in all of the acquired branches. When compared to these two figures, it can be seen from Graph 8 that Kozmo drugstores make up only 20% of the total sales area of Müller after the takeover. Linking a little to Graph 1, which shows how much total revenue has grown since the acquisition, it can be concluded that despite the small sales area, with many more outlets, management's strategy to reach its customers by opening smaller stores has been successful. All this indicates a change in the strategy of retailers with the aim of increasing revenue, primarily in small format outlets, that is, in self-service shops and small stores. It should be appreciated that in 2016, net sales area recorded an upward trend in small shops and supermarkets, while the decline was recorded in self-service shops and slightly smaller in Hypermarkets.¹⁹

2.3. Research results

The Croatian economy has been in recession since 2009, with GDP falling 13% between 2009 and 2012, which has also affected consumer spending. Such an outcome of the situation has led to a rise in drugstore revenues at Müller and Bipa over a seven-year period, with Douglas

¹⁸ Available at: <https://www.hgk.hr/kretanje-u-prometu-u-trgovini-na-malo-u-prosinu-2016>

¹⁹ Available at: <https://lider.media/aktualno/tvrtke-i-trzista/poslovna-scena/aztn-u-2016-promjene-trzisnih-udjela-top-10-najvecih-trgovaca/>

perfumery revenues slightly declining. Since 2015, there have been signs of recovery, and in the same year Croatia came out of recession when it achieved three consecutive GDP growths. GDP growth has led the drugstore market to expand, and the management of these companies are opting to open new drugstores, leading to higher revenue. In 2011, Müller had 13 branches and occupied 20% of the drugstore market, and by 2016 it had grown to 34% of the market. 2017 saw an increase in total Müller revenues as a result of the acquisition, with DM leading the way in 47% of the total revenue market. The conclusion is that the acquisition or takeover of Kozmo drugstore has a positive effect on the Müller Group. Also, the sales network is expanding across Croatia year after year. The first takeovers of Kozmo outlets started in the City of Zagreb because the fluctuation in population or per capita consumption is the largest in the Republic of Croatia. Also, the reason was the increasing number of tourists. Müller management estimated the takeover dynamics well, taking into account the fact that the consumption of foreign tourists in relation to the domestic customer in the food and beverage segment is much higher. In terms of office space, Kozmo's offices are smaller in size than Müller's, but despite taking over the small sales area with many more offices, management's strategy to reach its customers by opening smaller stores has been successful and generates new revenue. The conclusion is (an assumption- "zaključak je pretpostvka" ako je to točno onda stavi u tekst i 'an assumption') that the growth of the sales network will have a positive effect on the growth of sales and total revenues, which should lead to a new order and structure of market share.

3. CONCLUSION

Business acquisitions are one of the more common forms of corporate strategy in the global industry today, and its popularity in business practice has been in an upward trend over the last thirty years. With regard to Croatia, the number of acquisitions has increased in recent years, but Croatian businessmen could opt for an acquisition as one of the strategies for entering foreign markets. The largest retail companies are choosing acquisition activities to achieve strategic growth goals, that is, to increase business activities in the domestic and international markets. However, by acquisition, companies not only purchase profits and losses, but also human resources, technology, IT equipment and competition with all its advantages and disadvantages. In order for management to make optimal decisions and to plan well for further growth and development of the company, it is necessary first of all to define the market, that is, the industry in which the company operates, and then adjust its decisions to changes in the behaviour of enterprises in the industry. When analysing the market structure, it is necessary to investigate the interdependence of factors such as: number of companies in a market, relative size of a company, ie concentration of industry, technological and cost conditions, demand conditions, degree of ease (barrier) of entering and leaving an industry. The size of the company is an important factor for managerial decision making, but its measurement depends primarily on the purpose of the analysis. Thus, company size can be measured using different categories such as number of employees, value of total assets, added value, profit or sales, but an important factor that significantly influences managerial decisions is the distribution of company size within an industry. According to the data available in this thesis, it is evident that through the acquisition, which began in 2017, Müller achieved a double-digit growth in the Kozmo drugstore, thus approaching the so far untouchable DM drugstore chain. Also, Bipa is showing steady growth, while DM is holding its breath and struggling to maintain its primacy in the drugstore market. From the results of the research, we conclude that by taking over a smaller sales area, but with a larger number of sales entities, total revenue and sales growth can be expected. The manager's strategy to reach its customers by opening smaller "neighbourhood" stores has been successfully achieved.

Changing retail strategies and trends have contributed to the growth of total sales, because in a global and accelerated life, consumers have less time to find and go to larger retail outlets so they opt to make their purchases where they are most accessible.

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CROATIAN HEALTH CARE SYSTEM MANAGEMENT AND EFFICIENCY FROM PHARMACISTS' POINT OF VIEW

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ABSTRACT

The health care system of the Republic of Croatia has been struggling with numerous problems for years. The only way to address them is through comprehensive reform that takes into consideration the needs and expectations of all relevant health care stakeholders, including pharmacists. With this in mind, the purpose of the paper is to investigate how pharmacists, as one of the key health care providers, assess the management and efficiency of the Croatian health care system. The results of the survey indicate that they are generally dissatisfied with the current system and the way it is managed. Only some of its aspects were evaluated slightly more positively. Furthermore, the findings of the study show that employees of Croatian pharmaceutical wholesalers and pharmacies do not consider the Croatian health care system to be stable and economically viable. Therefore, they are of the opinion that the existing financing model needs to be changed, and they are in favour of further privatisation of the system. The research also found that the characteristics of the firms in which pharmacists work are not a significant predictor of differences, which means that employees of Croatian wholesalers and pharmacies mostly concur with each other in their views on the issues explored in this paper. The study significantly expands the knowledge about the management and efficiency of the Croatian health care system.

Keywords: *Croatian health care system, management, efficiency, economic viability, financing model, pharmacists*

1. INTRODUCTION

Health is often said to be the greatest wealth we have and a major determinant of quality of life. Today, access to health care is one of the fundamental human rights, which implies that the state is required to provide basic health care to every citizen. However, health also has broader implications, given that it represents a national asset on which social and economic progress depends. More specifically, healthy people are more productive and efficient, and achieve higher work performance. In contrast, the capabilities of ill individuals are limited in terms of creating new values. Thus, health protection and disease prevention contribute to the overall development. That is why population health should be the top priority for any government, and health promotion should be the primary goal of policy makers. Accordingly, it can be argued that health care is an activity of vital interest to modern society and one of its pillars. Scientific and technological progress is greatly affecting health care in that it contributes to its rapid development. Health care refers to the diagnosis, treatment, and prevention of diseases and other physical and mental impairments in humans (Oyefabi, Aliyu, & Idris, 2014).

Health care also includes services provided to individuals and communities by health care service agents and professionals with the aim of promoting, maintaining, monitoring or restoring health, where health care is not necessarily limited to medical care provided by physicians (Last, 2001). For Jarzynkowski, Piotrkowska, and Książek (2016), health care is an organised structure whose elements affect one another. According to Princeton (2015), health care is a set of complex phenomena that includes theoretical knowledge, the ability of professionals to apply such knowledge properly, and a system of interactions that ensures a coordinated, efficient, and safe health care service. Princeton identifies three levels of culture in health care. The first is the professional level. It refers to the provision of critical health care through professional's synthesis of knowledge. The second, institutional level, is related to the provision of critical institutional multidisciplinary health care. The third level, which Princeton calls academic, refers to the provision of critical academic health care through knowledge-generating interdisciplinary research. When discussing health care, it must be remembered that it is highly politically conditioned, as it is characterised by powerful groups and regulatory systems (Radnor, Holweg, & Waring, 2012). The health care system is a set of social, economic, and political processes involving the financing, provision, and regulation of health care (Freeman & Frisina, 2010). According to Aarts, Peel, and Wright (1998), the health care system is a very broad concept that includes not only organisations operating within the health care system but also the society as a whole. That is why the work of health professionals is largely determined by legislation, rules, regulations, conventions, codes of conduct, explicit and tacit understanding, economic situation, political system, and moral values. As a rule, health care is a complex hierarchical system comprising numerous interdependent units and independent groups (Andreasson, Eriksson, & Dellve, 2012). Each of the stakeholders in the health care system has specific interests that need to be aligned in order to optimise health care. This is very difficult to achieve, especially if the opposing parties are not prepared to compromise. The health care system includes a large number of stakeholders who are engaged in different types of interactions. The number of stakeholders is steadily increasing, making the health care system ever more complex. The main stakeholders in the health care system are users, decision-makers (national and local governments), health care providers, and payors (Sakai, 2014; Lübbecke, Carr, & Hoffmeyer, 2019). Special stakeholder categories include residents in their roles as patients, family members, and taxpayers, governments and their agencies, regulatory bodies, hospitals, physicians, nurses, managers and heads of health care organisations, suppliers, and insurance companies (Ess, Schneeweiss, & Szucs, 2003; Faezipour & Ferreira, 2011; Campbell, 2017). Pharmacy is an essential part of the health care system. In today's society, pharmacists play a pivotal role in the health care team. It would be impossible to imagine the treatment and prevention of diseases without their help. Given the significant share of drug expenditures in total health care costs, which is increasing year by year, the pharmaceutical industry as well as wholesalers and pharmacies are gaining in importance. At the same time, pharmacy shares the problems of the health care system. Against this background, the paper seeks to determine how pharmacists, as health care providers, assess the management and efficiency of the Croatian health care system.

2. ECONOMIC ASPECTS OF HEALTH CARE

Health care is a very expensive and complex, universally used service that exerts a significant impact on the economy and quality of daily life (Berry & Bendapudi, 2007). As a system which is composed of institutions, regulations, and people, health care has many characteristics in common with the business sector. Nevertheless, health care is in many ways unique. According to Vukotic (2010), some of these characteristics are a high level of government involvement, uncertainty about the outcome of the service provided, and information asymmetry in terms of knowledge gaps between service providers and users.

Ensor and Witter (2001) consider that, with certain exceptions, the health market in stable developed economies is characterised by several assumptions: the government is a dominant player in financing and delivering health services; professional ethics play a major role; there are effective channels for protecting the vulnerable groups; the market and the employment structure are fairly stable; institutions and rules for monitoring the private sector are in place. In contrast to developed economies, in low- and middle-income countries, the government's share of health expenditures is declining, its ability to act as an effective market regulator is for the most part limited, and exemption mechanisms and targeting the benefits to the poor are rarely effective. Regulation, financing, and service provision are the dimensions that define the health system. Each of these dimensions may be dominated by one of the following players: the state, social actors or the private sector (Kostičová, 2015). In their work, Noble and Lee (2002) highlight the global diversity in the methods of health care delivery and controversy over which health care model is optimal. At the centre of the global debate is the role of government and the private sector in the health care system. Two opposing opinions are prevalent in scientific and professional circles. The first assumes that health care is a commodity, which as such should be left to the forces of free market competition. Proponents of this view argue that the invisible hand of the market, guided by consumer choice, will always produce the system that best meets the needs of users. The second view rests on the belief that health care must be governed by moral and ethical principles rather than economic theory, even if this leads to inefficiency. Noble and Lee conclude that situational factors tend to dictate what is best in the given circumstances, and that the health system is ultimately the result of the interplay of political, economic, and ethical factors. There are several models of health care financing. If we look at the financing models currently applied in the health care systems worldwide, it is evident that it is not easy to classify them into any one group, as countries adapt them to their own needs and perspectives, and each is distinctive in its own way (Özen & Aydin, 2019). However, several major models can be distinguished. The Bismarck model is based on compulsory social insurance, i.e. contributions by employees and employers, and rests on the principles of solidarity (Glasscock, 2010; Frogner, Waters, & Anderson, 2011; Kos, 2019). The Beveridge model is funded through general tax revenues, and it is characterised by universal coverage and state control of health care delivery (Bureau & Blank, 2006; Millionis, 2013; Kulesher & Forrestal, 2014). The third most commonly mentioned model is the market (private) model. This model is based on premiums paid by citizens to private insurance companies, health care is not universal, and providers are mainly private organisations (Pontoriero et al., 2007; Ramirez, Byrkjeflot, & Pinheiro, 2016; Mihajlović, 2017). It should be noted that in many underdeveloped and developing countries, where the health system is not adequately organised, the out-of-pocket model is most prevalent (Lee & Mir, 2014; Hennes et al., 2015; Godbole & Kurian, 2019). By its characteristics, the Croatian health care system is closest to the Bismarck model as it is largely financed by compulsory health insurance contributions (Kovač, 2013). Funding is also provided from the budget, which means that the system also has some features of the Beveridge model (Sopta & Bešker, 2017). In addition, health care costs are also covered by voluntary health insurance, out-of-pocket payments, and donations (Katić & Vidović, 2012). The Croatian health care system is based on the principle of solidarity, and health care is guaranteed to all citizens. The financing and delivery of health care is mainly administered by the Croatian Health Insurance Fund (CHIF). CHIF is the central financial institution of the health care system, whose main task is to collect compulsory health insurance contributions and distribute them to service providers (Žmuk, Dražić Lutilsky, & Dragija, 2016).

3. PURPOSE OF THE STUDY AND METHODS

Health care costs are rising worldwide due to population aging, increased prevalence of chronic diseases, advances in medical technology, and increased consumption of medications

(Kettunen, 2016; Dalton & Byrne, 2017; Molla, Chi, & Mondaca, 2017). Demand for health care exceeds available resources, so setting priorities is crucial to meeting population health goals (Ottersen et al., 2008; Whiteford & Weissman, 2017). To ensure the existence of the system, it is necessary to carefully allocate limited resources, which is a permanent task of policy makers, managers, and health care professionals (van Dijck et al., 2019). Pharmacy, as an essential part of health care, is in charge of preparing and dispensing medicines. The role of pharmacy in the health care system is extremely significant. This is also reflected in the growing expenditure on medicines, which are weighing on health care systems, even in well-off countries. Their growth is a result of the increasing consumption of medications and, in particular, the high cost of new drugs. Pharmacy is therefore more likely than other health actors to be placed under pressure to control costs while maintaining or raising the level of service quality (Dukić & Medarić, 2019). On the other hand, one must not forget that pharmacists are also affected by the inefficiency of the health care system. Policy makers' mistakes are reflected in their work. To get a complete picture of health care, the pharmacists' perspective has to be considered as well. As health care providers, they are acutely aware of the difficulties facing the health care system. This is why they are a very useful source of information for policy makers as well as health care scientists and professionals. With that in mind, the main purpose of this paper is to determine how the employees of Croatian wholesalers and pharmacies assess the management and efficiency of the health care system of the Republic of Croatia. The research also seeks to explore the pharmacists' views on the current financing model and their opinions on privatisation as one of the possible answers to the problems facing the Croatian health care system. Furthermore, the study aims to identify the similarities and differences in attitudes of employees of Croatian wholesalers and pharmacies depending on the characteristics of firms in which they work. Differences in pharmacists' attitudes with respect to their gender, age, level and field of education, and position in the institution have been analysed in previous work (Medarić, 2018), so the present study extends current knowledge about the management and efficiency of the health care system of the Republic of Croatia. The data were collected using an online survey. Potential respondents were contacted by e-mail, which included a link to the questionnaire. Both descriptive and inferential statistics were employed to analyse the data. Mann-Whitney, Kruskal-Wallis, and Dunn's multiple comparison tests were used to explore group differences. The level of statistical significance was set at $p < 0.05$.

4. RESEARCH SAMPLE

A total of 112 respondents participated in the survey. Among them, there were 31 (27.7%) men and 81 (72.3%) women. The employees surveyed were, on average, 38.96 years old with a standard deviation of 10.54. The youngest participant was 24 years old and the oldest was 63. The sample included 20 (17.9%) respondents with a secondary school education, 76 (67.9%) had undergraduate or graduate degrees, while 16 (14.3%) had a postgraduate qualification. Of the 112 participants, 90 (80.4%) were pharmacists or physicians, while 16 (14.3%) were economists. There were also 6 (5.4%) persons with a degree in some other area. Among the respondents, 51 (45.5%) were managers and 61 (54.5%) employees in non-managerial positions. Table 1 shows the distribution of respondents according to the characteristics of the firms in which they work.

Table following on the next page

Table 1: Respondents according to the characteristics of their firms

Characteristic		Frequency	Percentage
Type of ownership	Private	82	73.2
	Other	30	26.8
Type of sale	Retail	65	58.0
	Wholesale	47	42.0
Number of employees	10 or fewer	27	24.1
	11 – 100	42	37.5
	More than 100	43	38.4
Share of revenue derived from the CHIF	Under 70%	35	31.3
	70% – 90%	62	55.4
	90% – 100%	15	13.4

Most of the respondents worked in the private sector. Just over a quarter of those surveyed said they were employed in firms such as city and county pharmacies, which are not privately owned. The majority worked in retail. Most of them came from firms with more than 100 employees and from firms that derive between 70% and 90% of their revenue from the CHIF.

5. ANALYSIS RESULTS

The survey asked the respondents to indicate their level of agreement with statements regarding management and efficiency of the health care system of the Republic of Croatia. Their responses were measured on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree). The mean, median, mode, standard deviation, and interquartile range were calculated for each item. The summary statistics are shown in Table 2. The answers suggest that the employees surveyed are more dissatisfied than satisfied with the state of the Croatian health care system. The mean, median, and mode indicate that the respondents generally disagreed with the statement that the Croatian health care system is efficiently managed. An even lower mean was obtained for the statement that the Croatian government has a clear vision for the development of the health care system. In comparison to these two statements, participants expressed on average a higher level of agreement with the statement that the Croatian health care system is well regulated. However, in this case the mean also points to the dissatisfaction of the respondents, while the median and mode were both 3. A similar mean was calculated for the statement that Croatian health care institutions are well organised. The employees surveyed had a somewhat more positive opinion about the level of service provided by the Croatian health care system, the competence of physicians, and the quality of work performed by medical staff. The means for these three items ranged from 3.43 to 3.67, while the median and mode were 4. Therefore, employees of Croatian wholesalers and pharmacies found only some elements of the system relatively satisfactory. In their opinion, there are many aspects of the health care system of the Republic of Croatia that are substandard. Among other things, the health care equipment is not good enough. Moreover, participants mostly disagreed with the statement that the Croatian health care system does not lag behind those of developed countries. The stability and economic viability of the system are also problematic from their point of view. Accordingly, they are generally not satisfied with the current health care financing model and are inclined to believe that it should be changed. In addition, all three measures of central tendency indicate that employees of Croatian wholesalers and pharmacies support further privatisation of health care. The standard deviation and interquartile range suggest that responses are the most widely spread on the scale for this item.

Table 2: Summary statistics

Statement	Summary statistics				
	Mean	Median	Mode	Standard deviation	Interquartile range
Croatian health care system is efficiently managed	2.01	2.00	2.00	0.91	1.50
Croatian government has a clear vision for the development of the health care system	1.91	2.00	2.00	0.83	1.00
Croatian health care system is well regulated	2.53	3.00	3.00	1.01	1.00
Croatian health care institutions are well organised	2.50	2.00	2.00	1.00	1.00
Croatian health care system provides a high level of service	3.43	4.00	4.00	1.07	1.00
Croatian physicians are competent	3.67	4.00	4.00	0.93	1.00
Croatian medical staff is doing a good job	3.56	4.00	4.00	0.93	1.00
Croatian health care institutions are adequately equipped	2.54	2.00	2.00	0.95	1.00
Croatian health care system does not lag behind those of developed countries	2.40	2.00	2.00	1.03	1.00
Croatian health care system is stable and economically viable	2.22	2.00	2.00	1.00	1.00
The current model of health care financing should not be changed	2.34	2.00	2.00	0.99	1.00
Privatisation of the health care system should be encouraged	3.23	4.00	4.00	1.33	2.00

Mean ranks were then calculated to compare the responses of participants grouped according to the characteristics of the firms in which they work (Table 3). Lower mean ranks correspond to lower levels of agreement. In most cases, lower mean ranks were obtained for respondents working in private and retail firms. Furthermore, according to the mean ranks, the lowest level of agreement with five statements was observed in the group of employees of wholesalers and pharmacies with 11 to 100 workers. Persons working in firms with more than 100 employees exhibited the lowest level of agreement with the same number of statements. Compared to the other two groups, employees of firms that derive less than 70% of their revenue from the CHIF reported the lowest level of agreement with 6 statements.

Table following on the next page

Table 3: Mean ranks

Statement	Type of ownership		Type of sale		Number of employees			Share of revenue derived from the CHIF		
	Private	Other	Retail	Wholesale	10 or fewer	11 – 100	More than 100	Less than 70%	70% – 90%	90% – 100%
Croatian health care system is efficiently managed	54.74	61.32	55.05	58.51	56.94	63.46	49.42	54.00	55.96	64.57
Croatian government has a clear vision for the development of the health care system	53.34	65.13	54.95	58.64	58.22	59.05	52.93	53.77	54.87	69.60
Croatian health care system is well regulated	55.73	58.60	52.24	62.39	57.22	56.13	56.41	59.16	53.23	63.80
Croatian health care institutions are well organised	54.57	61.77	54.84	58.80	58.24	54.00	57.85	56.91	54.05	65.67
Croatian health care system provides a high level of service	58.71	50.47	55.84	57.41	57.61	53.69	58.55	54.33	54.79	68.63
Croatian physicians are competent	53.12	65.75	53.18	61.10	52.46	48.49	66.86	65.83	55.10	40.53
Croatian medical staff is doing a good job	54.29	62.53	52.78	61.64	46.83	51.37	67.58	60.89	55.61	49.93
Croatian health care institutions are adequately equipped	56.83	55.60	53.51	60.64	56.93	58.04	54.73	52.30	58.46	58.20
Croatian health care system does not lag behind those of developed countries	59.34	48.75	57.11	55.66	54.67	59.35	54.87	57.07	56.44	55.40
Croatian health care system is stable and economically viable	53.71	64.12	57.44	55.20	62.22	59.15	50.31	59.99	54.01	58.67
The current model of health care financing should not be changed	54.26	62.63	53.84	60.18	60.69	51.26	58.99	54.30	55.58	65.43
Privatisation of the health care system should be encouraged	61.30	43.38	58.45	53.80	63.78	63.81	44.79	48.16	61.16	56.70

The results of the Mann-Whitney and Kruskal-Wallis tests are presented in Table 4. A two-tailed Mann-Whitney test indicated that employees working in firms that are not privately owned agreed significantly more than employees of private firms that Croatian physicians are competent. In contrast, employees of private firms agreed significantly more than pharmacists working in firms that are not privately owned that privatisation of the health care system should be encouraged. The Mann-Whitney test did not reveal any significant difference between employees of wholesalers and pharmacies. The Kruskal-Wallis test indicated several significant group differences. Dunn's multiple comparison test showed that employees of firms with more than 100 workers agreed significantly more than those in firms with 11 to 100 employees that Croatian physicians are competent and Croatian medical staff is doing a good job. However, the first group supports the further privatisation of the health care system significantly less. The analysis also revealed that persons working in firms with 11 to 100 employees agreed significantly more than those in firms with 10 or fewer employees that Croatian medical staff is doing a good job, whereas they exhibited a significantly lower level of agreement with the statement about privatisation of the health care system. Dunn's multiple comparison test also confirmed that employees of firms that derive less than 70% of their revenue from the CHIF showed a significantly higher level of agreement regarding the competence of Croatian physicians than did employees working in firms that derive 90% to 100% of their revenue from the CHIF.

Table 4: Results of the Mann-Whitney and Kruskal-Wallis tests

Statement	Mann-Whitney test	Mann-Whitney test	Kruskal-Wallis test	Kruskal-Wallis test
	Type of ownership	Type of sale	Number of employees	Share of revenue derived from CHIF
Croatian health care system is efficiently managed	Z = -1.007 p = 0.314	Z = -0.590 p = 0.555	H = 4.510 p = 0.105	H = 1.303 p = 0.521
Croatian government has a clear vision for the development of the health care system	Z = -1.822 p = 0.068	Z = -0.632 p = 0.527	H = 0.983 p = 0.612	H = 3.272 p = 0.195
Croatian health care system is well regulated	Z = -0.427 p = 0.669	Z = -1.695 p = 0.090	H = 0.021 p = 0.990	H = 1.751 p = 0.417
Croatian health care institutions are well organised	Z = -1.077 p = 0.282	Z = -0.659 p = 0.510	H = 0.434 p = 0.805	H = 1.682 p = 0.431
Croatian health care system provides a high level of service	Z = 1.254 p = 0.210	Z = -0.265 p = 0.791	H = 0.577 p = 0.749	H = 2.706 p = 0.258
Croatian physicians are competent	Z = -1.983 p = 0.047*	Z = -1.384 p = 0.166	H = 8.724 p = 0.013*	H = 7.869 p = 0.020*
Croatian medical staff is doing a good job	Z = -1.286 p = 0.198	Z = -1.541 p = 0.123	H = 9.936 p = 0.007*	H = 1.527 p = 0.466
Croatian health care institutions are adequately equipped	Z = 0.183 p = 0.855	Z = -1.204 p = 0.229	H = 0.250 p = 0.882	H = 0.944 p = 0.624
Croatian health care system does not lag behind those of developed countries	Z = 1.595 p = 0.111	Z = 0.241 p = 0.810	H = 0.566 p = 0.754	H = 0.031 p = 0.985
Croatian health care system is stable and economically viable	Z = -1.588 p = 0.112	Z = 0.378 p = 0.705	H = 3.011 p = 0.222	H = 0.938 p = 0.625
The current model of health care financing should not be changed	Z = -1.255 p = 0.209	Z = -1.059 p = 0.290	H = 1.945 p = 0.378	H = 1.459 p = 0.482
Privatisation of the health care system should be encouraged	Z = 2.660 p = 0.008*	Z = 0.768 p = 0.442	H = 9.633 p = 0.008*	H = 3.809 p = 0.149

* Statistically significant at $p < 0.05$

Based on the results, it can be concluded that the employees of firms with different characteristics have similar opinions on the management and efficiency of the Croatian health care system. There are only a few issues in which some groups differ significantly from each other, namely, in the assessment of the competence of physicians, the quality of work of medical staff, and the privatisation of the health care system. The findings imply that there is a consensus on most issues. Thus, no matter whether the firms they work in is privately owned or not, whether it is a wholesales or a pharmacy, and regardless of the number of persons employed and amount of revenue derived from the CHIF, Croatian pharmacists are generally not satisfied with the health care system and the way it is managed.

6. CONCLUSION

Problems and challenges facing health care systems worldwide are serious. They have been further exacerbated by the economic crisis. Even in well-off societies, it has become increasingly difficult to maintain the attained level of health care, while underdeveloped countries are failing to meet the minimum health needs of their population. The disproportion between the available resources and the need for health care services has become one of the biggest challenges facing modern society. This was caused by a number of factors. Given that health care is a complex phenomenon, finding a solution is very difficult. However, this cannot be used by policy makers in the Republic of Croatia as justification for having done too little to put the health care system on a firm footing.

The problems that plague the Croatian health care system have been accumulating for years, and the activities undertaken to solve them are largely ineffective or have produced limited results. Building a health care system that will be sustainable in the long run needs comprehensive reform based on economic and ethical principles. Choosing the optimal financing model is crucial, but not the only issue that must be adequately addressed. An important step in this process is understanding the viewpoints and interests of health care stakeholders. Pharmacists are one of the key stakeholders. As health care providers, they are a valuable source of information about the health care system. Recognizing this fact, the present study explores the attitudes of employees of Croatian wholesalers and pharmacies towards the management and efficiency of the Croatian health care system. The paper also looks at the issue of health care financing, as well as pharmacists' views on privatisation as a possible solution to the problem. It appears from the responses of the employees surveyed that they are mainly dissatisfied with the way the health care system has been managed. Only the level of service, the competence of the physicians, and the quality of work of the medical staff were rated slightly more positively than the other items. Furthermore, they have expressed their dissatisfaction with the current financing model, and find the idea of privatisation of the health care system acceptable. The study also found that, with a few exceptions, and regardless of the different characteristics of the firms they work in, Croatian pharmacists have similar, mostly negative views of the Croatian health care system. Further research is needed to gain an insight into the attitudes and identify the needs and expectations of all relevant health care stakeholders.

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EFFECTIVE MANAGEMENT OF CORPORATE IMAGE IN ACHIEVING CUSTOMER LOYALTY IN THE NIGERIA BANKING INDUSTRY

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ABSTRACT

This study looked at whether the effective management of corporate image influences customer loyalty. Kendall's tau_b correlations coefficient was used to test the hypothesis formulated. Findings were arrived at from individual facts provided by sampled customers of the 23 commercial banks in the Nigeria banking industry through the use of questionnaire. The finding of the study reveals that there is a strong positive correlation between corporate image and customer's loyalty. The study also reveals that effective corporate image can improve an organization's productivity through continued patronage as a result of customer loyalty. Thus, an effective corporate image of a bank can actually influence the customers' loyalty to the bank. Therefore, the study recommended that since customers' satisfaction is of vital importance, sound relations with the firms' special publics, such as customers, employees, suppliers, shareholders, government, etc, is indispensable since customers are the banks most valued assets.

Keywords: *Banking industry; customer loyalty; corporate image; customers; effective management*

1. INTRODUCTION

Corporate image and customer loyalty are the two variables or concepts to be effectively investigated in this research to establish a theory of their interdependency through which the research question and objectives that would be defined can be answered. Consequently, the overall focus of this study is to examine if there is any significant relationship between corporate image and customer loyalty as well as to determine if efficient corporate image management can improve an organization's productivity. In addition, the study seeks to find ways at which a company can supplement loyalty through the effective management of the aspects of its corporate image that has been defined as a result of a formed consciousness in the psyche of its customers. Thus, the focal aim would be to prove as to whether or not the positive perception of the brand (firm) would help position the company to encourage strong customer loyalty. In today's severe competitive markets, differentiation between organizations in terms of price, product and/or service characteristics and the value of the delivery system is difficult as suggested by Abd-El-Salam et al. (2013). It is projected that the outcomes and findings of this study would be helpful to companies, especially firms in the banking industry in achieving strong customer loyalty from their customers. In addition, it would serve as a reference guide for the marketing manager in any company to aid decision making on effective management strategies for a corporate image that will at the same time help create the right corporate repute which is imperative for customer loyalty. It has been put forward that customers who perceive service quality over repeated service encounters have an overall favourable image of the

organization, and this image helps form an emotional attachment (Aaker, 2004). In addition, Positive brand image (favourable image) is proposed to be a value-relevant intangible asset, specifically, a “structural asset” as described by Lev (2000). Based on what has been asserted above some critical questions can be drawn as to the relationship between a good corporate image and loyalty. These research questions are stipulated and are aimed to be answered by this research: Will effective corporate image have an improvement in an organization’s productivity? Will a good corporate image of a bank actually influence the customers’ loyalty to the bank?

2. LITERATURE REVIEW

As pointed out earlier, corporate image is tied with the company’s overall performance, which is a direct responsibility of management. Managing an organization’s image demands a more rational approach hence the need for suggestions as to know how the organization can enhance its performance through better management of its corporate image. While some organizations have a clear and specific image with which they want to be identified with, others may not have but consciously agree upon target image as postulated by Agbonifoh and Oshagbemi (2007). Corporate image management focuses on the very heart and soul of the organization, even to the extent of evaluating why the organization exists and determining the organization’s key purposes (Obasan, 2012). It represents one of the highest levels of functional control of the organization. Perhaps more importantly, its value as a management tool as postulated by Obasan, (2012) is greater because it provides a mechanism for the organization to differentiate itself from competition; create recognized added- value to the products and services marketed or delivered by the organization; and attract and maintain customer relationships in order to prosper in an increasingly competitive and constantly changing global marketplace. Corporate image management, therefore, also represents the highest level of brand personality and characteristics that can be created and communicated to customers and marketing partners (Obasan, 2012). It is argued however that corporate image is what comes to mind when travelers hear the name of a place, a hotel or a restaurant. Tang, (2007) describes the corporate image as the consumer’s response to the total offering and is defined as the sum of beliefs, ideas, and impressions that the public has of an organization. It is related to a business name, architecture, a variety of products or services, tradition, ideology, and to the impression of quality communicated by each person interacting with the organization’s clients. Corporate image may be considered as a function of the accumulation of purchasing/consumption experience overtime and has two principal components: functional and emotional. The functional component is related to tangible attributes that can be easily measured, while the emotional component is associated with psychological dimensions that are manifested by feelings and attitudes towards an organization. These feelings are derived from individual experiences with an organization and from the processing of information on the attributes that constitute functional indicators of image. Corporate image is, therefore, the result of an aggregate process by which customers compare and contrast the various attributes of organizations as described by Tang (2007). In the process of managing corporate image, the fundamental variables according to Encyclopaedia of Business (2014) are corporate identity, corporate communication, corporate image, and feedback. Corporate identity is the reality of the corporation—the unique, individual personality of the company that differentiates it from other companies. Corporate communication is the aggregate of sources, messages, and media by which the corporation conveys its uniqueness or brand to its various audiences. Corporate image is in the eye of the beholder—the impression of the overall corporation held by its several audiences. The objective in managing corporate image is to communicate the company’s identity to those audiences or constituencies that are important to the firm, in such a way that they develop and maintain a favourable view of the company.

This process involves fashioning a positive identity, communicating this identity to significant audiences, and obtaining feedback from the audiences to be sure that the message is interpreted positively. An unsatisfactory image can be improved by modifying corporate communication, re-shaping the corporate identity, or both. (www.referenceforbusiness.com).

2.1. Review of Prior Studies

Several researchers have suggested that image has a positive impact on profitability. A good corporate image is a major promotional tool which refers to building good relationships with the company's public by obtaining favourable publicity and handling or heading off unfavourable rumours, stories, and events. Zins, (2000) and Kandampully & Suhartanto, (2000) identified a disparate group of leaders of successful organizations who enjoyed a unique and sustained competitive advantage by showing greater concern for customers which was achieved by focusing on building strong relationships. Thus, good corporate image and perceived good relationship are important variables that help customers understand the process, recall and recognize information because the customers benefit in other ways from long-term associations with the organization. The perceived relationship benefits add to the perceived value of the product because the relationship is strengthened when customers perceive benefits beyond their satisfaction with the core product. Also, relational benefits have an indirect effect on customer loyalty via perceived value which positively influences loyalty. According to Kwon and Lennon, (2009), customers believe that their purchase behaviour is influenced by ethical and unethical corporate actions. Researchers from the organizational behaviour discipline define a corporate image as the internal members' belief about outsiders' perception of an organization. Martineau (2000) cited in Adeniji, Osibanjo, Abiodun and Oni-Ojo (2015) associated the image of an organization with the self-image of an individual customer, suggesting a model of how image affects patronage that people become customers where the image of the provider is similar to the image they have of themselves. Studies on corporate image have generally focused on the effect of advertising, corporate logo, brand preference or interaction with employees (Davies & Chun, 2002 and Chun and Davies, 2006). Kennedy, (2001) cited in Adeniji, Osibanjo, Abiodun and Oni-Ojo (2015) showed the effects company employees have on external image irrespective of what their employer might desire. Also, Bernstein, (2004) argued that the image the customer perceives cannot be separated from the reality of the customer's experience. Hsieh and Kai Li (2008) identified three factors for creating permanent relationships with customers as conversational reciprocity, reciprocal empathy and reciprocal vulnerability which are said to be effective via messages that allow information to flow and trust to build. The links between image and financial performance may not be direct but may be influenced by other variables, such as gaps between image and identity, service offering and customer satisfaction, employee satisfaction cum customer loyalty and gaining competitive advantage. These intervening variables may be antecedents or consequences of a corporate image, which may lead to good financial performance in the long-run.

3. MATERIALS AND METHODS

The research seeks to establish from the comprehensive analysis of data gathered the relationship between effective corporate image and customer loyalty. The responses from the questionnaires distributed to the various participants serve as the source from where the quantitative data is extracted. The population of this study consists of the customers of all commercial banks in Nigeria. Essentially, this study is based on cross-sectional survey design. Cross-sectional survey design for this study is justified on the ground that the researcher adopts a onetime observation, involving proximate and ultimate variables necessary for the study. Consequently, the study adopts a random sampling method which the researcher uses to select respondents.

3 respondents were randomly selected from each of the 23 commercial banks in Nigeria, this allowed for equal representation, bringing the total of respondents to 69. Of the 69 questionnaires retrieved, 19 were not properly filled, leaving the researcher with a total of 50 questionnaires which the researcher then analyzed. Further, Kendall's tau_b correlations coefficient with the aid of SPSS 20.0 was used to test the hypothesis formulated to determine the presence of a relationship as well as the direction, strength, and association of the relationship among the study variables.

3.1. Materials and Methods

3.1.1. Presentation and Analysis of Result

Table 1: How would you rate the corporate image of the bank?

	Frequency	Percent	Valid Percent
Valid	Very high	18	36.0
	High	10	20.0
	Moderate	10	20.0
	Low	8	16.0
	Indifferent	4	8.0
	Total	50	100.0

Source: Researchers compilation (2019)

36% of the respondents rated very high the corporate image of the firm they bank with, 20% opined that the corporate image of the bank they bank with is high. Additionally, 20% of the respondents were of the opinion that the corporate image of the firm was moderate, 16% of the respondents postulate a low corporate image of the bank they bank with while 18% were indifferent.

Table 2: How would you rate your loyalty to the bank?

	Frequency	Percent	Valid Percent
Valid	Very high	20	40.0
	High	6	12.0
	Moderate	10	20.0
	No Loyalty	5	10.0
	Indifferent	9	18.0
	Total	50	100.0

Source: Researchers compilation (2019)

40% of the respondents' loyalty to the firm they bank with is very high, 12% have high loyalty for the bank they bank with. Further, 20% of the respondents were of the opinion that their loyalty was moderate, 10% of the respondents show no loyalty to the bank they bank with while 18% were indifferent. For purposes of the present study:

- r values between 0.1 and 0.5 indicate that the relationship is "weak"
- r values between 0.5 and 0.9 indicate that the relationship is "strong"
- r values greater than 0.9 indicate that the relationship is "extremely strong"

This is irrespective of direction (\pm) that may occur.

Also, since correlation coefficients range from -1.00 to +1.00, a correlation of -1.00 tells you that there is a perfect negative relationship between the two variables. A correlation coefficient of +1.00 tells you that there is a perfect positive relationship between the two variables. A correlation coefficient of 0.00 tells you that there is a zero correlation, or no relationship, between the two variables.

Table 3: Kendall's tau b Correlations Test Analysis

			Corporate image	Customer loyalty
Kendall's tau_b	Corporate image	Correlation Coefficient	1.000	.927**
		Sig. (2-tailed)	.	.000
	Customer loyalty	N	50	50
		Correlation Coefficient	.927**	1.000
		Sig. (2-tailed)	.000	.
		N	50	50

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

Table 3 shows the correlation statistics for the variables. The correlation coefficient as seen above shows a correlation value of 0.927, this indicates a strong and positive correlation between the variables

3.2. Findings

In view of arriving at finding ways at answering the research questions that will thus aid in satisfying the main objective of the study (which is to determine whether there is any relationship between the corporate image and customer loyalty), Kendall's tau_b correlations technique was used to test if there is any relationship between the variables. The test result shows a 92.7% relationship between the variables. This implies that there is a strong and positive relationship between corporate image and customer loyalty. The finding shows that effective corporate image can improve an organization's productivity by continued patronage as a result of customer loyalty. Thus, an effective corporate image of a bank can actually influence the customers' loyalty to the bank.

4. CONCLUSIONS AND RECOMMENDATIONS

This Based on the findings, it is imperative to note that the long-run rationale for a favourable corporate image is such that an image produces a climate conducive for growth and improved earnings. Since customer's satisfaction is of vital importance, sound relations with the firms' special publics, such as customers, employees, suppliers, shareholders, government, etc, is indispensable since customers are the banks most valued assets. A bank can only hope to achieve loyalty if they are able to build an image through a number of factors which incorporates both emotional and functional facets; such as lower transaction rates, openness and transparent in their promotions to customers and better customer service especially in the area of customer relationship i.e. friendliness, individual treatment, and respect.

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CLS SYSTEM AND ITS CONTRIBUTION TO MINIMIZE THE RISK OF SETTLEMENT OF CURRENCY TRANSACTIONS

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ABSTRACT

With the contribution of modern technology and market globalization, foreign exchange trading is no longer limited to the physical exchange of money in a stall on the street market. Thanks to the location of the world's financial centers in different time zones it is now possible to trade 24 hours a day in the world foreign exchange market with almost all world currencies. Given the volume and scale of trading, it is vital to ensure proper coordination of all stakeholders, business partners and their banks. Correct settlement of all business requires precise process structure and high level of automation. The world's most widespread currency settlement system is the Continuous Linked Settlement (CLS). In the first part of the thesis, we briefly defined the general risks associated with the settlement of foreign exchange transactions. The second chapter of this article was devoted to a general description of the functioning of clearing systems and their brief overview. The third chapter deals directly with the CLS system. We have devoted a detailed description and definition of its function. In the last chapter we have mentioned advantages of application of this system. We consider the greatest added value of our article to be a summary of the benefits of continuous linked settlement (CLS) and its impact on trade settlement risks.

Keywords: *CSL, Continuous Linked Settlement, Risk*

1. GENERAL RISKS OF TRADES SETTLEMENT

Banks are business entities, but they have a special meaning and role in national economies. Banking institutions can be classified as financial intermediaries, which are involved in allocation of excess liquidity among entities [2]. There are several ways to settle individual currency trades. Exchange trades are settled through automated clearing exchange systems. Due to their automation and execution speed, they are considered a safe way of execution [1,10]. The problem is that foreign exchange transactions are mostly conducted on over-the-counter (OTC) markets. Here, it is necessary to manually process individual orders by internal processes of business entities also associated with the transfer of specific financial amounts according to individual transactions. The overall risk of such a settlement is composed of three basic potential risks [3,12,14]:

- misspell or other human error when processing the payment,
- error resulting from late payment processing and non-compliance with payment deadlines,
- the default of the business partner before receiving its counterpart in the agreed trade

The main objective of introducing new automated process systems is to generally increase efficiency and minimize the risk of such a settlement process [4,11]. There are several examples in our history where counterparties have suffered great damage as a result of the suspension of one of the trading parties [13,15].

The first is Bankhaus Herstatt, which was founded in 1955 and has become one of Germany's largest private banks over the next 20 years. It owned assets of EUR 2 billion. However, its total annual turnover of currency transactions amounted to EUR 60 billion. German Marks. In 1974, the German state regulator, the Bundesaufsichtsamt für das Kreditwesen, decided to terminate its activities. The regulator's decision was announced on 26 June at the end of a business day in Europe with immediate effect. For most world currencies, while trading and settlement has been completed, trading in the US dollar has only begun. Bankhaus Herstatt had no direct representation in the US and the US Chase Manhattan Bank was responsible for the settlement of its dollar business. Due to the decision of the German regulator, Chase Manhattan Bank immediately stopped the execution of all payments from the accounts of the German bank. Payments of 620 mil. USD. In simple terms, this meant that Bankhaus Herstatt, when trading currency pairs, received foreign currencies on its accounts, but did not pay the corresponding consideration in US dollars. In this way, its business partners incurred considerable damage, which they subsequently tried to minimize through the liquidation of the bank. This fact remained deep in the memory of bankers, and the risk of foreign currency failure due to the bankruptcy of one of the business partners is also known as Herstatt risk. The second example in recent history, when business partners lost their money due to the lack of settlement of currency transactions, is the case of the German bank KfW Bankengruppe. The Bank was established in 1948 as part of the Marshall Plan to fund the reconstruction of war-torn Germany. To date, the Bank has been providing loans for development and reconstruction worldwide. In 2008, she suffered from her currency business with Lehman Brothers and was forced to write off significant losses. On 15 September 2008, the banks entered into a swap transaction between them where KfW Bankengruppe was to pay EUR 319 million to Lehman Brothers, for which it was to receive USD 411 million in return. However, the same day Lehman Brothers declared insolvency, to which KfW Bankengruppe was no longer able to respond in time and paid its part of the agreed FX swap. Lehman Brothers' accounts were subsequently blocked, and therefore KfW Bankengruppe did not receive the equivalent of its USD payment [3,14].

2. AUTOMATED SETTLEMENT SYSTEM

These are systems that provide the infrastructure for multilateral exchange and settlement of monetary payments and securities between financial institutions and were listed on the so-called systemically important facilities by the US Financial Stability Oversight Council (US FSOC) on 18 July 2012. financial market utilities (FMUs). Systemically important financial market facility status is assigned to each settlement system in cases where the failure or interruption of FMU functionality may create or increase the liquidity risk of individual institutions. Consequently, such a situation could have a negative impact on the whole market and jeopardize the stability of the whole financial system. Payment systems, securities depositories or central counterparties are tactically classified as FMUs. They form the basic infrastructure for the settlement of securities transactions, thanks to which the financial markets can effectively fulfill their function. The aim of these systems is to reduce the risk of systemic market failure and to ensure the financial stability of operators.

2.1. Overview of financial market utilities (FMUs)

- **The Clearing House Payments Company, L.L.C.**, as the operator of the Clearing House Interbank Payments System, which is used to settle large USD payments in real time [17].
- **CLS Bank International**, as the operator of the CLS System, which ensures settlement of foreign exchange transactions on the principle of payment against payment [17].
- **Chicago Mercantile Exchange, Inc.**, as the operator of the CME Clearing system, which is used as a central multilateral settlement system for futures, options and swap contracts [17].

- **The Depository Trust Company (DTC)**, a subsidiary of The Depository Trust & Clearing Corporation (DTCC), is a central securities depository operating a stock settlement system, corporate bonds, city bonds, and other financial instruments [17].
- **Fixed Income Clearing Corporation (FICC)**, a subsidiary of The Depository Trust & Clearing Corporation (DTCC), consists of the Government Securities Division (GSD) and the Mortgage-Backed Securities Division (MBSD). Both act as central counterparties to US state organizations, while ensuring trade settlement for them [17].
- **ICE Clear Credit L.L.C., (ICC)**, operates a standardized credit-default swap (CDS) settlement service [17].
- **The National Securities Clearing Corporation (NSCC)**, a subsidiary of The Depository Trust & Clearing Corporation (DTCC), acts as a central counterparty in the settlement of US equities, corporate and municipal bonds, publicly traded funds and investment securities [17].
- **The Options Clearing Corporation (OCC)** provides a central counterparty for the settlement of US options, futures and futures options [17].

3. CONTINUOUS LINKED SETTLEMENT – CLS

3.1. Establishment of CLS system

The impetus for establishing an automated currency settlement system came from the concerns of regulators. The system was set up by foreign exchange market makers, national banks, commercial banks as well as major traders who, after Bankhaus Herstatt's collapse, tried to minimize the risk of foreign exchange settlements. 39 international banks merged to establish the CLS Group in 2002, whose primary activity was to settle currency transactions from day one. The system was launched on 9 September 2002. Continuous linked settlement is a system designed to settle currency transactions within the 17 most liquid currencies in the world. Since 2002, the CLS system has become the basis of the foreign exchange market. The original 39 founding banks were gradually joined by another 24 CLS market members, along with 16,000 indirect market participants. Since the introduction of CLS, the number of settled trades has risen from an average of 5,700 per day to an average of 800,000 per day, and daily turnover has increased from an average of \$ 53 billion per day in the first three months of the system to over \$ 5 trillion in 2015. The CLS Group is also working closely to further develop financial settlement options, including the establishment of an automated DTCC - Depository Trust & Clearing Corporation in 2007. With the increasing amount and value of currency transactions, there was also a demand for an even higher degree of automation. To increase the security of business processing, CLS uses the counting of all movements for all partners into only one payment. CLS calculates all movements within a single currency, and client account movements are limited to only one transaction per currency, instead of separately settling each transaction. This reduces the need for additional liquidity in addition to the amount of financial movements on the account. As regulatory requirements for liquidity grow, so does the possibility of reducing the need for additional funding [5,6,7].

3.2. CLS function

The CLS Group owns a banking license that allows it to perform a range of operations on client accounts. All trades are settled through these client accounts held by shareholders, CLS members. They then offer the possibility of settling currency transactions to their clients, in which currencies act in the CLS system environment. Each transaction must be concluded between two counterparties wishing to buy / sell foreign currencies. Trades are negotiated directly by the traders, either through various trading platforms, by telephone or other form of mutual communication. When concluding a trade, both parties know the volume of purchase of one currency, the volume of sale of the opposite currency, as well as their mutual exchange

rate. This data, together with the trade date, the trade settlement date and the exact name of both parties (trade participants), is subsequently provided to the banks of both parties to the trade. Each business partner informs his bank individually. If the bank is directly a member of CLS, the receipts from both sides of the transaction will be paired immediately in the Continuous linked settlement (CLS) systems. If the bank is not a CLS member, it will provide the transaction information to the bank, the CLS member who provides access to the system. The CLS trade itself will be paired after receipt of the receipts [8,9].

4. CONTRIBUTION OF CLS TO MINIMIZE THE RISK OF SETTLEMENT OF CURRENCY TRANSACTIONS

CLS Group operates the largest currency settlement system. It can be used by all group shareholders and their clients. Settlement of currency transactions through the CLS system plays an important role in trading currency pairs by limiting the risk of settlement, erroneous settlement or unrealized settlement of transactions in 17 world currencies. Since the introduction of CLS, the number of settled trades has risen from an average of 5,700 instructions per day to an average of 800,000 instructions a day, and daily trading turnover has increased from an average of \$ 53 billion a day to more than \$ 5 trillion in 2015. The role of CLS settlement in maintaining financial market stability was highlighted in July 2012, when the US Financial Stability Oversight Council (US FSOC) placed CLS Bank and other organizations among the so-called systemically important financial market facilities (Financial market utilities, FMUs). The US Financial Stability Supervisory Board, under the 2010 Dodd-Frank Eighth Rule, was mandated to create a list of such systemically important financial market facilities. FMUs include tactical payment systems, securities depositories or central counterparties. They form the basic infrastructure for the settlement of securities transactions and other financial transactions, allowing financial markets to function effectively. The system proved its worth in the crisis year of 2008, when, despite distrust in the capital markets, it was able to execute currency transactions in a standard and safe manner. Strong growth in foreign exchange market turnover combined with risky bank settlement creates room for growing concerns about the systemic stability of the entire currency market. The introduction of the CLS for the settlement of foreign exchange transactions contributes to limiting this risk and directly minimizing it. CLS was able to limit the risk associated with the settlement of currency transactions through banks by introducing a "pay-to-pay" mechanism. Since CLS became operational in 2002, its scope as well as the number of affiliates has been increasing [8,9,16].

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CORE CONCEPT OF BUSINESS TRANSFORMATION: FROM BUSINESS DIGITIZATION TO BUSINESS DIGITAL TRANSFORMATION

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ABSTRACT

The aim of this paper is to highlight the history and development of digital transformation of business organizations. The process of digital transformation is differently introduced in certain industries. Industries arising from the production of physical goods were forced into the process of digital transformation adapting the manufacturing process from the foundation. Industry services were less demanding and quickly adopted the effects of digital transformation. Industries that emerged as a product of global digital transformation go through digital transformation as a common manufacturing process. The process of digitalisation and digital content production to digital transformation of production required a complete change of managerial paradigm. In this process, the fundamental difference between digital optimization and digital transformation is often lost. In this paper we will emphasize the fundamental differences between parts of the business process from digitization to ultimate digital transformation.

Keywords: *digitization, digitalization, digital optimization, digital transformation*

1. INTRODUCTION

The process of digital business transformation began in the middle of last century. Initially, digitalization focused on reducing paper patterns and reducing business costs. With the development of the Internet and the convergence of business processes, business digitalization gained a strong momentum. The initial form of business digitization is recognized as a process of digitization or reduction of the use of paper forms of business. This is complemented by digitalization that goes a step further and the entire business is based on the production and use of digital records and the production of digital content. The path to digital transformation has led through digital business optimization. Digital business optimization is geared to better utilizing existing resources as well as lowering production costs. Digital transformation upgrade is to digital optimization, but not just a continuation of optimization because it requires a change of management paradigm and strategic management. Unlike optimization focused on the current business process, digital transformation requires answers to the issues and strategic future of the organization. The importance of digitization and digital transformation is recognized precisely by covering all forms of organizations, whether they are profitable or not, as well as the entire society.

2. KEY FINDINGS

Digital transformation is not necessarily about digital technology, but about the fact that technology, which is digital, allows people to solve their traditional problems. And they prefer this digital solution to the old solution (Patel 2019). In fact, digital transformation is business transformation. Some prefer to use term digital business transformation, which is more accurate as it places greater emphasis on the business aspects of the transformation. These digital business transformations are influenced/driven by the following factors: business strategy, technology innovation, customer behaviour and expectation, as well as some external environmental factors (Gilchrist 2018). Digital optimization is the process of using digital technology to improve existing operating processes and business models (Patel 2019).

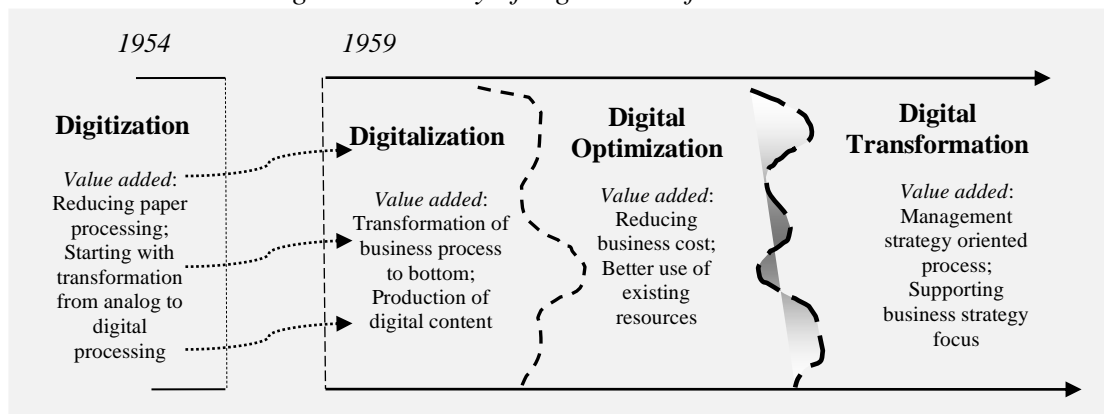
Drivers of digitalization include digital technology breakthroughs; changes in people's behaviour, attitudes and expectations; comparatively low barriers to entry; and the availability of huge amounts of venture capital (Schreckling, Steiger 2017: 5). The transformation of business and organizational activities, process, competences and models to fully leverage the changes and opportunities of a mix of digital technologies that aligns with organizational strategy with present and future shift in mind (Gilchrist 2018). To maintain their competitive edge companies have to fully embrace digitalisation not only by making the best use of the latest digital technology but also by integrating digital innovations as key elements of their development strategies (Bacquet, J.; Riemenschneider 2017). Many digitalization projects are driven by technology and not an overreaching business that is part of the overall enterprise's coherent business strategy. Letting technology drive the transformation is putting the cart before the horse, as such we end up with many individual points solution that may well create value for the business units involved but contribute little in value to the business strategy (Gilchrist 2018). Most notably; Meg Whitman, then CEO of eBay, once proclaimed to a journalist that "my Monday morning meeting is my strategy". Ironically, Whitman previously served as VP of Strategy at Disney where it was her job to do much more than hold a weekly meeting (Haneback 2019: 3). But then, traditional way of business is still not efficient in today's world and time (Robertson 2018). You start from a strategic framework for business to identify and define the right opportunities while thinking about digital transformation (Caudron, Peteghem 2014). Consequently, the discussion and initiatives that promote the digital transformation of factories are increasing between researchers, industries and policy makers around the world (Ibarra et al. 2019). But today the successful technology organization is a management organization, not a development organization. It does not create. It applies, exploits and optimizes (Andriole 2018: 100).

3. FROM DIGITIZATION TO DIGITAL TRANSFORMATION

The terms digitization and digital transformation are synonymous for many executives. The problem is that even the providers often make an unclear definition of the terms and it degenerates into a buzzword, which is simply misused for marketing (Talin 2019). Digitization is process of converting something to digital form. The first known use of term digitization was in 1954 (Merriam-Webster Glossary). Digitization is the process of changing from analog to digital form, also known as digital enablement. Said another way, digitization takes an analog process and changes it to a digital form without any different-in-kind changes to the process itself (Dictionary.com). Digitization is the oldest expression that has appeared. Although in the language distinction it is not quite clear how to distinguish it from the term digitization. But in the context of the business process that term is much clearer. Digitization refers to simplified transmission of content from analog to digital record. The concept of digitization occurs in the middle of the last century as well as the development of the first computers. The digital binary technology enabled the conversion of paper records into digital content. The appearance of the computer technology in the middle of the last century some theorists associate with the Third industrial revolution. Though about this question are divided. If we look at it in the context of digitization, we cannot speak of a "revolution" because the underlying production process continued to follow the rules that came about after the Second Industrial Revolution. Digitalization has just made it possible to improve the process. About the Third industrial revolution, Rifkin speaks only after leaving the oil age, it is just now in the 21st century. Digitization essentially refers to taking analog information and encoding it into zeroes and ones so that computers can store, process, and transmit such information (Bloomberg 2018). Digitization means pass a process to digital format that could reproduce the process as it is (AS-IS) or it could improve what is already being done to include some optimization of the process.

Often, companies indicate that they have been digitized (understood as "Digitization") justifying that they have reduced or eliminated almost 100% of the paper[...] (Robledo 2017). Digitization is creating a digital (bits and bytes) version of information that is originally in analog/physical form (paper documents, images, sounds etc.), so that it could be used by a computing system for processing, storing and sharing (Garge 2018). We can conclude that the term digitization is solely linked to the technological process of convert analog to digital content.

Figure 1: History of digital transformation



Source: Own illustration

Interpreting the term digitization often overlaps with the term interpretation of digitalization because it seizes the root of the same word. Additionally, they make the same process or transform from analogue to digital format. The business dictionary states how the term digitalisation interprets as integration of digital technologies into everyday life by the digitalization of everything that can be digitized. Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business (www.gartner.com). The term digitization was first mentioned in 1959 (Merriam-Webster.com) and entered into day-to-day application. The period between the occurrence of the term digitalization and the term of digitization is not strictly defined. Digitization refers to "the increasing penetration of digital technologies in society with the associated changes in the connection of individuals and their behaviours (Gimpel, Roglinger 2015). The term digitization differs from the term digitalization precisely in the way of using technology in the business process. For business the only reasonable reaction to persistent digitization is digitalization. "Digitalization" or "to digitalize" can be defined as "the use of digital technology to change a business model and provide new revenue and value-producing opportunities; it is a process of moving to a digital business (Schreckling, Steiger 2017: 15). While digitization means technical use and digitalization of content, term digitalization means a change of business paradigm and relies entirely on the use of digital production models. In this context, digitalization implies a comprehensive use of digital technology on all physical products. The production of consumer goods, on the one hand, uses digital technology in production, and on the other hand is itself equipped with digital content. The whole process is digitalized. The period that has passed since the term associated with digitization and complete digitization in Figure 1 was left open. The transition from a business process defined as digitalization into a model that optimizes production mode is determined by digital optimization. IT Glossary defines digital optimization as process of using digital technology to improve existing operating processes and business models. Once digitalized, the next thing to look for is the insights from digital information across silos and figure out whether any of the existing processes can be simplified, enhanced, automated, made faster by use of digital

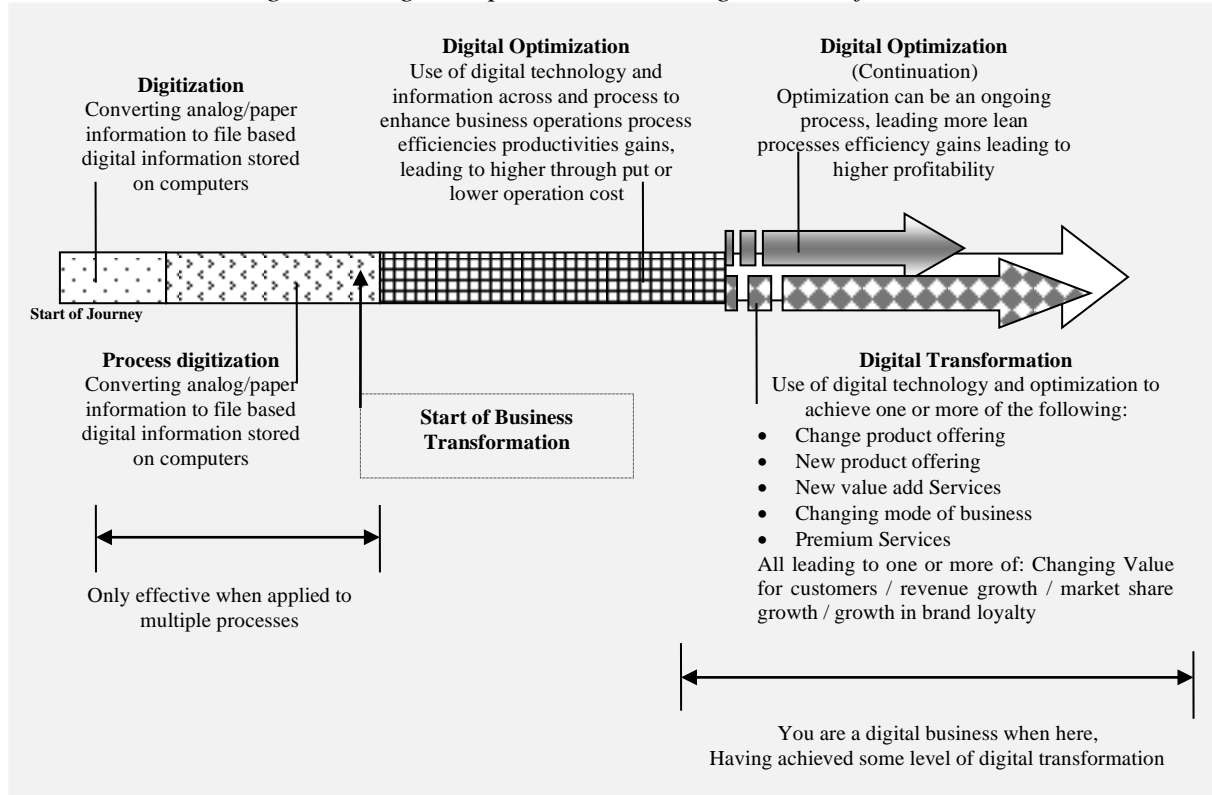
technologies, i.e., can the current ‘processes and operations’ be transformed. You are still not changing the business model, but rather optimizing yourself (Gagre 2018). Digital optimization is the process of using digital technology to improve existing operating processes and business models (Patel 2019). First, digital optimization is like grabbing the lowest-hanging fruit on the technological tree. It keeps you even with your competition, but it will never advance you past them. Second, it means you’re focusing more on your company than you are on your customer, and that will never cut it in today’s marketplace (Newman 2019). Digital optimization implies orchestrating the existing process in the direction of lowering costs and increasing production efficiency. It is aimed at building competitive advantages within the existing industry or ecosystem in a short period of time. Depending on the position of competitors in the industry or the position of competing ecosystems, digital optimization can also be used to create competitive advantage in medium-term plans. The process of transition from digitization to digitalization is based on the existing technological level. Digitalization refers to a new management paradigm within existing technological solutions. In this context, digital optimization refers to system alignment with the already existing management model and management mode. The transition from digitization to digitalization is almost open. Switching from digitization to digital optimization already implies overcoming barriers within management tools. The advent of digital optimization into digital transformation implies a complete change in management practice. In Figure 1, the transition from digital optimization to digital transformation is shown as a firm barrier to overcome. Digital transformation implies focus on the future and solutions beyond control of existing digital optimization. Artecic glossary defines digital transformation as increasing interlinking of all economic areas and with it all measures which are taken to adapt to a digitalised world, especially digital customers and markets. Digital transformation is process of creating completely new business model, and what is more important, new strategic new model of acquiring market and achieve profit zone. Digital transformation is the process of using digital technologies to create new – or modify existing – business processes, culture, and customer experience to meet changing business and market requirements (Salesforce 2018). Digital transformation is the process of integrating digital technology into all aspects of business, requiring fundamental changes in technology, culture, operations, and value delivery. To best leverage emerging technologies and their rapid expansion into human activities, a business must reinvent itself by radically transforming all of its processes and models (Hpe). Digital business transformation is the process of exploiting digital technologies and supporting capabilities to create a robust new digital business model (Gartner glossary).

4. BUSINESS OPTIMIZATION IS NOT BUSINESS TRANSFORMATION

Figure 2 shows the process of digital transformation of the organization. The process begins with digitization, and the ultimate goal is focused on digital business transformation. The beginning of the entire transformation is marked by the phase that many authors call the "start of journey". “The Digital Journey” of a business is determined by when and how a business moves from Digitization to Digitalization to Digital Optimization to Digital Transformation (Gagre 2018). Organizations that have emerged as non-native digital have passed the path of digital transformation from the very beginning. Organizations that have been created as native digital in the process of transformation have started as digitized entities.

Figure following on the next page

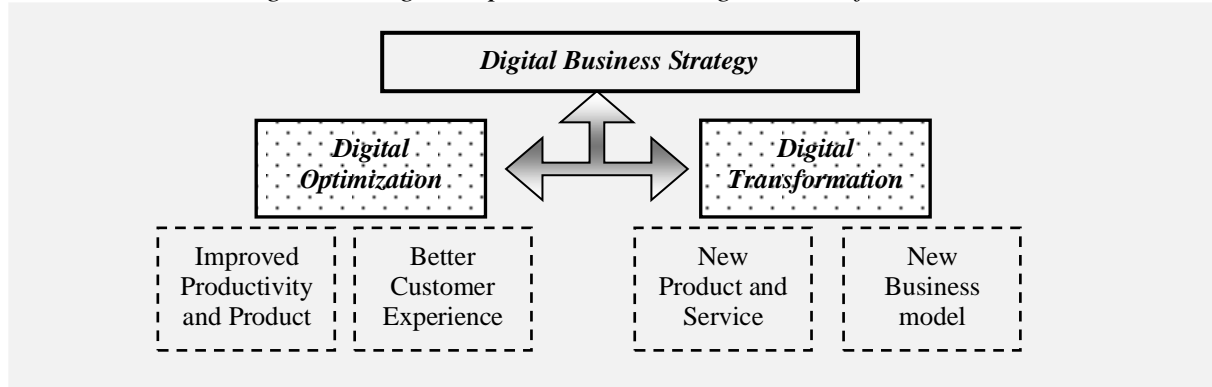
Figure 2: Digital Optimization vs. Digital Transformation



Source: Gagre, 2018

The process of business transformation begins with the transition from digitization to digitization of the production process. Digitalization implies the need to use digitized technology beyond the process of digitizing existing data in physical form. The end of the process of digital transformation is characterized by two parallel processes. Transformation, although valuable and much needed, is not easiest course, and thus many leaders fall back on a skill that falls more neatly in their wheelhouse: optimization (Libert, Back 2018). In the first, digital optimization runs as an uninterrupted process, while in the second, digital transformation sets the foundation for new forms of digital optimization. Business optimization and business transformation are continuous processes that ensure stability and organization progress. Once achieved optimization is only the basis for the continuation of transformation. The results of business digital transformation at one point will require a strictly controlled process of business optimization. However, the question arises as to why some organizations do not exploit the results of optimization or transformation results. Digital optimization improves efficiency and effectiveness of a current business model (Libert, Back 2018). Digital optimization adjusts the results of existing business practices and focuses on business efficiency. Changes introduced into the business process are associated with incremental innovations and building an organization without answers to changes in the environment. Business model transformation is about boldly and dynamically changing the way capital is allocated and deployed by the organization, to generate better returns. By “capital”, we mean not just money, but also talent, ideas, things and relationships (Libert, Back 2018). Business digital transformation implies a disruption of the existing framework in which the organization operates. Unlike optimization that focuses on efficiency and incremental advances in production and sales of existing products, digital transformation focuses on building new products, markets and customers. Digital transformation is one-way transformation, while in the other direction moderate the radical innovation of the process.

Figure 3: Digital Optimization vs. Digital Transformation



Source: Patel, 2019

Patel (2019) precisely separates the process of digital optimization from the digital transformation process. At the heart of the process is the digital business strategy. Figure 3 shows the fundamental differences between these two processes. Digital optimization improves existing business processes and customer relationships. Digital transformation directly affects new products and services as well as the construction of brand new business models. Patek (2019) also calls on the Garner Enterprise Architecture (EA) Summit 2018 survey, and points out that 46% of the existing efforts focus on business optimization and 54% in the direction of business transformation. A digital business can be defined as one that creates “new business designs by blurring the digital and physical worlds (Schreckling, Steiger 2017: 15). This process is known as the blurred borders of the organization. In other words, what are important are not the digital technologies themselves. The real focus is on transforming the business; technology only serves to support the new business model (Wade et.al. 2018). Digital transformation is based on the management strategy of the organization's development. But, at the same time, it focuses on new technologies that will enable the organization to get concrete advantages. The use of modern technology deletes precisely defined business scope limits. Disruptive companies are blurring industry boundaries. [...] Disruption is about combination of technology and business model innovation. Digital disruptors create value in three fundamental ways: a) cost value (by offering the same product or services cheaper or even free); b) experience value (by focusing on customer satisfaction); and c) platform value (where customers gain more value from wider network) (Wade et.al. 2018). The upshot is that boundaries between companies and specific sectors are now increasingly blurred (Strecker, Kellermann 2017: 62). Blurred boundaries of the organization, resulting from the digital transformation, enable the organization to switch to platform-based business and use the ecosystem's effects beyond the boundaries of existing industries. The combination of multiple business models is captured as a digital vortex. It would be simpler to define it as a whirlwind that encompasses all the technological benefits of organizations that create new value and provide competitive advantage over rivals.

5. DISCUSSION

Digital transformation is a process that supplements the previous phases of digitization and digital optimization. Real digital transformation is about breaking down these barriers, removing the constraints imposed by outdated logic, and leveraging technology to create new revenue streams, drive down costs, and enhance the user experience (Herbert 2017: 16). Organizations that started operations as producers of physical products were forced to go through the entire process of digitization until the final stages of digital transformation. For researchers in this area, focus of research is focused on transformation models aligned with each industry within which transformation took place. Albanese (2018) cites several examples of successful digital transformation of organizations that have started as physical

product manufacturers. "The New York Times" is one of the examples of a producer of physical gadgets who suffered tremendous losses from the drop in sales, but focused on digital editions and the digital transformation process completely changed managerial management practices. Revenues from digital editions did not offset the decline in revenue from physical releases, but the 150-year tradition of publishing continued. The New York Times (NYT) went through a similar transformation. Like the music industry, newspapers witnessed unbundling due to digital technology, which resulted in the loss of a large portion of their classified advertising revenue to Craigslist, Monster.com, and others (Gupta 2018: 34). Walmart had a similar approach. While the New York Times was one of the largest newspaper publishers in the world, Walmart is the largest retail chain in the world. With the onset of sales of goods on the internet, it was forced to organize their own sales and to keep a part of the buyers who would lose due to a change in the habit of buying. The Harvard Business Review sums these efforts up nicely: "Walmart is increasingly becoming a 'digital winner', as it builds out a fast-growing ecommerce business and also leads in digital innovations when compared to other brick-and-mortar retailers" (Albanese 2018). Disney went a step further and all its fun parks were further digitized with special sensors. Similar to Nike or Under Armor's sports equipment manufacturers. Sportswear and footwear are equipped with RFID sensors that connect to mobile applications. Disney bought BAMTech to access the streaming technology rather than building it in-house. Disney recently spent \$52.4 billion to acquire the assets of 21st Century Fox to be able to connect directly with consumers rather than through distributors and advertisers. These assets include some of the most famous characters from Marvel comics and a lot more. Consumer responses to digital progress have driven Disney to transform and strategize itself digitally and in a much more advanced shape. Indeed, this was a smart move to avoid being crushed by other online streaming services (Verma 2018). Porsche's automobile manufacturer followed an example of other manufacturers who introduced digital transformation into their business. Porsche has heavily invested in understanding the Porsche driver. All customer data is pulled into a central CRM data center and allocated to a unique ID. Throughout the entire lifecycle, every customer interaction at every touch point is documented. Deloitte (Professional Services) innovated themselves by founding Deloitte Digital Today, a competence center where all the technical, digital, and creative competencies come together to support their client base on their digital transformation journey (Janhsen 2018). By expanding its point of view, GE was able to launch the Predix platform, an Internet of Things platform that allows industrial machines to be monitored and optimized digitally. Analyzing trends in other industries put GE ahead of its competitors today, pulling off an impressive initiative that's already landed them the business of companies like Pitney Bowes (Claveria 2018). Digital transformation and new management strategies have directly influenced the development of production in the model of marginal costs as well as the 3D printing model. Successful realization of digital business transformation, everyday management practice re-focuses their interest on digital optimization. In this context, managers use the effects of economies of scale, platform economics, and the effects of zero marginal cost.

6. CONCLUSION

Digital transformation is a long-term process that requires focus on the ultimate strategic goal. The initial forms of digitization emerged in the middle of last century with the introduction of computers into business. The digitalization process quickly expanded and caused the first major changes in the management paradigm. Digital optimization is a process that aligns the production process with the costs and profits that the organization achieves within the industry. It is focused on incremental innovations within the existing production system. Digital transformation causes disturbing changes.

The ultimate goal is to change the existing situation and to create new production processes, new products and new markets. The successful digital transformation process is also aimed at re-launching digital optimization. Digital transformation is a continuous process that requires a clear development strategy that will provide the organization with competitive advantages.

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THE WILLINGNESS TO PAY AS A KEY FACTOR OF EFFECTIVENESS IN THE PROCESS OF PRICE SETTING

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ABSTRACT

Revision of traditional approaches to basic economic issues is becoming the imperative of effective company operation and the optimal meeting of customer needs in changing market environment. Traditional approaches, not taking into account socio-economic trends, include price formation. Its triangular concept, based on cost, competition and demand factors, should be subjected to a critical discussion. The reason is the need to take into account the psychographic aspects of pricing and their impact on company strategy. This is the reason why the issue of pricing is and will always be very topical. The aim of companies is to set the price of products at a level to be able to realize their production on the market. An important pricing method is also an estimate of consumer willingness to pay for products placed on the market. Due to the fact that willingness to pay is an important tool for pricing of each company, we have decided to demonstrate its importance in this paper. Its aim is therefore to underline the basic theoretical aspects of the willingness to pay with an emphasis on the individual methods of its determination. The aim of the paper is also the mutual comparison of the individual methods of determination of willingness to pay with the description of their advantages and disadvantages. Based on the provided literature review we discuss these methods: price sensitivity meter, Gabor-Grenger technique, conjoint analysis and so called BPTO method (The Brand Price Trade-Off method). By providing this comparative analysis, it is possible to identify suitable methodological apparatus for each type of product or service (mainly in scope of the type of buying behaviour patterns) and to create set of suggestions for the practice of pricing policy in contemporary global market environment.

Keywords: *Price, Pricing Policy, Price Setting, Willingness to Pay*

1. INTRODUCTION

With accelerating globalization, which economic aspects are the logical consequence of the increasing interdependence of individual national economies towards the end of the second half of the 20th century, the importance of company pricing policy is growing as a source of competitive advantage of companies conducting business activities on both international and national markets (Domanska, 2018). According to Berger et al. (2015) currently these markets are marked by increasing competition in the distribution of consumer goods, a decline in the number of competing companies with an increase in the number of brands, a significant reduction in the life cycle of both products and companies, the digital revolution, the rapid

increase in the number of product modifications, fragmentation of markets or fragmentation of media, which reduces the effectiveness of implemented communication strategies that are still the dominant stimulus of customer buying decisions. Bahadir et al. (2015), Efrat and Shoham (2015), Peltoniemi (2015), and so on similarly think about trends in international and national markets. These trends show a clear shift towards the need to build a stable competitive advantage based on value perception. In today's economic reality, companies choose between two ideological marketing directions. According to Ranchhod (2004), marketing managers must decide whether to implement so called recurrent marketing, the essence of which is in convince the customer that the delivered customer value of the products is still sufficiently high or to prefer so called transformation marketing, in which marketing effort is focused on searching for maximization of value delivered to the customer. We believe that the shift from value-oriented, product-based marketing to value-oriented transformational marketing becomes an imperative for business success. The proclaimed evolutionary shift should be prioritized in the enterprise's pricing policy in order to achieve an optimal market share of enterprises over the long term and a synalagmatic sustainable competitive advantage (Lizbetinova et al., 2019). The transition from the underlying principles of the theory of rational expectations to the concept of so called behavioral economics indicates that price formation based on the traditional triangular principle without adequate consideration of psychographic attributes of endogenous and exogenous character does not meet current market demands (Lee & Tsai, 2014). Gourville and Soman (2002) state that such attributes include the customer's belonging to the social stratum, his/her lifestyle and standard of living, personal characteristics, the value of the brand, the good name and the image of the company. Each of these attributes influences to varying degrees the buying decision-making process and the subjectively perceived value of the product in the context of realized pricing policy activities, which is also reflected in the resulting effectiveness of the company's comprehensive marketing strategy. Pricing based solely on cost, competition and demand factors is capable of generating a number of exceptions from the law decreasing demand. These exceptions are often the source of problems in the context of implementing and subsequently evaluating of the effectiveness of a company marketing strategy (Kivetz & Zheng, 2017). Companies, that perform pricing primarily on the basis of a combination of cost-oriented calculation principles or competitive benchmark tests, often do not achieve the desired effect in fulfilling the marketing strategy in practice (Olah et al., 2019). This is due to the fact that individual products and markets are characterized by specifics of psychographic character, which significantly influence the customer perceived price / value ratio of the product, which is the determining factor in terms of the buying decisions (Stefko et al., 2019). This does not only concern the initial pricing of the product when placed on the market, but also, in particular, the pricing activities carried out during the product's life cycle. If the price is governed, irrespective of the psychological specificities of endogenous and exogenous character, it is not possible to identify the correct price range within which price manipulation can be realized without adversely affecting the effectiveness of the marketing strategy of companies (Shpak et al., 2018). Methods that have so far been specially developed for the needs of pricing with regard to the identified need to take account of perceived customer willingness to pay are mainly: Gabor-Granger method, van Westendorp method and BPTO method. These methods take into account the influence of customer's psychographic profile on price and customer perception, but only in isolation, without taking into account interactions between these attributes and attributes of traditional triangular access. Their flaw is also that they are not subject to the impact of these attributes on the marketing strategy of companies (Sroka & Szanto, 2018). While we can see significant advances in research on product pricing or pricing strategies, many companies do not pay sufficient attention to understanding the likely consumer reaction to their price offers (Kyzenko et al., 2017). As a result, companies have insufficient knowledge of the consumer's willingness to pay for their products.

The result is then pricing strategies that are not sufficiently adapted to their marketing environment (Braidert et al., 2015). Many studies have shown that even small price changes and corresponding consumer behaviour can have a major impact on company profitability (Marn et al., 2003). There are a number of product pricing methods. One of these is the value-based pricing method, in which the willingness to pay is of great importance. If companies have estimates of the consumer's willingness to pay for specific products, it can make it significantly easier to pricing. Through these estimates, they can determine product prices at a level that can guarantee to a certain extent the consumer's willingness to pay the price for a particular product (Bartosova et al., 2015). The advantage of knowing the willingness to pay is to reduce the risk of a situation when the companies will determine prices too high and the demand for their products will be reduced (Abakumova & Primierova, 2018; Stonkute et al., 2018). In the previous survey, we have found out that there is an increasing interest in the value-oriented pricing method. Based on these results, we have decided to explore the relevance of the willingness to pay in the Web of Science database. Figure 1 illustrates the development of the number of publications devoted to the willingness to pay issue.

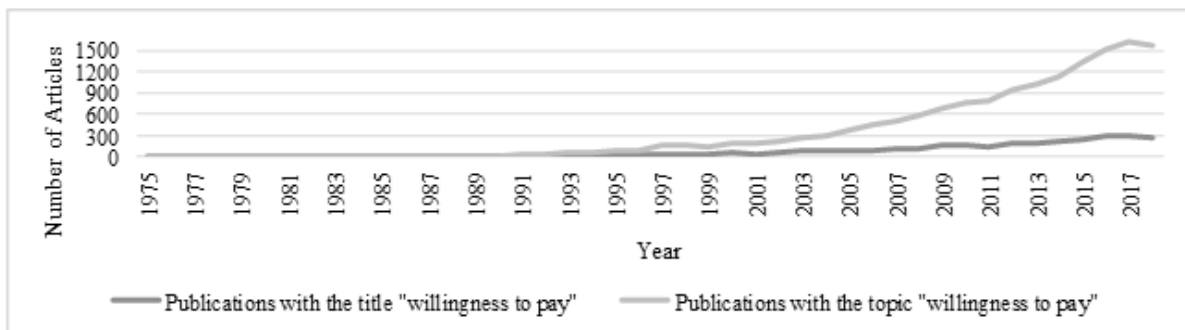


Figure 1: The development of the number of publications on „willingness to pay“ in the Web of Science database (own processing)

We can see that since 1996 interest in the issue has been growing trend in the publications, which deal with the given issue within the topic addressed in the publication as well as in the publications containing willingness to pay already in the title of the publication. Despite the increased interest of scientists in the issue of willingness to pay, there are studies on which only 8 to 15% of all companies develop their pricing strategies on the basis of the likely behavior of consumers (Monroe & Cox, 2001). There are many areas in which the issue of willingness to pay can be applied. Andor et al. (2017), based on the results of two preferential surveys, identified a willingness to pay for green electricity while monitoring its change over time. Hinnen et al. (2015) examined the consumer's willingness to pay for green products in air transport using the conjoint analysis. Petljak et al. (2017) examined consumers' willingness to pay for organic food in Croatia, finding out that there is a direct dependence between willingness to pay for the products and the amount of household income. Thompson & Plangger (2016), in their contribution, focused on examining the consumers' willingness to pay for consumer protection services on because of their privacy concerns.

2. KEY ASPECTS OF WILLINGNESS TO PAY

Willingness to pay is the highest price the consumer is willing to pay for the product (Javan-Noughabi et al., 2017). In the process of price setting, willingness to pay is a key component of consumer demand, and its knowledge is key. The product price is determined by the market, while the willingness to pay is determined by the socio-economic characteristics of consumers, their attitudes, or the intent and perception of product quality attributes (Millock et al., 2002).

Willingness to pay is positively influenced by consumer incomes, financial expectations, or the importance of consumer status or lifestyle. On the other hand, the willingness to pay can be negatively affected by consumer thrift (Frank et al., 2015). There are two methods of estimating willingness to pay, direct and indirect (Alshehhi & Olah, 2017). The difference between these two methods lies in the type of questions that are asked to the consumer. The direct method involves direct asking consumers how much they would be willing to pay for a particular product, this questioning is in the form of open questions. The direct method result is the price determined as the average of the prices given by the customers. It is essential for customers to know the product. This method is mainly used for products that are innovative and have no competition yet. The disadvantage of the method is that the subject of the query is the price of only one product. In the indirect method, companies offer consumers specific options from which they can choose specific values or a range of values that are willing to pay for a particular product (Sass, 2017). However, it is not always possible to determine the willingness to pay. Willingness to pay is a very specific and subjective variable. Also, in the case of new innovative products not yet in the market, consumers have a problem determining the value they could pay for the product. The context also affects the willingness to pay. This means that, for example, consumers are willing to pay a higher price for the same product at some luxury restaurant than in some fast food. These are facts that companies must take into account and must be able to select products where the willingness to pay is relevant in the product pricing process. These facts, however, are the reason why all methods used to determine willingness to pay are considered distorted and inaccurate (Salako et al., 2017; Ionescu, 2017). The often-used method for determining willingness to pay is the Van Westendorp price-sensitivity meter, which helps to determine the acceptable range of product price for customers, or the price space in which customers perceive the price of the product as acceptable. This method is considered to be very simple and practical, but there are still doubts about its ability to clearly denounce about the willingness to pay. This method is particularly suitable for companies offering consumer goods. There is a prerequisite for a sufficiently representative sample of respondents. The essence of the method is a questionnaire with four questions, which must have the exact order, as follows:

1. At what price would you consider the product to be cheap?
2. At what price would you consider the product to be expensive?
3. At what price would you consider the product to be so expensive that you would not consider buying it?
4. At what price would you consider the product to be priced so low that you would feel the quality couldn't be very good? (Kunter, 2016)

Gabor-Granger technique is a technique that is based on the fact that prices are quoted in a random order. The advantage of the method is that it also examines the reasons for which the respondent considers the price to be unacceptable. The questionnaire includes two questions:

1. Would you buy this product regularly if it costs ... €?
2. "Why would not you buy this product? Do you find him too expensive or do you think he does not provide adequate value at that price? "

The advantage of the method is, according to psychologists, also a random order of prices that does not produce stereotyped responses. A significant positive is the ability to determine, in addition to the optimal price, the price limits for individual segments (Valaskova & Krizanova, 2008). Conjoint analysis is an indirect method of determining willingness to pay. It is aimed at simulating the real decision-making process of consumers. Consumers in purchasing decisions take into account a number of attributes (e.g. price, brand, packaging, etc.) that always have multiple levels, that is, we have, for example, four different product prices, multiple pack sizes, and so on.

The purpose of this analysis is to determine the importance of each attribute with respect to all other attributes. It determines the attractiveness of the individual attributes and also the degree to which the consumer's purchasing decision affects. It helps to identify the most desired product and also to determine the focus of marketing communication, which attributes need to be communicated. Last but not least, this analysis is important also in the process of setting the price of products, because if product price is one of the most important attributes of a product, we can determine the optimal price level. The advantages of the method include the ability to realistically quantify the brand's price advantage over competitors, or quantify what customers really benefit from (Palus et al., 2014). The Brand Price Trade-Off (BPTO) method is based on a similar principle as conjoint analysis, but in this case, consumers are shown multiple brands at once and consumers have to choose the preferred one. It is used to determine the effect of increasing and decreasing the prices of products for sale brands. Based on this method, consumers evaluate products and then companies adjust prices until consumers stop buying (Parobek et al., 2016). In the following Table 1, we compare the above-described methods used to determine consumers' willingness to pay for individual products that help determine price margins for individual products. They are compared in terms of several characteristics, with an emphasis on their advantages and disadvantages.

Table 1: Comparison of the selected methods used to determine willingness to pay (own processing)

Method	PRICE SENSITIVITY METER	GABOR-GRENGER TECHNIQUE	CONJOINT ANALYSIS	BPTO
Characteristic				
Type of method	Direct method	Direct method	Indirect method	Indirect method
The orientation	Price	Price	Product attributes	Brands
The essence	Questioning through a questionnaire with precise four questions	Questioning through a questionnaire with precise two questions	Simulation of purchasing decisions	Simulation of purchasing decisions
The result	Optimal price range	Optimal price and price range for individual segments	Determining the attractiveness of individual product attributes. The optimal combination of price and other product attributes. Estimate demand based on a combination of product attributes.	Impact of product pricing on brand sales. Determining brand loyalty.
Advantages	Simplicity, practicality, a sufficient representative sample of respondents, finding a product's competitive position in terms of price, ascertaining the consumer's reaction to changing the price of an already established product on the market.	Simplicity, orientation on the reasons for price unacceptability for consumers	The ability to realistically quantify the brand's price advantage over competition, It also takes into account other attributes important to the consumer, excluding the price.	Takes into account the competitive environment.
Disadvantages	If a new, innovative product is tested, the method is less effective. It does not take into account all attributes of buying behavior.	It does not take into account other attributes of buying behavior.	The rating of respondents is still not as realistic as the actual purchase of products.	Testing is usually too long, laborious, and complicated. Large samples are needed.

As we can see, each of the selected methods has its advantages as well as the limitations that need to be taken into account when choosing them. In practice, combinations of multiple methods are used in practice. For example, a combination of Van Westendorp Price Sensitivity Meter and Gabor Granger technique is typical. Regarding the BPTO method, given its complexity, it is not normal to combine it with another method. It depends on the business preferences that the method will use, as well as what information is needed in the pricing process of its products.

3. CONCLUSION

In the process of price setting, willingness to pay is a key component of consumer demand, and its knowledge is key. The product price is determined by the market, while the willingness to pay is determined by the socio-economic characteristics of consumers, their attitudes, or the intent and perception of product quality attributes. The aim of our paper was to demonstrate the importance of the willingness to pay in the process of price setting through a summary of important theoretical backgrounds of the given issue. In order to meet the aim, we focused on the characteristics of the chosen methods of determining willingness to pay and their subsequent comparison. Based on the provided literature review we've discussed these methods: price sensitivity meter, Gabor-Grenger technique, conjoint analysis and so called BPTO method. On the basis of the provided comparison, we've evaluated the possibilities of using individual methods. It has been found out that the selected approach to the issue of the methodological background of willingness to pay across typology of buying behaviour is needed. It is caused by the portfolio of advantages and disadvantages of discussed methods across selected characteristics. So, the need of selective approach to this issue has been proven what implicates the need of relevant managerial skills in scope of product specifics convergence with advantages of method used to detect willingness to pay in case of relevant market segment.

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CLUSTER COMMUNICATIONS AS THE BASIS FOR FORMING A COMPETITIVE STATUS OF AN AREA

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ABSTRACT

The relevance of the article depends on the fact that the world market profound changes are also reflected in the transformation of RF social and economic systems, comprising more than 80 regions that are differentiated according to their potential, resources and levels of development. Over the last decade the cluster approach is gaining popularity in the system of territorial entity administration. Using this approach allows to provide funding, workforce and knowledge for the region as well as to boost the competitiveness of the particular area or country. One challenge for clusters functioning is lack of effective communication, both between in-cluster members and with interested external parties. In-cluster-external interaction is a complicated "push-and-pull" system based on the likeness of interacting parties. Being an economic micro system clusters are involved in communication policy of the area enabling efficient information sharing with macro-environment while maintaining the integrity and establishing trusting relationship with audiences. Cluster communications are the indicators of a cluster current state and sustainability. If in the early 2000s companies' competitive advantages were determined by competitors possessing or lacking some information then now in the conditions of free buying and selling information, rival companies can easily obtain similar information and undermine their counterparts' competitive advantages. Hence, complicity that is personal inclusion in and involvement with target audience as a characteristic of information is given a priority to. Cluster communications are about "informing and involvement" as the latter implies understanding the audience when informing without being involved is just a cold message. It is cluster communications that are aimed at forming complicity in all the participants and interested parties (manufacturing and trading companies, financial establishments, scientific organizations etc.) which, in their turn, contribute to achieving common goals, work coordination and raising a cluster's competitive status.

Keywords: *cluster, communication media, complicity, globalization, living-lab*

1. INTRODUCTION

The word "communication" has become very popular these days. However such popularity seems to be paradoxical: the more frequently the word is used in different context the less meaningful it becomes. In the Western world of 1960s inability to communicate was considered as a flaw so was it in the later Soviet regime period. Over the last 10 years the area of using communications has expanded considerably, being supplemented by new scientific disciplines, global processes and practical activities. In 1960s M. McLuhan argued that with the advent of electricity as an instant communication medium and electronic communication media that grew out of it the world has shrunk to a village [4].

Nowadays we constantly perceive electronic media interaction, instant interconnection that they establish and instantaneousness of transmitting large amount of Gigabytes from one place on the globe to another. Instantaneousness of information transmission enables society to function as “a global village” on a universal scale. The examples of “village” interconnection can be found in almost all the areas of our life activity: finance and medicine, education and services. However there is no particular “village” with its “dwellers” scattered around the globe that can comprise them all. Global activity can involve only the “villagers” possessing some specific features [7]. Beginning from 1990s large enterprises have been implementing their communication policies with the focus on the global issues to share standardized information. In the next decade communication media were unified: text-format and graphic parts of advertising means became interchangeable. With communications being partially globalised there is a local demand on the part of society: everything that has been promised must be lived up in the day-to-day “village” life. The global dimension of a claim a community puts forward (for example those concerning environmental impacts, security level, quality of goods and services, results of innovative activity and so on) should be embedded on the everyday live. Otherwise it loses confidence. Today we are witnessing shaping of the new world order where former (traditional) elements and factors are intertwining with the new ones. Trends that used to be crucial for the world development are no longer considered as paramount. These changes have generated diversified scenarios for the future (2030 strategy, 2050 strategy etc.) Globalization as the objective phenomenon is a natural humankind evolution process which implies the shift from separate nations and states to interconnected and interdependent societies. Social proximity and contiguity of new societies can be shown in three projections [11]. The first one – convergence – is the ground for establishing “a village”. It extends to all markets and almost all industries. Contiguity or shared concerns contribute to identifying a target audience. For example, children’s issue as the matter for great concern might bring together pediatricians, food manufacturers and educational institutions. Therefore, large companies and every state should be interested in becoming active participants of globalization to use their competitive advantages or compensate for limitations due to shared interests and interaction with other participants. Another projection – having similar ideology - helps to define several groups with shared values inside a community. This similarity affects public opinion when considering adopting some ideas. The process of communication among people is translated to their value systems interaction at the rate their cultures allow. But there are some issues which are significant for forming public opinion and, therefore, should be given priority in communication process. These are family values, environmental and health issues, cultural life issues, values of sports etc. which are shared universally regardless of national boundaries and social and professional diversity. This sort of values underlies communication policy of the cluster [10]. The third proximity – geographical co-location – is defined by the degree of people’s and companies’ physical presence in a particular area and is important for both format and content. Geographical proximity can be determined by several criteria: staff members’ and participants’ residence, a zone of economic influence (for example, suppliers and subcontractors), an ecological footprint zone formed due to cluster’s activity, political and administrative structure of the area, mass media coverage. It is geographical proximity that makes the two previous ones more distinct. According to the authors cluster arrangement of the area is the unique symbiosis in which “closeness” of ideals, convergence and geographical proximity can be fully realized. Value of communication for companies used to be in the fact that it served as a pole of attraction for different activities which couldn’t be integrated within a sector. But in the light of a clustering approach that is applied to business organization today we can argue that now communication is about establishing and maintaining efficient relationship with audiences we are interested in.

2. THEORETICAL BASIS

In M. Porter's definition of cluster interdependence of clusters and economic activity is emphasized. Throughout the time of cluster existence its notion has expanded to encompass industrial and innovation activity (Figure 1) [1, 2, 5, 6, 7, 9].

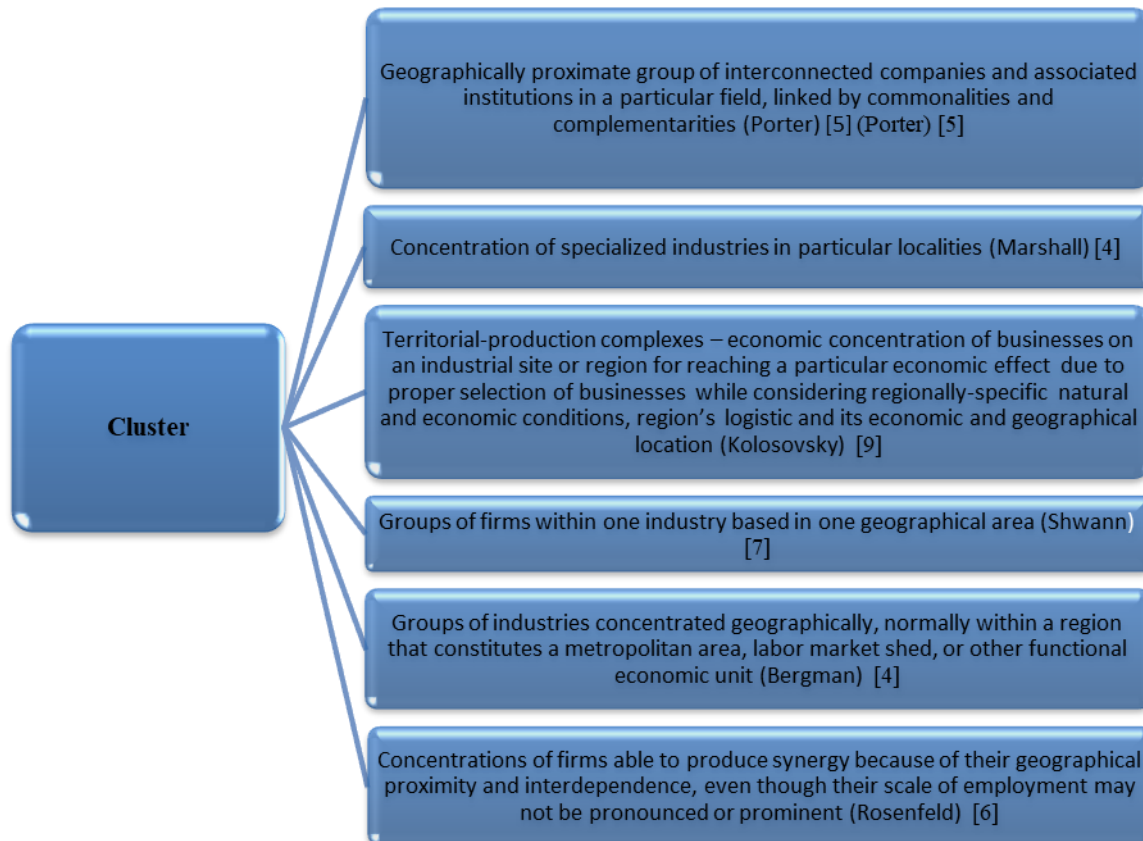


Figure 1: Cluster definitions

Modern approach to clustering regards cluster as the tool for dealing with organizational issues rather than a theoretical term or geographical landmark. Worldwide clustering experience has shown that clusters are coordinated by means of developing infrastructure facilities. Although some European clusters create new institutional arrangements instead.

3. CHARACTERISTIC FEATURES OF COMMUNICATION ENVIRONMENT OF A CLUSTER

Development of universal information field of a cluster means creating the communication environment that embraces its real and potential participants (Figure 2).

Figure following on the next page

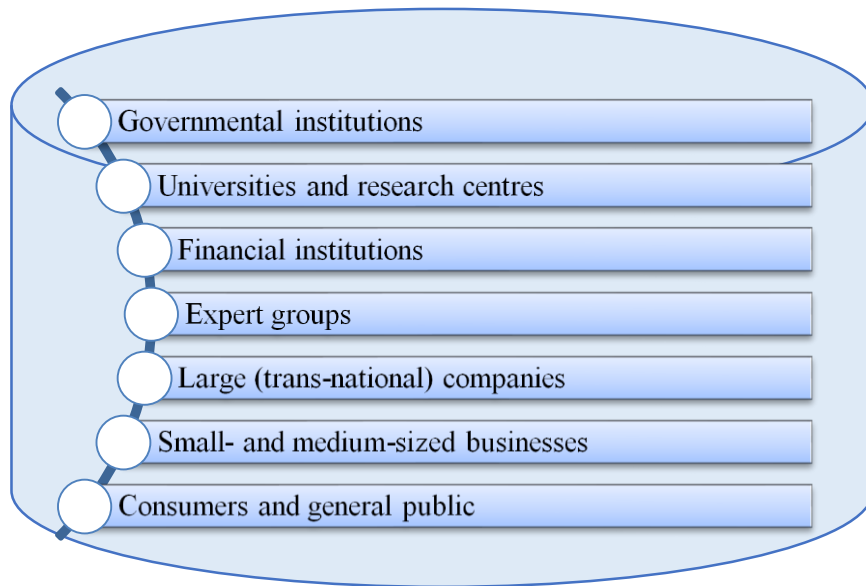


Figure 2: Participants of the information environment of a cluster

Information field that all the participants of a cluster join is made up of various communication vectors directed outward and connected with the external environment through particular channels (Figure 2). We point out three vectors of cluster communications.

- First – visible communications. They are obviously seen. We can watch how they operate. They provide communication between cluster and its “dwellers”. These are, for example, cluster-investor or participant-administration channels. There is also functional communication between cluster and its opponents aimed at contribute to image-making process of a cluster.
- Second – latent communications. These channels result from proximity phenomenon, but communication through them is not always possible. They remain vague and unclear unless co-located participants have shared concerns and the commitment to communicate. Awareness of latent communication channels is important for working out crisis-prevention strategies when identifying key-participants of communication matters a lot.
- Third – potential cluster communication channels of cluster communication which are the systems characterized by ideological similarity, shared values and strategic development. They are used for implementation of sponsorship and charity programs and enhancement of businesses images.

It has become obvious the first two channels should be used for taking the views and monitoring participants. Thus, cluster communication developers should be capable of effectively applying them when surveying opinions and monitoring participating groups. The third vector provides a lot of freedom of choice. Profitability assessment for maintaining the image and credibility of a cluster can reinforce communications of the third vector. Cluster communications as integration tools should seek to get a feedback from clusters’ “inhabitants” or member firms when dealing with universally shared concerns. Making judgment about such issues (family problems, health issues, environment protection, security) should be done only after careful investigation into cluster participants “proximity”. To ensure complicity of participation between clusters and target groups it’s necessary to choose proper means for public perception monitoring to identify the issues that might cause denial. Today clusters don’t conceal any information from either mass media or in-cluster communication media. We live in the time when mass media and social networking cult have yielded positive results. For example, much attention has been paid to cluster star-ups that, in turn, has brought about higher professional

skills in journalists working in this area. Based on the fact that it is both - information and the channel it is communicated through that provide effective communication professional experience is giving up the widespread use of mass media. In the West the term "specialized broadcasting" has been coined to replace "broadcasting" when describing cluster communications. There are three specific features of clustering and interaction to be emphasized. They refer to intensive information exchange and communication:

1. specific nature of a cluster resulted from concentration of businesses of particular type can attract and support skilled workers;
2. economic systems uniting labour force unions with special skills attract companies that are then clustered within them;
3. technological groundwork that generates excessive knowledge (knowledge transfer).

However communications are not of similar significance to all clusters: industry clusters are focused on cost minimization and do not consider new awareness as the main competitive advantage. They are likely to manifest a high degree of information-sharing. Innovation clusters that are designed to generate new technologies and manage competences see new awareness and intensive information exchange at low to middle level as their key advantages [12]. There are three factors that affect the level and feasibility of communication: to what extent the information transmitted is related to the area of competition: what benefits particular companies get through obtaining new information under existing competition rate; how promptly information is delivered from different sources. One of the latest concepts of communication is that of a living-lab, which is environment, network, community, organization, project, ecosystem operating on the basis of state-public-private partnership where users are given the key roles in the innovative activity and direct involvement in researching, developing and designing a new product or service [3]. Living-lab is a form of activity and innovative tool that serves as a communication platform for designer-consumer interaction. From the living-lab perspective, every cluster participant contributes to it in a particular way when taking part in communicating process. Universities and research institutions are responsible for generation of expert and theoretical knowledge. Governmental establishments give impetus to territorial development, provide support for setting-up living-labs and their functioning through budgeting, marketing, attracting customers and experts. Small- and medium-sized businesses are offered new ideas on how to expand their operations while larger companies are given the priority in designing new products using jointly-created innovative methods. Consumers and general public are living-lab key-players of innovative process. They get involved in communication through generation, discussion, testing innovation products to detect a cluster target consumer. ICT provide technology platform and online communication. Having competence and expertise is the main requirement for any cluster's participant. Various demands create various supplies. Some cluster members might need some specialized expert assistance while others rely on non-specialized agents capable of performing particular jobs. There are participants with nation-wide demands (sometimes only local ones) or those seeking going global. In all cases the level of competence is highly important. Careful studies into cluster entities interaction have revealed some key needs to be met first for providing effective communication. Firstly, need for keeping participants updated, establishing new contacts and creating event-holding platforms. Secondly, platforms for participants' extensive networking and building relationship are to be created. Hence, the role of social networks and virtual interaction for communicating cluster-related information to all the participants, sharing ideas and creating professional communities should be emphasized. Thirdly, there is the need for launching and customizing the platforms for reaching individual professional goals. Fourthly, providing direct communication in the form of live meetings and negotiations for effective cluster functioning.

Fifth, need for providing venues for university-specific activities such as projecting and intra-institutional development [8]. Depending on the types of cluster participants the priority types of their communication can be distinguished: meetings, open dialogue and relationships are to be used by large companies and medium- or small-sized businesses. For educational institutions these are open dialogue, intra-institutional development and projecting. Research in-cluster organizations better communicate directly through individual participation and open dialogue. Any common features found in communications used by cluster members mean similarity of their demands.

4. CLUSTER AUDIENCES COMMUNICATIONS

Communication with diverse internal and external audiences is significant for any cluster functioning. The question arises: how to identify target audiences and what they are? There are three ways of identifying audiences to be highlighted. First: carrying out structural analyses of audiences which is a simple but the most commonly used method. It implies working systematically on compiling clusters' audience catalogues irrespective of having or not actual relations with them. Using this approach we may determine the "players" whose activities can contribute to the evolution and development of clusters. These audiences include ministries, municipalities, trade-unions, regional departmental representatives, non-governmental organizations. There should be topologies or name-collections of key persons of all such audiences who might affect communication-building process. Being able to establish instant direct communication with target audiences is seen as the essential condition for a cluster start-up and its management tool. Any well-established company or powerful audience which causes potential threat to a cluster's existence must be paid close attention. If there is similar threat on part of informal audience it might escape consideration as inconsequential. Building a hierarchy of audiences along with detecting values and transmitting information are integral parts of cluster communication policy. Second: prompt or market (expedient) approach. Audiences' catalogues are not final and have to be updated as audiences included not necessarily maintain steady relations with clusters "inhabitants". But their concerns and drivers are to be considered. This category of volatile audiences comprises construction and trading companies, tourism organizations and culture-and-leisure centers. Learning the audience is vital for determining the elements (ideas and groups with joint interests) that will be shared or not by a cluster participant. For audience awareness ensures implementation of reasonable timely corrective communication policy. However, compatibility of different target audiences is not only about shared ideas. This approach is based on the actual situation when the roles of participants and what might be expected from them are obvious or can easily be revealed. Communication should be studied and analyzed in terms of audiences involved to make sure they are committed to support a particular idea or view. Intended audiences are formed by making a cumulative impact on them. The more general is the issue concerned the more picked-up ambiguous features of audiences are. In many real-life situations it is specific cases of specific audiences that are of bigger interest. Thus, a communication analysis is to be done for assessing its sources as well. Communication between intended audiences and general public is done by diminishing the importance of primary source of an opinion while focusing on the message. Thus, if a renowned medical doctor publishes his article on interdependence of neuron-cerebral mechanism and sexual compulsion in a scientific journal, it is likely to generate interest in a popular-science magazine journalist writing about this sort of things. That journalist will make references to that article and borrow some its ideas by putting them in the simplest way but at that being careful not to make any distortions of the medical notions of the original article. The journal will then be spotted by a scientific illustrated journal reporter aimed at general reader. And it will be reasonable to adapt the information in accordance with mass communication requirements: eye-catching heading, brief presentation that means not being scientifically

accurate and precise, do not mentioning the source unless it is worth mentioning to prove the significance of the contents. Eventually original information will be delivered in the “distilled” format with no source reference but as the revolutionary and ultimate truth. Hereby, cluster communication providers have to be capable of dealing with such a “tangled mess” to detect the leading figures, allies and rivals when working with various audiences. This logic of approving or disproving any information for cluster communication is applied to any stage of communication program. Due to the development of internet technologies professionals have been given the quicker access to data bases containing all the necessary information. In addition to it, the number of reliable computer facilities has been increasing, thereby enabling carrying out thorough contextual, semantic and semiology analysis for deepening the degree of a specific message impact on a specific target audience. Doing a direct survey of the selected leaders of intended groups (public, political and others) is the important part of the process of studying intended audiences. Carefully done surveys help introduce key communicators to cluster “inhabitants” and comprehend the ways audiences participating in communication think and what mechanisms to be used as most effective in terms of cluster development. All above-mentioned criteria are of institutionalized character. They contribute to detecting audiences from the global perspective of clusters development. They address all the aspects of cluster functioning (social, finance, technological, commercial) but at that are not bound to any meaningful event held in these areas. It is an audience itself, social impact of clusters activity and visa versa that they are focused on. Market analyses should be backed by institutionalized analyses of a cluster’s audiences and members: regardless the fact that market communication supplies instant return its long-term impact runs counter to the interests of building long-term communication. Therefore, clustering communication strategy must be worked out with dialectics existing between short-term benefits and long-term programs’ goals in mind. The third approach better described as utilitarian or supplementary as used for picking up the audiences with specialized skills. In their case communication is given a supportive function in providing other activities of a cluster. Before starting-up the communication process applying a supplementary approach is viable for studying public opinions, suppliers’ and their associates’ concerns, communication patterns of their key “players”. Direct benefit can be gained from cluster-audience efficient communication. Efficient communication means promoting added value or cost-efficient relationship within clusters as well as with the external target groups. Only when clusters actively benefit the society they can be viewed as its valuable assets.

5. CONCLUSION

Thus, in-cluster relationships are being established where there is the linkage between its entities which enables them to communicate with each other as it is in airways, railways or road links. Specialists responsible for providing cluster communications should aim at facilitating communication between businesses and their target audiences for transmitting relevant information. It results in some impacts on the type and patterns of communication used.

1. Cluster communication is the applied activity that demands some technical skills. Nowadays there is a large gap between theory-making specialist and practitioner who relies on experience and personal connections to be noticed when talking about professional background. There is a clear difference in the ways they work. It is that difference that should be considered as significant as only one of them is capable of creating a sustainable cluster infrastructure, no matter who designs or implements it.
2. Those who initiate communication shouldn’t be the peripheral participants of communication environment. They should be allowed equal participation in managing communications. Peripheral positions should be given to other cluster activities that provide communication between finance and HR management, between Directorate General and

relevant audiences. That means that communication policy and its in-cluster implementation programs are to be drawn up and used jointly with other functions' performers and to be transparent for them. The person who manages the communication process must be aware of the any internal and external communication initiated by a peripheral participant. Otherwise his activity might be viewed as inane as being inefficient for preventing malfunctions.

Communication should aim at building mutually beneficially relations. We might have referred to the textbook analyses of making a commercial deal on each communication stage: any interaction between parties can result in putting them in the position of either a debtor or creditor. The aim of communication management is implementation of the balance needed to be maintained between cluster's "creditors" and "debtors" and between it and its public in general and at each stage in particular. Communication efficiency when dealing with different audiences can be either increased or decreased depended on the patterns chosen. Any error made in the communication-building process can turn counterproductive. Positive information when used in the inappropriate way can be perceived as negative by target audiences. This can be exemplified on the case with company's staff going on a strike right after announcing its outstanding financial results without explaining their benefits to workers. The primary goal of cluster communications is to provide a favorable environment for implementing the goals set through effective cost-efficient operations. To quantify the results of communication a precise assessment scale should be developed. For this purpose the clear objectives are to be identified. Their type depends directly on the content and duration of the program. Different challenges are to be addressed when selecting actions to be used in marketing goods and when working out medium-term strategy for strengthening an institutional identity. But both are restricted to a "communication-complicity" pattern. It is this wording that should be used inseparable as involvement (or creating complicity) without communicating properly (that implies understanding) means promotion while communication without involvement is informing. Thus, objectives set in the communication program must contain detailed description about information delivered, its target audience, people involved in providing communication and its aims. Therefore communication is seen as the key tool for specifying cluster's activity. Data exchanged may refer to technologies transfer or be a sort of «locality information». Defining proper cluster communication targets and goals is crucial for clustering projects implementation. For clustering turn to be a non-feasible project if no benefit from information exchange is expected.

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PRESENCE OF GERMAN LANGUAGE IN NATIONAL PROGRAMMES OF TOURISM AND HOSPITALITY MANAGEMENT STUDIES

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ABSTRACT

Given the territorial proximity of Croatia and the fact that for almost 400 years it made part of the Habsburg monarchy, i.e. the Austro-Hungarian Empire, Croatia has been exposed to the significant influence of German speaking countries. Mutual contacts and interference of Croatian and German population have lasted for centuries, therefore very intense language interference occurred too as a result of historical, cultural, economic and political relations. The knowledge of German has been extremely important through the history on the area of the Military Frontier and in other parts of Croatia, while the influence and importance of German vary in dependence of the studied field. In the context of Europe, German language is still today one of the most common European languages taught all over Europe in schools and higher education institutions. At the same time, it is one of official EU languages along with English and French. German language has been taught for decades in elementary and high schools, as well as in higher education institutions in the Republic of Croatia. The aim of this paper is to analyse the presence of German as foreign language within the framework of national tourism and hospitality management study programmes. For the purposes of this paper, the questionnaire was designed and then distributed in electronic form to higher education institutions who met the criteria of questionnaire, i.e. who belong to the economic category within MOZVAG system and offering some sort of German language courses. The practical part consists of interpretation of data collected in May and June 2019 and of set hypothesis testing intended to determine the motivation for German language learning within students, as well as their perception of the taught language in different regions in the Republic of Croatia. This research resulted in determination of the student profile, their motivation, perception of the German in everyday life and in their professional life, as well as of the presence of said language in study programmes which made part of this research.

Keywords: *Croatia, cultural and historical contacts, German language, tourism and hospitality management studies*

1. INTRODUCTION

Position and significance of a certain language in the world is being measured by economic, cultural and political influence which that language has within international community. Also, the significance of a certain language does not depend only on its geographical presence or the number of speakers, but it also depends on its teaching presence in schools and higher education institutions. The fact that German is being taught outside German speaking countries also contributes to its international position (Kloss, 1974).

In comparison with the position of German language 150 to 200 years ago, this language lost much importance (König, 2004., p. 6). Furthermore, its importance lags behind in the globalisation era. Although its role in political institutions of the EU has been neglected, especially in comparison to English or French, there is 14.500.940 people learning German as a foreign language (Ammon, 2018., pp. 12.). It is indisputable to talk about the importance that German occupies in educational system of many countries. The interest for this language is very high, especially in the domain of economics. While speaking about the presence and German language learning in Croatia, we must emphasize that, although there are very intense economic, cultural and political relations with German speaking countries, as well as the growth of tourism and growing number of German speaking tourists, German is being learned in schools in Croatia as second or third foreign language for decades. What place German language occupies as a foreign language in study programmes of national tourism and hospitality management higher education institutions in the Republic of Croatia? In order to answer that question we conducted a quantitative research. After the theoretical basis of this paper, we will show the results determined through conducted quantitative research. Authors will also precisely define the profile, motivation and perception of tourism and hospitality students who take courses of German as foreign language on higher education institutions. We will provide an overview in the used methodology, followed by the data elaboration and interpretation, and the test of two hypothesis derived from obtained data correlation. In the conclusion, authors will sum up presented ideas and observations.

2. CULTURAL, HISTORICAL AND LANGUAGE CONTACTS BETWEEN GERMANY AND CROATIA

Given the territorial proximity of Croatia and German speaking countries and the fact that for almost 400 years it made part of the Habsburg monarchy, i.e. the Austro-Hungarian Empire, we are speaking about centuries old connection of Croatia and German countries. Earlier examples and documents of mutual contact have been recorded already in 9th century. Available sources provide us an introduction in territorial and political connection of Croatia and Germany. The beginning of Croatian and German language contact goes back to the Middle ages. That influence continued for centuries. In the beginning of 13th century, German colonists establish their settlements on the area of then Croatian territories, while German speaking population leaves deep traces and contributes to the affirmation of economic and cultural connections with Croatian speaking area. German had a special place in the Military Frontier in 16th century, where it had a status of official language (Barić, D. 2004, pp. 71-87.). Pavelin writes more on contemporary institutionalisation of the army and preferable education on the university level (2018, p. 831-842). In this paper, authors have intension to focus on mentioned German language learning. We noticed that, during 18th century, German became a language of broader than regional communication used by society elites, while Latin remained the language of science and politics and Croatian was used by the lower class (Žepić 1996, p. 314.). In second half of 19th century, German gains in importance and becomes a regional language in central and central-eastern Europe, expanding on Croatian territory due to Austrian influence. An important element for German language learning on the territory of the present Croatia was the educational reform in 18th century. In that period of time, German was of great importance for citizens because Croatia still made part of Habsburg monarchy, therefore German was at the level of the official language, which can be read in the following quotation: „German was raised at the level of state language and an uniform speech norm of high German was introduced, while Gottsched's standard works Basics of the art of German and short edition of the book The core of German speech art were introduced into Austrian educational stores (Häusler, M. prema Wiesinger, P., 1983, p. 229.)“ It is necessary to mention this to provide an insight in study programmes of that period, which were intertwined with German components.

In the mid-19th century, northern Croatia was mostly bilingual and Austrian German was especially prominent. Stanko Žepić (1996, p. 316.) wrote as follows concerning Austrian German: „Numerous written documents, such as dictionaries and grammars with typical Austrian vocabulary are the proof that German language in Croatia was always Austrian German, while pronunciation rules describe exactly the communication language used in Austria.“ As a proof of strong cultural and linguistic German and Austrian influence on the territory of the then Croatia, Gabriella Schubert (2003, p. 90) cites the example of Osijek, which used to be one of major centres of German culture during the history, town with the biggest number of German inhabitants on the area between Drava and Sava, i.e. between Danube and Sava. Influence of German culture in Croatia was furthermore visible in different social classes and in everyday life. It was reflected in the use of German expressions and in the presence of a higher number of German and Austrian loanwords in everyday speech. Role and presence of German language greatly reduced in first half of 20th century and only at the end of 1960's it became a mandatory high school course in many parts of Croatia and equal to other courses. „Second half of 20th century and especially the beginning of 1960's represent a period of big migration processes. (...) During that time, a big part of working population (gastarbajteri - Gastarbeiter) was employed in Germany and Austria. Half a century later, in 1991 and 1992, a big part of population moved to Germany and Austria, and after the liberation and the independence, Croatia establishes stronger economic and cultural relations to Germany and Austria (Krpan, T., 2015, p. 312.)“ For decades German is being taught as first or second foreign language. With the development of economy and tourism nowadays, the need for German language learning increase rapidly, along with strong economic, cultural and political connections of the Republic of Croatia with German speaking countries.

3. RESEARCH ON THE PRESENCE OF GERMAN LANGUAGE

Practical part of this paper consists in the interpretation of data collected in May and June 2019, primarily for the need of the final paper (Znaor, 2019). For the purpose of this paper, Pavelin assisted in conception of the questionnaire, which was distributed in electronic form and sent with the demand to institutions who met the criteria, i.e. offering a tourism and hospitality management study programme in Croatia and have some iteration of German language as a course, either mandatory either optional. The total of 95 responses was collected. Closed-ended questions constituted the questionnaire, while the pool consisted of 8 questions, where eight questions consisted of 3 statements that respondent had to evaluate using the principle of Likert scale. This pool was used to determine the profile of German language students in those specific study programmes, to determine their opinion and satisfaction by the course and to determine their perceptions on the usefulness of this course in their future career related to their studies. The biggest research limitation was respondents' willingness to participate in this questionnaire.

3.1. Data analysis and interpretation

The pool was created in Google Forms programme, distributed through the e-mail. After the data entry in Excel tables and adequate coding, authors conducted data analysis. Considering the number of respondents and with the aim of paper legibility, we also provided tables with collected data. First question was set to determine respondent's gender. According to the results, women were the majority of respondents. The reason for this question is following: it helps to create a demographic image of respondents (age structure in this case was irrelevant, because the questionnaire was created for students, therefore it is logical to make a conclusion that the majority of respondents will be at the age of 18 to 30), to determine the disproportion which provides the insight in the structure of potential future workforce in the field of tourism and hospitality, where the gender represents an important variable for the further analysis of research sample.

There has been 71% (67 persons) of women and 29% (28 persons) of men among respondents. Second question was related to the respondent's status. Answers offered in the questionnaire were: full-time student, part-time student, status „s“ and graduate student. Last category was not represented, given that in this case it represents statistically insignificant group of 1%. The most represented group of respondents were full-time students, which brings us to the conclusion the major part of students in this research has a tendency to do their assignments on time, which is later reflected on future activities at work and in their environment. It is related to theoretical knowledge at the end of their studies and to their connection to the tasks in tourism and hospitality. There has been 61% of full-time students and 36% of part-time students. Third question used for the purpose of further determination of respondent's demographic image was the question on the town of their studies. This question was very important in setting of future hypothesis. Among all the towns which had study programmes in the field of economy, 16 towns met the criteria defined by the subject of this research. We were able to collect data from 7 of them located in different parts of Croatia. Those towns have several study programmes offering German language as a course, therefore the sample was representative despite small number of towns. Taking into consideration that Croatian regions such as Dalmatia and Istria generate significant revenues from tourism and hospitality related activities (much more significant than regions of Međimurje or Slavonija, due to their geographical location) it is expected that the reasons for the choice of studies and further plans may vary among studied towns. Therefore the biggest number of respondent's, regarding the representation, attends their courses in Opatija (approximately 34%), followed by Zadar app. 20%), Rijeka (app. 17%), Slavonski Brod (app. 13%), Zagreb (app. 10%). Less represented towns are Vukovar with 5% and Šibenik with 1%. Fourth question was related to the degree of their studies. Through the research of study programmes which met the criteria of the questionnaire, we came to the result that there were 4 possible categories: undergraduate, graduate, integrated undergraduate (category without respondents) and graduate and specialist professional graduate studies. Individual study degree of the respondent gives us an insight in curriculum of each particular study programme. Given that the majority of respondents (95%) are undergraduate students, it means that most of them possess basic knowledge in professional language, while the minority (4% respondents on specialist professional graduate studies and 1% on graduate studies) master professional vocabulary and knowledge related to Germany and its history/culture taught on graduate studies. Fifth question was related to the type of studies, state or private. Reasons for the choice of such segmentation was the insight in the financial state and possibilities of persons who attend those studies (this can be related to the ability of the individual to visit a German speaking country through the removal of one problematic paradigm, i.e. affordability of that trip) and determination of potential differences in studied material and/or teaching intensity in comparison to the one at state universities. Research showed that majority of respondents attends private university, i.e. approximately 93%, while 7% of respondents attends state university. Sixth question was used to determine the motive for choosing German as a foreign language and as a course. Among possible answers (continuity in learning, I consider it will be necessary for me in future, I think I will find a job sooner) respondents could choose one or several answers. The majority (55%) offered multiple answers, and 45% of respondents chose only one. The most respondents considers that the knowledge of a language will be necessary in their future life (62 responses). As a result of globalisation and frequent interactions among countries with different languages, the knowledge of English is not being treated as the knowledge of a foreign language, but as the rudimentary knowledge and the skill which should be mastered for successful communication and business in every area. Therefore, people speaking more foreign languages possess several very useful skills in everyday interaction. Seventh question concerned the visit to a German speaking country. Studies of tourism often organize educational journeys which can be done in the area of the biggest interest, depending

of a chosen course. The majority of 76% respondents still did not visit a German speaking country. In one of previous questions answers showed that the majority attends a private university, from which we can make a conclusion that those students come from wealthy families. Despite that, the number of students who visited a German speaking country is small. If the economical variable (in this case the expense) is being taken out from this question, one of possible explanations for this disproportion can be the lack of the interest. It should be mentioned that the answer to the question of the best learning method was the interaction with native speakers, i.e. the visit of a country. Of course, there is a possibility that they still did not visit a country due to the organized journey during graduate studies, which would make sense given the fact that the majority of respondents were undergraduate students who take German courses. Those hypotheses should be tested in a separate, potentially qualitative research. The last question in this pool consisted of 3 statements that were supposed to be evaluated through the match of corresponding numbers from 1 to 5 according to the Likert scale principle. First statement was related to the opinion that learning German has its advantages in comparison to other foreign languages. The most common grade was 4, i.e. I agree, chosen by 43% respondents and 5, i.e. I extremely agree chosen by 29% respondents, while the less represented grade was 1 or I extremely disagree with 3%. We can make a conclusion that the majority agrees with the statement. Potential reasons for this can be the connection between globalisation and English and the fact that German is second most common language within the EU. Second statement in eight question was directed on the opinion that the completion of their studies results in the advantage in employment at the European market. Given that we are dealing with tourism and hospitality, the importance of foreign languages is indisputable. The most common grade here was 5, i.e. I extremely agree with 36%. It was followed by grade 4, i.e. I agree with 31%, (I do not agree nor disagree) with 21%, 2 (I disagree) with 10% and the less common was 1 (I extremely disagree) with only 2%. Altogether, general agreement was reached according this statement, too. Regarding the nature of the market, it should be expected that the employer is going to want to have the most qualified workers as employees, where those qualifications and that credibility arises from the study degree and other knowledge. When speaking about European market whose knowledges are even more important because of the multilingual nature of jobs in this domain. Third statement in eight question was related to the opinion that knowledge of German language at the higher level results in easier promotion on work. As for the answers, the most common grade was 5 (I extremely agree) with 53% and (I agree) with 35%. Grade 1 was once again the less common one with only 1% respondents. Their positive option answers are the highest among 3 statements graded by the Likert scale here. Because of previously cited statements on the importance of this language and extreme multilingualism of the area and other statements, the reason for German language learning is obvious.

3.2. Testing of hypothesis

In the final segment of practical part, we are going to test two hypotheses according to the pool results. Those hypotheses will bring 4 entries (2 for each) in comparison and those were determined as adequate for the mutual analysis with the purpose of further profiling of the respondents' group. The chi-squared test will be used to prove or disprove the hypothesis. In the first case, we will compare the entries on the status of a student and answers to the first question grades by the Likert scale, i.e. does learning of German have any advantage in comparison to other languages. The reason for the choice of those entries is the hypothesis that part-time student or status „s“ students will have different opinion on that question than full-time students, because they possess the experience on the job market, therefore their practical experiences may positively or negatively influence cited statement on the advantage of learning German in comparison to other foreign languages.

Table 1: Comparison of student's status and the grade of the first question of Likert scale (author processing)

Likert/status	full-time students	part-time students	Total
Grade 1-3	21	6	27
Grade 4-5	37	31	68
Total	58	37	95

Prior to the representation of results, several things should be emphasized. First of all, part-time students and „s“ status students were put in the same group because of the rule in this sort of test, i.e. over 20% of default frequencies in the table should not be under 5. For the same reason, and considering the fact that the rating range from 1 to 3 individually does not represent statistically significant segments in comparison to grades 4 or 5, a grouping of scale ratings occurred in two groups. The hypothesis is as follows: H_0 = There is no statistically significant connection between the status of a student and their opinion on the advantage of learning German in comparison to other languages. The level of significance (or α) is 5%. Thanks to the previously stated entries, the theoretical value of a test conducted was $\chi^2=7,815$. Given that the test size (app. 23,19) is higher than theoretical value (7,815), the null hypothesis is rejected with a significance level of 5%. Therefore, there is statistically significant connection between the status of a student and their opinion on the advantage of German learning in comparison to other languages. In second case, we intend to compare the town of their studies with their reasons/motivation to choose German. Those entries were chosen because it is expected that individual motives will be more represented in one region than into another, which can be brought in relation to the importance of tourism in compared regions. As in the previous case, categories were grouped in order to avoid lower frequencies. Also, the rounding off the values was done as a result of the fact that one variable possesses a rational number with recurring decimals. Towns were joined in categories which comprise towns in the same region of Croatia, i.e. eastern or central. Motives were also grouped for the easier analysis.

Table 2: Comparison of towns of studies and motives for learning a language (author processing)

Towns/motives	Learning continuity/ interest in languages	I think it will be necessary in future	I think I will find a job sooner/other	Total
Rijeka and Opatija	40	32	20	92
Slavonski Brod and Vukovar	8	11	8	27
Šibenik and Zadar	18	15	9	42
Zagreb	7	4	7	18
Total	73	62	44	179

The hypothesis is as follows: H_0 = There is no statistically significant connection between the town of studies and reasons for choosing German. Theoretical value of this test for cited entries was $\chi^2=19,675$. Given that the test size (app. 90,34) is higher than theoretical value, null hypothesis is being rejected with the significance level of 5%. We can therefore state that there is statistically significant connection between the town of studies and their reason for learning German.

4. CONCLUSION

The conducted research has shown that there are 211 study programmes in the field of social studies in the Republic of Croatia, both state and private faculties. From a total of 211 study programmes, we analysed 53 programmes which met the criteria of the research, i.e. they offer German courses in their programmes. Given that analysed studies are located in 16 towns, the initial contact through the e-mail was made with the secretariat of the individual study during the summer semester 2018/2019. We contacted seven towns mentioned in previously interpreted tables. Hypotheses were tested through the chi-squared test to determine the connection between tested variables. Through the analysis of collected data we determined the connection between the status of a student and their opinion on the advantage of learning German in comparison to other foreign languages in the first hypothesis, and the connection between the town of studies and the reason for the choice of German language in second. We can make a conclusion that results of this research may be used in future researches with the aim of further and more detailed elaboration of individual topic aspects and research problem in order to better understand motives and perception of students in tourism and hospitality management in comparison to the presence of German as a foreign language learning on the higher education institutions in the Republic of Croatia.

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POLARIZATION PROCESSES IN THE FISHERIES INDUSTRY OF THE BALTIC REGION AS AN ELEMENT OF SUSTAINABLE DEVELOPMENT OF THE TERRITORY (ON THE EXAMPLE OF THE NORTH-WESTERN FEDERAL DISTRICT OF RUSSIA)

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ABSTRACT

The article clues the content of the problem of systemic transformations in the economy of one of the regions of Russia and the transformation of its fishery industry. The analysis of complexing factors, the current development of the industry and the trends of structural changes in regional production is analysed. The suppositions for the formation of industrial clusters, including in the fishing industry, which may become the "poles of growth" of the regional economy, are studied. Recommendations are given on improving methods and modern tools for economic and geographical studies of the regional cross-industry network.

Keywords: *polarization, growth poles, fisheries industry, sustainable development of the territory*

1. INTRODUCTION

Regional studies in the conditions of the transitive economy of Russia are relevant for strategic planning of the development of large regions, including the North-West Federal District (NWFD). Territorial differentiation leads to irregularity of the economic development country's regions, including the subjects of the NWFD, where specific factors are of great importance, including the transborder position of the large region in relation to the main world economic centers, the border position of the regions, including the exclave position of the Kaliningrad region, unique natural conditions and resources, the influence of infrastructure factors is also important. The problem of systemic transformations and development of the subjects of the fisheries industry (FI) of the NWFD is still not fully understood, therefore, it is necessary to do researches to improve methods and modern tools for regional economic and geographical studies of the regularities and factors of transformation, functioning and development of the regional FI. Theoretical and scientific-practical research of the regional economy, the economy of FI weakly pick at the methodology and methods of studying industry problems, which provide for their optimal practical use in the conditions of the modern transitive economy of Russia and the transformation of its manufacturing industries [2]. The purpose of the article is to identify the natural and economic features of the development and transformation of the fisheries industry of the NWFD, the main directions of changes in the territorial and sectoral structure of the fisheries industry of the Kaliningrad region in order to ensure food safety, determine the competitive advantages of import phase-out, and self dependence of Russian regions with fish products.

2. CURRENT STATUS AND DEVELOPMENT PROBLEMS OF THE WESTERN FISHERIES OF RUSSIA

Social stability in the coastal regions of the Russian Federation brings, including a strategically important sector of the economy - fisheries. Historically, coastal fish cannery are town forming, determine social significance for the population. And although in the last decade there has been a positive dynamics in the development of the FI of Russia as a whole, but the Far East has traditionally been the leader. However, the current nascent stage of the Russian economy is characterized by a radical revision of ideas about the predicted economic structure of the fishery

industry [1]. For example, in 2018 in Russia, 12.3 billion rubles were allocated to the Government-sponsored scheme "Development of the fishery industry", in 2019 this amount was increased by another 2 billion rubles. Thanks to such state aid, for several years the industry has been steadily demonstrating positive dynamics [5, 11]. All this affects the price range of local and regional fish products. However, imports of fish and seafood loom large, the buyer continues to prefer cheap imported products. Along with the priority areas for the development of the innovative economy of the North-Western Federal District (nuclear, space, medical technologies, etc.), the other areas are also of particular importance, for example, those closely related to the development prospects of the fishery industry and North-West Federal District, such as shipbuilding, biotechnology, ecological safety, and the development of new technologies in the agro-based industries. In the NWFD, two fishery centers have historically developed - the Northern and Western regions. The northern fisheries region includes the Murmansk, Arkhangelsk regions and the Republic of Karelia, with a weighty gross share of 70% in the fishery industry. The region occupies the second place in the all-Russian extraction of aquatic biological resources in sea waters, in the total volume of the FI of the North-West Federal District his cut is 11.5% or 576.6 thousand tons, and the volume of seafood production in the West Region is 80.4 thousand tons [15]. Western Fisheries Area can be divided into two sectoral subareas: Kaliningrad and St. Petersburg (Leningrad). In 2018, in the Western Fisheries Area in the Baltic Sea, the following types of aquatic biological resources were extracted (caught): pike perch, perch, burbot, European smelt, vendace, bream [15]. Meanwhile, Russia is the only country in the Baltic region that is not a member of the European Union, but thanks to international regulation, Russian fisheries in the Baltic Sea are in satisfactory condition, and fish stocks are managed within the terms of the mandate of the countries of the European Union. The quotas of catch of the commercial fishery species allocated to the region: sprats - 84.7%, herring - 76.2%, cod - 50.6%, flounder - 93.3%, respectively. In 2018, 80.8 thousand tons of fish were caught in the Western Fishery Region, including sprat - 41.1 thousand tons and Baltic herring - 24.5 thousand tons (an average of 106.8% on 2017.), cod - 3.4 thousand tons (82.1% on 2017). In the current 2019, the catch of commercial fishery species in the Baltic Sea is already 86.6 thousand tons, which is 3.8 thousand tons more than the prediction of availability for the total allowable catch (TAC) for 2018 (82.8 thousand tons) [15]. In the Western Fisheries Basin, fish harvested was 7.9% more than in 2018 - 57.62 thousand tons. In the sprat fishery, the catch increased by 3.8 thousand tons - up to 34.8 thousand tons. Baltic herring was mastered by 0, 5 thousand tons more than last year - more than 17.4 thousand tons [12].

3. PREREQUISITES FOR THE TRANSFORMATION OF THE KALININGRAD FISHERY SUBAREA

Further in the article, we propose to pitch upon to some detail on the specific features of the development and transformation of the Kaliningrad fisheries subarea, as the most dynamically developing in the new geopolitical and economic conditions of the post-Soviet Russia. In the current transitional period of the development of the Russian economy, the possibilities for the development of the Kaliningrad region, as a "corridor of cooperation", are increasing [7]. For example, in under conditions of globalization, the socio-economic situation of the region is a competitive advantage in possible Russian-European integration. It should be noted that certain supposition have developed for this, for example, an ice-free port, the proximity of the fishing regions of the Atlantic and the Arctic Ocean contributed to the creation of the fishing industry in the Kaliningrad region during the Soviet period, when fish capture in the south-east of the Pacific and south-west of the Indian Ocean, as well as in the bays of the Baltic Sea (five fishing collective farms worked). During this period of development of FI included a cargo and fishing fleet, fish cannery, infrastructure with ship repair, fishing gear and packaging. Research establishments served as the basis of the regional fishery industry, special attention was paid to

the staffing of this type of activity. The transitional type of Russian economy after the collapse of the USSR also affected the development of the regional FI, this was connected to a reduction of the government allowances, an becoming out-of-date fleet, high fuel prices, and the constrained sale of caught fish abroad to cover operational expenses in remote areas of the marine industry. The enterprises of the Kaliningrad region did not master allocated them quotas for fishing in the Baltic Sea and the bays, as the fleet was poorly adapted to the new economic conditions. The number of small-capacity fleets was insufficient, the heritage of the USSR - large trawl ship could not fish due to international restrictions. A reduction in effectiveness of the activity of the fishery industry was also caused by its breakdown into separate structures for the extraction, processing and production distribution of fish.

4. THE USE OF THE CLUSTERING METHOD IN THE TRANSFORMATION OF THE REGIONAL FISHERY INDUSTRY

In this regard, the research and identification of the main trends in the territorial and sectoral structure of the FI becomes especially relevant, since all these processes are directly related to the transformation of the economy of the region. It should also be noted that the mechanism of formation of the region's economy in the post-Soviet period mainly occurred without methodological understanding, and the new structure of the FI was spontaneously formed and actively reacted to changes in market conditions. The search of ways of restructuring of the FI in the context of a spontaneous transformation of the economy and today it is a primary objective for the Government of the Kaliningrad Region, as the fishing industry of the region is a specialization industry in the modern territorial division of labour in Russia, which is why the development of the concept of structural and spatial transformations of the regional FI is also relevant. For the exclave region, which today is the Kaliningrad region, to ensure its sustainable development, specific regional factors are very important, among which industry clustering can be distinguished [6]. The cluster approach in the region's industrial policy is on a par with the "growth poles", territorial production complexes, technopolises, etc. The theory of the production cluster summarizes the researches of industries of territorial specialization, key firms, industry leaders, networks of intra-regional manufacturers and suppliers, production and market infrastructure [3]. Currently, in the Kaliningrad region there are supposition for the concentration and integration of enterprises of various economic activities, with the formation of industrial clusters by combining competitive related sectors, including in the fishing industry [9]. Therefore, in the Kaliningrad region, a regional target program "Development of the fishery industry" was developed, the main purpose of which is not only the rational utilization of the allocated raw materials, attracting investment in the region, but also the creation of a fish processing cluster on the territory of the FSUE Kaliningrad Sea Fishing Port (114 hectare) whose functions will include: support for fishing organizations (fishing for sprats (Baltic sprats), herring), modernization of coastal infrastructure, coastal processing, repair of vessel of the fishing fleet, aquaculture production and other [13]. At present, the transformation of the structure of the FI of the Kaliningrad Region is carried out through the formation of a modern fishery cluster in the areas of effective management and development of coastal fishing and fish farming with a modern solution to financial, economic, technological, managerial and environmental problems. A notable result of such transformation of the FI and the formation of a regional fishery cluster was the increased total annual harvest of coastal fisheries in the Baltic Sea, represented by record levels over the past 15 years - 42, 9 thousand tons [10]. The basis of the fishing trade in the Kaliningrad region from the total harvest is herring (54.2%), sprat (29.8%), cod and river flounder. The increase of the coastal quotas of the extraction (harvest) of Baltic sprat (sprats) and Baltic herring (herring) affected the harvest indicators - the total catch of small sprat amounted to 108.8% (2016). Positive dynamics is also observed in the development of the coastal fisheries - a change in the fishing characteristics of the fleet affected

its work in the 26th subarea of the Baltic Sea [10]. An increase in the total catch of small sprat contributes to the provision of raw materials to coastal canning enterprises during coastal fishing for the purpose of import phase-out. Currently, more than 20,000 people are employed in the fishery industry of the region, 60 vessels with a gross tonnage of 155.7 thousand tons are in operation. The infrastructure of the FI is based on 195 organizations, 2 ship repair enterprises, 2 fishing equipment manufacturing enterprises, AtlantRIFO, MariSIAIF 2 higher education institution and 1 specialised secondary educational establishment [14]. As part of the fishing cluster in the Kaliningrad region, the investment project "Construction and Modernization of the Coastal Zone" has been making since 2016. The common marine core self-employed Sushko is located in the city of Svetly and includes fish processing workshops, a storage warehouse, ship basing and a specialized market. A modern workshop for the freezing and storage of frozen fish products OOO "Moredobycha" operates in the region. Three vessels of the SEC "Rybolovetsky Kolkhoz", "Za Rodina", the ship SFTR - 1376 OOO "Stalactit Maritime Firm", and the berth "Rybolovetskiy kolkhoz "The Worker of the Sea" in the village of Rybachy were modernized [10]. To implement the cluster project, the Kaliningrad Sea Fishing Port was joined to the Federal State Unitary Enterprise "National Fish Resources" (2017), it is planned to reconstruct of the refrigerator and the berth, purchase elevating and transport equipment, and create a modern fish market of local catches. The ban on the import of fish products (including canned sprats) from Latvia, Estonia and Poland since 2015 also influences the optimal implementation of the state program "Development of the fishery industry". Meanwhile, in the conditions of cross-border cooperation of the Kaliningrad region, it is necessary to support the international initiative in the production of alternative products with the countries of the Baltic region. According to the data of Agency for Fisheries on the implementation of the goal of the government program "Sustainable development of the fisheries industry of the Kaliningrad region", the aim of effective management of FI in 2015-2016 was achieved by 96% of the 100% was planned [10]. The actual volume of fish products produced by the companies of the Kaliningrad region amounted to overfulfillment of the plan: in 2015 - 55.09 thousand tons (plan - 40.22 thousand tons); in 2016 - 58.93 thousand tons (plan - 41.09 thousand tons). The volume of private investment in the construction and modernization of coastal infrastructure and coastal processing in 2016 amounted 779.4 million rubles (plan - 639.2 million rubles). Sustainable production of aquaculture products and subsidizing part of the procurement cost of expensive feed is also part of the plan for the development of fish farming as part of the regional fisheries cluster. The key internal element of the enterprise in the regional fisheries cluster structure is the competitiveness of products [4]. Meanwhile, a number of factors today relate to the "risk factors" of the cluster development strategy in FI: market (demand, product prices); social factor (lack of skilled staff), environmental factor, legal factor; raw materials (reduction of quotas, error of the forecast of catch); economic (rise in prices of equipment); financial (lack of funds of the enterprise). However, the demonopolization of production leads to the formation of a modern information realm of the business community. The efficiency of plantation of new production technologies, business services, the selection of bona fide suppliers and skilled personnel contributes to use of the concept of clusters in production activities.

5. CONSLUSION

As a result, a comprehensive analysis of the economy and FI of the Kaliningrad region in the post-Soviet period revealed the following distinctive features of regional development: 1) the spontaneous transformation of FI with structural changes at the spatially local and sectoral levels that occurred during the transitional period of development of the Russian economy; 2) FI is a socially significant sector of the economy with competitive advantages of import phase-out and self-dependence of the region with fish products; 3) in the region there are prerequisites

for the formation of industrial clusters, including in the fishing industry, which are gradually becoming “growth points” of the regional economy; 4) the risks of the strategic development of the regional fishing cluster include: raw material factor, economic factor, financial factor, market factor, social factor, environmental factor, legal factor; 5) in future, the influence of the regional FI on the change in the socio-economic micro-zoning of the region [8], as a gradual process of concentration of economic growth in the coastal part of the region, the so-called “polarization” of space, remains relevant.

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PUBLIC EXPENDITURES AND ECONOMIC GROWTH: THE CASE OF THE REPUBLIC OF CROATIA

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ABSTRACT

Within fiscal policy, one of the main instruments for stimulating economic growth are public expenditures. However, economic theory has shown that public expenditures can have a positive and negative impact on growth and that this impact can be short-term and long-term. In order to look at the effects of government spending policy on economic growth it is necessary to divide the total amount of public expenditure into several categories and analyse them separately. The most commonly used approach is the division of public expenditures into government spending and investment. Government spending is generally considered to have a negative impact on economic growth, while investment has a positive effect. However, given that some categories of government spending have a positive impact on economic growth (expenditure on infrastructure, education and health) such a division is not enough. Therefore, in economic theory, it is common to divide public expenditures into productive and unproductive public expenditures. Productive expenditures include expenditures for health, education, research and development, public infrastructure, while unproductive expenditures include expenditures for the military, administration, social benefits, salaries, etc. However, the main problem in the economic literature is that it cannot be provided a general conclusion about the impact of certain categories of public expenditure on economic growth for all countries, and the impact is different in developed countries and developing countries. The purpose of this paper is to critically analyse the theoretical and empirical literature on the relationship between public expenditure and economic growth and to provide an overview of various categories of public expenditure in the Republic of Croatia in the period from 2008 to 2018. Accordingly, the analysis will show how the growth of total public expenditures, as well as various components of public expenditures, influence the economic growth of the Republic of Croatia.

Keywords: *economic growth, fiscal policy, public expenditures, Republic of Croatia*

1. INTRODUCTION

Over the past two decades, a considerable amount of theoretical and empirical research has focused on identifying components of public expenditure (government spending) that have a significant relationship with economic growth. Using fiscal policy instruments to achieve the desired economic growth can be explained from different points of view. Keynesian theory argued that the government should fine-tune the economy by allowing economic forces to allocate factors of production and investment, as well as the need to occasionally intervene in the regulation of the impact of macroeconomic variables with the objectives of achieving balance and continuous development of all sectors of the economy. But unlike Keynesian theory, in modern systems there is direct control of all factors of production, which is a less successful way because of its authoritarian nature, which reduces the interaction of macroeconomic variables and causes distortions as well as market failures. Accordingly, the relationship between public expenditures and economic growth generates a series of debates and different opinions among economists. The government has two functions. The first is protection and security (creation of the rule of law and protection of property rights, protection of life and property and population) and the second is the production of certain public goods (defence, roads, education, health, etc.).

Some economists argue that higher public expenditures for socio-economic and physical infrastructures encourages economic growth in the same way as health and education expenditures increase labour productivity and increase a growth of domestic product (Barro and Sala-i-Martin, 1995). On the other hand, there is a group of economists who argue that increased public spending can reduce economic growth because, in the case of higher public spending, governments can raise taxes or raise public debt which have impact on household spending. Moreover, if the government increases borrowing in order to finance its expenditures, it will reduce private investment. The involvement of public infrastructure or, more generally, public capital in the private production function has important implications for productivity in the private sector. Increasing public spending directly increases the marginal productivity of private inputs, which encourages their accumulation and can therefore trigger production growth (Aschauer, 1989). Thus, the activities of the state and politicians play an important role in determining the economic conditions under which economic growth take place. Some of these activities are directed towards redistributive and the wider objectives of social policy which, at least in the short run, are not primary suited for achieving higher economic growth. In addition, the demand for some public services (health, education, defence, etc.) may depend on the level of output per capita, so that in the long run public spending increases with the standard of living (Wagner's law). In addition to the long term, the mechanisms of fiscal policy can affect output (production) and growth in the medium term, as well as during the business cycle. In the framework of economic policy, fiscal policy is generally seen as an instrument to mitigate short term fluctuations in production and employment. With changes in public spending or taxation, fiscal policy aims to influence aggregate demand to bring the economy closer to its potential equilibrium output. Therefore, the quality of fiscal policy should be evaluated for its ability to reduce output fluctuations. However, the long term implications of such short term fiscal policy instruments in the area of taxation and government spending cannot be overlooked. On the government spending side, which is the topic of this research, several fiscal policy instruments that have long term effects can be identified. Such instruments are known from earlier models of endogenous growth which have introduced the category of public expenditure as something that drives economic growth. Thus, the main goal of the research is to provide an overview of various categories of public expenditure in the Republic of Croatia in the last ten years and to show how the growth of total public expenditures, as well as various components of public expenditures, influence the economic growth of the Republic of Croatia. The results of this research show that the structure of public expenditures in the Republic of Croatia is not fully oriented towards achieving higher rates of economic growth and require its adjustment. The rest of paper is structured as follows: Section 2 highlights the literature review in the field of public expenditures and economic growth, Section 3 presents analysis of public expenditures in the Republic of Croatia, Section 4 concludes.

2. LITERATURE REVIEW

In order to examine the effects of public expenditure policy on long term economic growth, it is necessary to divide the total amount of public expenditure into several categories and analyze them separately. The most commonly used approach is the division of public expenditures into government spending and investment. Government spending is generally considered to have a negative impact on economic growth, while investment has a positive effect. However, such a division is not sufficient, given that some categories of government spending have a positive impact on economic growth, such as expenditure on infrastructure, education and health. In contrast, some investment projects can create distortions that result in loss of prosperity in the country. According to Devarajan et al. (1996), public or government spending can be divided into productive (which has a positive effect on economic growth) and unproductive (or purely consumer).

Also, according to Glomm and Ravikumar (1997), public expenditure on infrastructure and education has a direct impact on the growth rate of the economy. In this case, changes in the rate of growth of public infrastructure and changes in the level of education affect the growth rate of the economy. In particular, whenever the level of education exceeds (lags) the level of knowledge and innovation there is a positive (negative) impact on economic growth. Other public expenditures, however, do not directly influence the growth rate. Empirical evidence in the area of public expenditures and their impact on economic growth suggests several different conclusions. Cashin (1995), Kocherlakota and Yi (1997), de la Fuente (1997), Kneller et al. (1999) found a significant positive impact of public investment levels on economic growth in developed countries, while Bose et al. (2007) concluded that education expenditures (private and public) as well as the total amount of investment are important for developing countries in stimulating economic growth. In contrast, Easterly and Rebelo (1993) analysed different types of public expenditure and concluded that only public investment in transport and communications infrastructure creates positive effects on economic growth in both developing and developed countries, and that total public investments have no significant effect. Miller and Russek (1997) in their work found that investments in transport and communications infrastructure have a negative effect on growth in developing countries. Deverajan et al. (1996) have shown that public capital expenditures have a negative effect on growth in developing countries and that the results are different when developed countries are included in the analysis instead of developing countries. They explained such a results by suggesting that expenditures that are usually considered productive can become unproductive if there is an excessive amount of them. Also, they concluded that developing countries are allocating their resources in the wrong way, that is, excessive spending of capital. In their work, Fölster and Henrekson (2001) examined the effects of rising public spending and taxation in developed countries. Using panel data for the period from 1970 to 1995 they found a negative relationship between public expenditure and economic growth. In addition, the authors conclude that a 10% increase in public expenditure as a share of GDP is associated with a 0.8% decrease in economic growth. Similarly, Kneller et.al. (1999) have demonstrated that fiscal policy can influence long-term growth rates in OECD countries. The authors find that productive expenditures such as expenditures on education and health increase growth while unproductive expenditures such as those on social security and welfare have no effect. Mueller and Stratmann (2003) found a negative effect of state size on economic growth in a sample of industrialized countries. There are some studies that have contributed to the theoretical and empirical debates whether fiscal policy has a positive effect on economic growth in the long run. A study conducted in Kenya (Amanja and Morrissey (2006)) assumes that government and policy influence are vital to economic growth, but from the opposite point of view. They assume that government operations are inherently bureaucratic and inefficient and therefore don't encourage growth. They used time series of annual data to explore the relationship of different fiscal policy measures to growth. By categorizing government expenditures into productive and unproductive, and tax revenues into distortive and non-distortive, they concluded, according to economic theory, that unproductive spending and non-productive taxes do not contribute to growth. However, contrary to expectations, productive expenditures in their research have a strong negative impact on growth, while they have found no link to the effects of distortive growth taxes. On the other hand, they have proven that government investment has a positive impact on long-term economic growth. Bleaney et al. (2001) have shown in their work that more productive government spending increases growth, while unproductive government spending has the opposite effect. Also, most empirical research supports the thesis about the negative effect of taxes on economic growth, as well as the positive link between growth and spending on education, while the evidence for the negative impact of public spending on defense is slightly less strong.

In accordance with all the above, the next part of the paper will analyse the structure of public expenditures in the Republic of Croatia based on the economic and functional classification of public expenditures according to the IMF.

3. ANALYSIS OF PUBLIC EXPENDITURES IN THE REPUBLIC OF CROATIA

Based on a review of the most important research in the area of public expenditure and economic growth, it can be concluded that the results show different views on which public expenditure can be classified as productive and which as unproductive. Also, the impact of public expenditures on economic growth depends on various factors such as the level of consumption, the efficiency of the provision of public goods and services within the national economy, the tax burden and tax structure, as well as the public expenditure itself whose impact is estimated. This means that the positive impact of some form of public expenditure depends largely on the institutional, economic and political environment of the country. Furthermore, the most significant divisions of public expenditure are those according to functional and economic classification. These divisions are significant because, in analysing productive and unproductive public expenditures, it is more important to look at the function (functional classification) for which public revenue is spent than economic classification. For example, it is not the same if funds are spent on salaries of employees in education (productive purposes) or in salaries of employees in pre-dimensioned public administration (non-productive purposes). These two classifications are shown in the following Table 1.

Table 1: Functional and economic classification of public expenditures

Functional classification	Economic classification¹
General public services	Compensation of employees
Defence	Use of goods and services
Public order and safety	Consumption of fixed capital
Economic affairs	Interest
Environmental protection	Other property expenses
Housing and community services	Subsidies
Health	Grants
Recreation, culture and religion	Social benefits
Education	Capital transfers and other expenses
Social Protection	Acquisition of fixed capital
	Net acquisition of financial assets for policy purposes

Source: Allen, R. and D. Tommasi (eds.) (2001), Managing Public Expenditure: A Reference Book for Transition Countries, OECD Publishing, Paris, <http://www1.worldbank.org/publicsector/pe/oecdpehandbook.pdf>

Considering that a functional classification organizes government activities according to their broad objectives or purposes (e.g., education, social security, housing, etc.) and that it is independent of the government's administrative or organizational structure such a classification is especially useful in analysing the allocation of resources among different sectors in the national economy. Also, the division of public expenditure by function is good for analysing government spending and comparing data over time. Based on this classification and in the context of previous research in the field of the impact of public expenditures on economic growth, the division of public expenditures into productive and non-productive ones can be made, as shown in Table 2.

¹ The economic classification identifies the type of expenditure incurred, for example, salaries, goods and services, transfers and interest payments, or capital spending. Provides data on types of revenues or expenditures (for example, salaries or goods and services).

Table 2: Productive and non-productive public expenditures

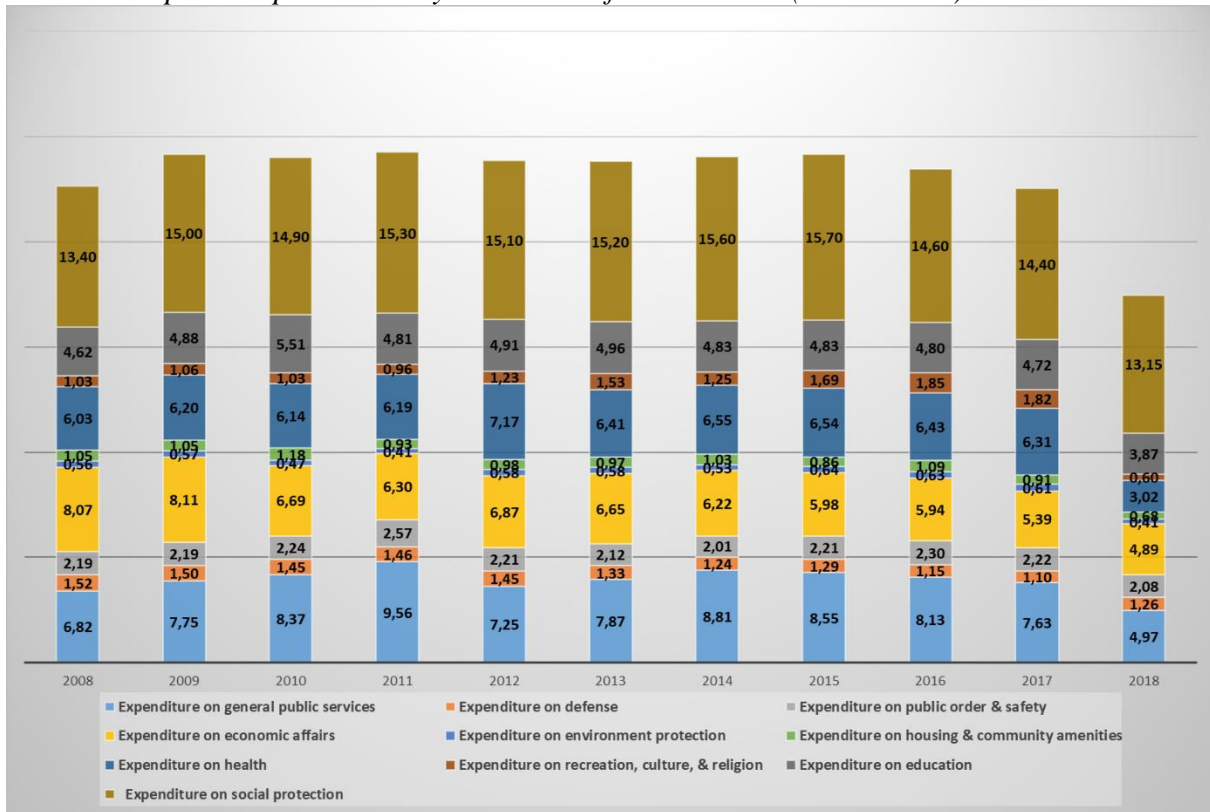
Productive public expenditure	Non-productive public expenditure
General public services	Social Protection
Defence	Recreation, culture and religion
Public order and safety	
Economic affairs	
Environmental protection	
Housing and community services	
Health	
Education	

Source: author's compilation based on Pitlik and Schratzenstaller (2011)

Positive impact of expenditures for general public services, defence and public order and safety results from the fact that these are typical public goods for which there is a need in every country and must be provided. On the other hand, this type of expenditure is significant because in most countries there is no private expenditure for this purpose. Investment in economic affairs (transport, communication and utilities) and in environmental protection (energy efficiency, water supply) contributes to increased productivity in the private sector, suggesting that this type of public expenditures can be the main driver of economic growth. Furthermore, public expenditures on education and health increases labour productivity and has a positive impact on human capital accumulation, which ultimately contributes to greater economic growth. The categories of public expenditures that were classified in the Table 2 as non-productive do not necessarily have negative impact on growth. However, this analysis assumes that public expenditure on social protection (government transfers) has a negative impact on economic growth because it can discourage people from working. Expenditures for recreation, culture and religion are classified as non-productive because does not have a direct impact on growth. The following Graph 1 shows the functional classification of public expenditures as a share of GDP in the period from 2008 to 2018.

Graph following on the next page

Graph 1: Expenditures by Functions of Government (in GDP - %) in Croatia



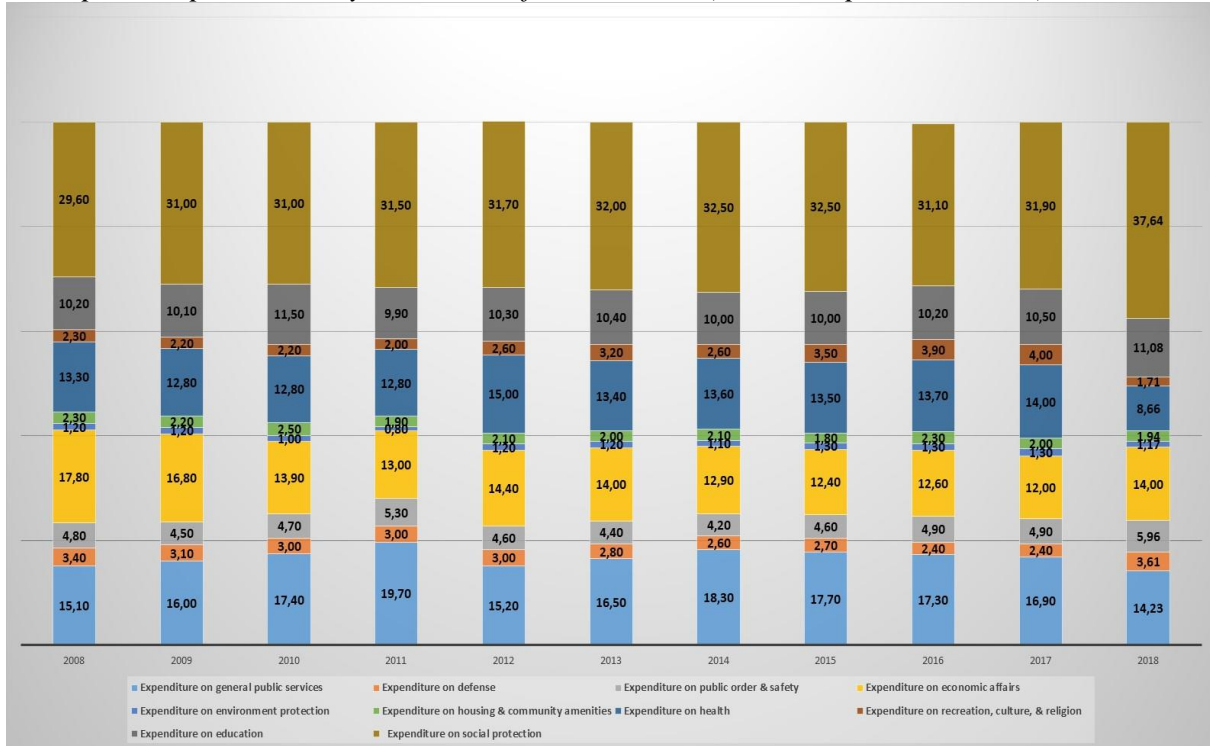
Source: authors' compilation based on Government Finance Statistics

<http://data.imf.org/?sk=5804C5E1-0502-4672-BDCD-671BCDC565A9>; Republic of Croatia
 - Ministry of Finance <http://www.mfin.hr/hr/drzavni-proracun-2019-godina>

The previous Graph 1 shows that after the beginning of the economic crisis (2008) and until the end of 2017, there were no significant reductions in public spending in the Republic of Croatia and that the most significant category of public expenditure are expenditures for social protection (approximately 15.50% of GDP) in all observed years. The second most significant category of public expenditures are expenditures on general public services, while the third most significant category since 2015 are expenditures on health. Also, the fact that expenditures on general public services in the observed period are on average two times as high as the expenditures on education, and that in the last four years the expenditures on education have either stagnated or decreased, shows inadequate spending of public money. It is also necessary to increase expenditures on environment protection, which is now at a very low level of 0.50% of GDP a year on average. The following Graph 2 shows the structure of public expenditures by functional classification as a percentage of total public expenditures in the period from 2008 to 2018.

Graph following on the next page

Graph 2: Expenditures by Functions of Government (in total expenditures - %) in Croatia



Source: authors' compilation based on Government Finance Statistics

<http://data.imf.org/?sk=5804C5E1-0502-4672-BDCD-671BCDC565A9>; Republic of Croatia
 - Ministry of Finance <http://www.mfin.hr/hr/drzavni-proracun-2019-godina>

Unlike the Graph 1, the data on this Graph 2 shows how economic policy makers can make decisions about increasing or decreasing certain categories of public expenditures, assuming that the total amount of public expenditures is stable each year. It can also be observed that, from 2008 to 2017, the structure of public expenditure was on average the same. However, in 2018, there was a significant change in the structure of public expenditures, primarily because expenditures on social protection has been significantly increase (5.74% of total expenditures). Accordingly, there has been a significant reduction in expenditure on health, general public services and recreation, culture and religion. This situation can be attributed to the fact that in the Republic of Croatia it is necessary to stimulate the labour market as well as the retention of the labour force in the country. In order to achieve this, it is necessary to provide resources for employment and promotion of social inclusion. However, if this structure of public expenditures is linked to research conducted to determine which public expenditures are productive and which are non-productive, we can see that on average 35% of Croatian public expenditures are spent for non-productive purposes, while some functions that can have a positive impact to economic growth are neglected (eg defence, education, environmental protection).

4. CONSLUSION

The analysis of public expenditure in the Republic of Croatia in the last 10 years leads to several important conclusions. First, when analysing productive public expenditures, it is evident that there is still much space for progress in Croatia. The long-planned education reform has begun, but the amount of public expenditures earmarked for education is not sufficient. Also, there is a very low level of expenditures for research and development, which implies that Croatia will not achieve these goals under the Europe 2020 Strategy. Other goals of the Europe 2020 Strategy, such as renewable energy, energy efficiency, increasing employment rates and

reducing social exclusion and poverty, have been achieved by Croatia, but a greater number of projects linked to that achievements are co-financed by EU funds. Second, in the context of non-productive public expenditure and despite a significant proportion of public expenditure being allocated to social protection, the population exposed to poverty and social exclusion is higher than the EU average, implying that the impact of public expenditure on poverty reduction is limited and not sufficiently effective. Very small releases for environmental protection limit the resolution of the, lately, very large problem of too much waste ending up in landfills and too small to be sorted and recycled. This is a problem for both central and local levels of public authority. On the other hand, the Republic of Croatia has continuously high public expenditures for health, however, due to the slow progress of the rationalization of spending of public funds in hospitals and the large amounts of overdue obligations in the health sector, it is not possible to expect further development of the health care system and improvement of the quality of health care in the near future. Also, in order to improve economic growth, it is necessary to increase capital investments, especially in transport (railway) infrastructure.

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SUBJECTIVE QUALITY OF LIFE AS THE RESULT OF ECONOMIC STATE OF REGIONS

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ABSTRACT

The main task, formulated in the framework of identifying the imbalance of socio-economic development of territories, is to find and formalize the problem factors. As part of the improvement of the socio-economic situation of the regions, problems requiring immediate solutions are identified. Among them: a high level of morbidity, crime, unemployment, stratification of society (including income). As an example of the application of the methodology (its description is given below), the results of the analysis of the quality of life of the population of the regions of the Russian Federation on a pre-selected (abbreviated) list of indicators are presented. They correspond to the indicators obtained from the subjective assessments of respondents. The material nature of the quality of life of the population is confirmed. In addition, the CHAID analysis of variables is carried out – the results of a large-scale study of the population of Russian regions.

Keywords: *Quality of Life, Subjective Quality of Life, Demography, Welfare, Social Sphere, CHAID-analysis*

1. INTRODUCTION

The quality of life of the population is a multi-criteria indicator in a constantly changing socio-economic environment. In this paper, it is proposed to assess the quality of life of the population to apply the calculated integral indicator used to assess the level of socio-economic development of the regions of the Russian Federation [1]. For realization of functional tasks of management, it is necessary to apply methods of economic and mathematical modeling. Among them:

1. Cross-industry balance models;
2. Tools of comparative analysis of economic development of regions;
3. Econometric models (regression models, time series analysis models);
4. Models of multivariate statistical analysis (tools to reduce the dimension of the studied set of features, for example, cluster analysis, principal component analysis);
5. Graph theory;
6. Tools for detecting latent changes. For example, using structural equations, SEM-Structural Equation Modeling (structural equation modeling);
7. Neural network modeling;
8. Simulation tools (discrete-event, system-dynamic modeling, agent modeling).

The most preferred option is the symbiosis of the listed methods and models. In this case, it is possible to obtain the most adequate, reflecting the reality and having the maximum predictive power of the simulation result.

The choice of indicators is determined by the targets of national projects:

- increasing sustainable natural population growth;
- increase life expectancy;
- the reduction of poverty;
- improvement of living conditions of the population.

In addition, the objectives are:

- Russia's entry into the five largest economies in the world;
- creation and improvement of export-oriented sector in the Russian economy;
- growth in the number of innovative enterprises;
- digitalization of the economy.

1.1. Description of data

Thus, the following indicators are used for calculations (table 1).

Table 1: Indicators used to calculate the problem "Quality of life" (regional section)

Indicator	Unit of measurement
<i>Demography</i>	
Natural growth rate	per 1000 people
Infant mortality rate	Number of deaths per 1,000 live births
Mortality rate from neoplasms	Cases per 100,000 people
Mortality rate from cardiovascular diseases	Cases per 100,000 people
Number of disabled persons	Number per 1000 persons
<i>Welfare</i>	
Number of cars in personal use	pieces on 1,000 people
Input housing	Sq m per 1000 people
The ratio of per capita income and the subsistence minimum	%
Total volume of retail turnover and paid services	Rubles per capita
Investments in fixed assets	Rubles per capita
The length of roads with hard surface	Km per 1000 sq km area of the region
<i>Social sphere</i>	
The share of the population with monetary incomes below the subsistence minimum	%
Long-term unemployment rate (job seekers over 12 months)	% of all unemployed
The indicator of tension in the labour market	Number of unemployed persons per vacancy
Total number of serious crimes	Units per 10 thousand population

2. RESULTS FOR OBJECTIVE DATA

According to the results of the calculation of the integral indicator of the quality of life, we can distinguish a list of problem areas, among which: Republic of Tyva, Ivanovo region, Pskov, Orel region, Jewish Autonomous region, the Republic of Kalmykia. At the same time, several regions have some specific problems that determine their position in the ranking of administrative units. In case of the highest importance (degree of influence on the result) of a indicator, the position of the subject of the Russian Federation may be slightly shifted relative to the expected position. One of the main tasks in determining the values of the integral indicator of quality of life is to calculate the weight coefficients of individual criteria.

2.1. Demography

Values of weight coefficients of variables reflecting demographic position of regions of the Russian Federation (figure 1), explain the result of ranking regions.

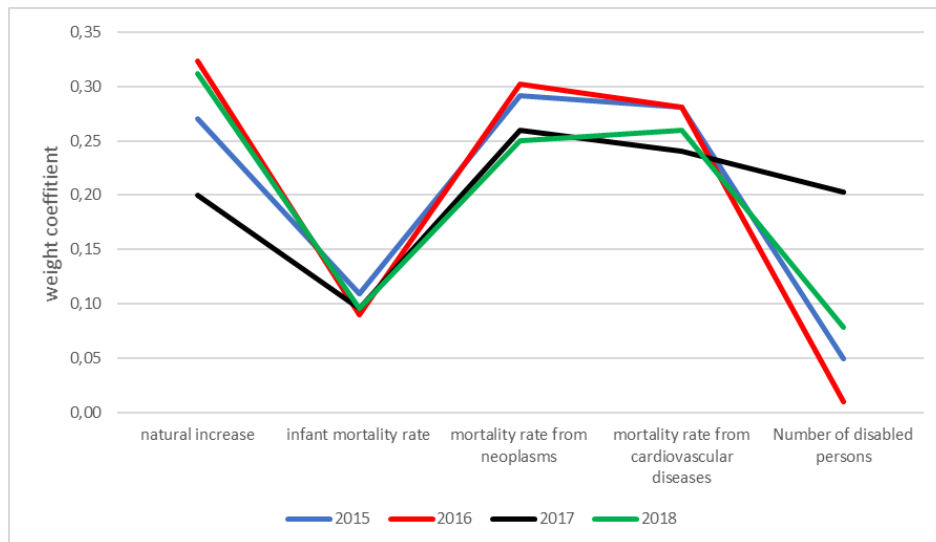


Figure 1: Weight coefficients of variables (group of indicators "demographics", according to calculations for 2015-2018)

One integral variable is constructed for all variables of the Demographics group. At the same time, a group of regions of the North Caucasus and some regions of Siberia and the Far East (Sakhalin region, Altai Republic, Sakha (Yakutia), Tyva) is clearly distinguished. They are characterized by high values of the coefficient of natural growth. In addition, there are low mortality rates from cancer and cardiovascular diseases. The regions of the Central Federal district, which formed the basis of the group of outsiders according to demographic criteria, are characterized by high mortality rates from cancer and cardiovascular diseases. Thus, in 2018, the number of deaths from cancer (per 10,000 people) was: 240 cases in the Pskov region, 257 - in Orel, 258 - in Tver, 263 - in Tula, 243-in Bryansk and 253 - in Kostroma regions. The national average in 2018 is 199 cases per 10,000 people. The relative number of deaths from cardiovascular diseases (per 10,000 people) in 2018: Pskov region-1090 cases, Oryol-901, Tver-708, Tula-645, Bryansk-714, Kostroma-743. The national average is 570 cases per 10,000 people, which is significantly lower than in the regions (figure 2).

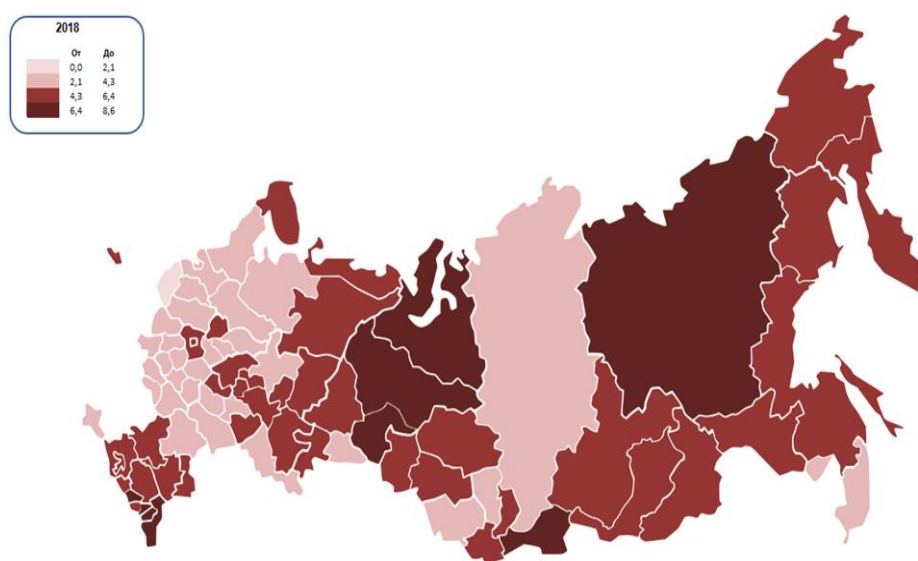


Figure 2: Map of regions of the Russian Federation (according to the values of the single indicator "Demographics" in 2018)

2.2. Welfare

When analyzing welfare, it is necessary to consider not only the level of provision of citizens with material resources, but also the degree of income differentiation. For this purpose, the ratio of the volume of per capita income and the subsistence minimum by region was used. The weights of individual variables in the context of the welfare analysis were not stable during the analyzed period (weights for 2018 - figure 3).

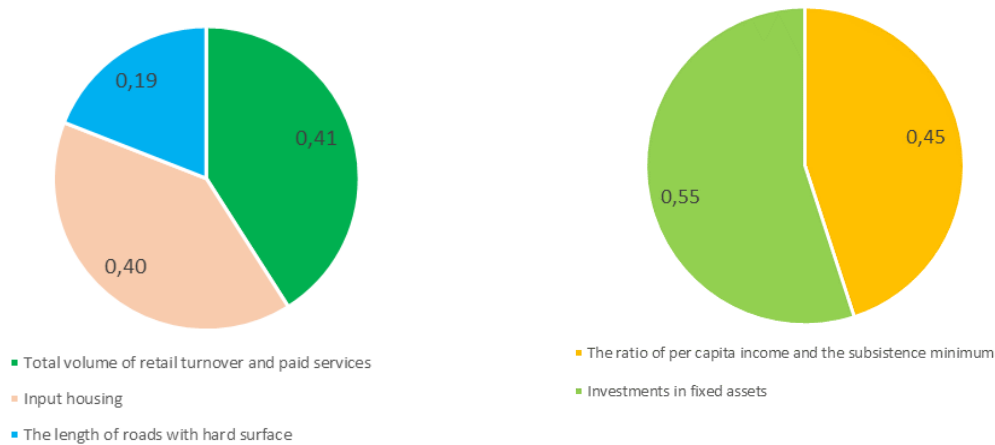


Figure 3: Weights of variables within blocks (Welfare, 2018)

All variables were divided into three blocks, for each of which integral indicators were estimated. Block weights in 2018 were distributed as follows:

- 1 (0.27): commodity Turnover and paid services; housing commissioning; roads
- 2 (0.46): Income and investments
- 3 (0.27): Cars

Getting regions among the leaders in 2018 is largely due to the high volume of investments in fixed assets (weight within the block-0.55) and the ratio of cash income and the subsistence minimum. Among the leaders: Moscow, St. Petersburg, Moscow, Sakhalin, Tyumen, Belgorod, Voronezh, Lipetsk regions, the Republic of Tatarstan and Krasnodar region (figure 4).

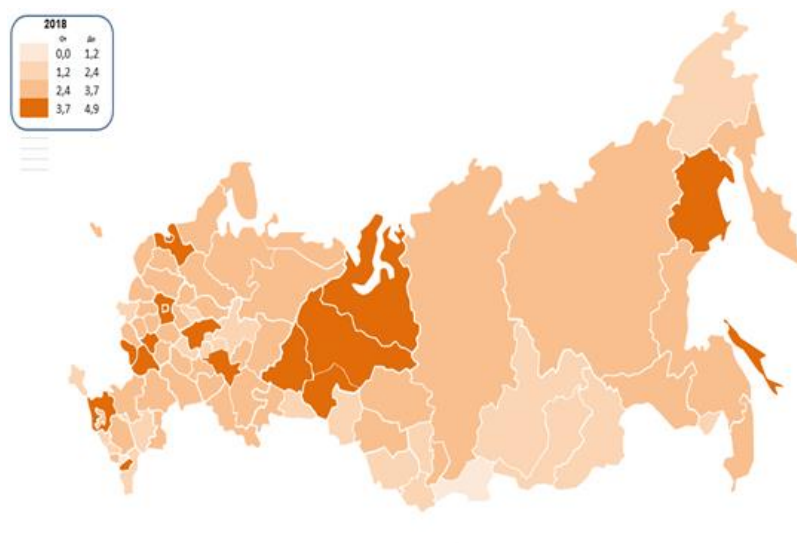


Figure 4: Map of regions of the Russian Federation (according to the values of the single indicator "Welfare" in 2018)

The list of "lagging behind" regions is traditional. Thus, the number of outsiders in 2018 included the republics of Tyva, Kalmykia, Karachay-Cherkessia, Altai, Zabaikalsky Krai, the Jewish Autonomous region. All of them are characterized by low purchasing power of cash income, weak infrastructure, low level of development of road networks. Among other things, these regions are unattractive for investors.

2.3. Social sphere

The high level of unemployment and crime is an extremely serious problem for several regions of the Russian Federation. Among the indicators reflecting the state of the social sphere is, among other things, the proportion of the poor - one of the most important indicators of social problems. The poverty of the population naturally stems from insufficient income, lack of employment. In most cases, it is the high level of poverty that contributes to the proliferation of various problems. Including, such as substance abuse, alcoholism, crime. During 2015-2018, the composition of the blocks of the Social sphere group remains unchanged. Thus, the first block includes three variables: the proportion of the poor; the level of long-term unemployment; the load per vacancy. The maximum weight in 2017 and 2018 is assigned to the share of the poor population, in 2015 and 2016 the indicator of long-term unemployment had the greatest impact on the value of the final indicator of the considered group. The territories most problematic from the point of view of the formation of an unhealthy situation in society are characterized by the following indicators:

- high level of poverty (Tyva-40%, TRANS-Baikal territory-21%, Buryatia-24% with the national average of 15%);
- a significant share of the unemployed, more than a year in search of work (Jewish Autonomous region-49%, Amur region-38%, Primorsky Krai-36%, Kemerovo region-35%, Transbaikal region-42.6%, Tuva-69%, Buryatia-42%, Ingushetia-73%. The value of the indicator in Russia-30%);
- high load on vacancy (Ingushetia-74,2. The national average is 2). It should be noted that a significant load on the vacancy is peculiar to most of the republics of the North Caucasus. Their non-inclusion in the number of disadvantaged regions is explained either by the low level of crime and poverty (Dagestan) or by the selection for close study of only ten outsiders;
- high crime rate (only for serious crimes, including murder, rape, causing serious harm to health). The number of criminal territories includes mainly the regions of Siberia and the Far East. Among them: Magadan and Amur regions (22 and 28 cases per 10,000 people, respectively), Tuva and Buryatia (36 and 29 cases, respectively), Primorsky Krai and the Jewish Autonomous region (20 and 27, respectively). Among the republics of the North Caucasus, the Chechen Republic "leads" in the number of crimes - 31 cases per 10,000 people. According to official statistics, the criminal situation in other Caucasian republics is more stable. Ingushetia-5 cases, Dagestan-7, North Ossetia-13, Kabardino-Balkaria-11, Karachay-Cherkessia-9.

The territories most problematic in terms of solving social problems and their possible consequences (the republics of Ingushetia and Tyva) (figure 5).

Figure following on the next page



Figure 5: Map of regions of the Russian Federation (according to the values of the single indicator. "Social sphere" in 2018)

2.4. A composite indicator

According to the obtained values of the indicators "Demography", "Welfare" and "Social sphere" the resulting feature was constructed. In addition, the weights of each group indicator were determined (figure 6).

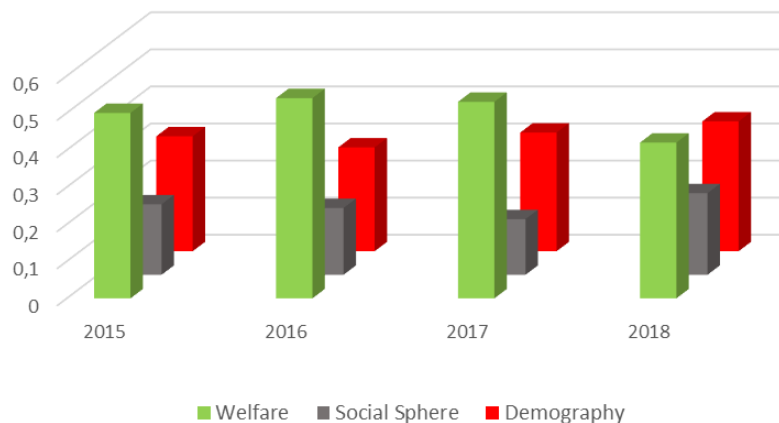


Figure 6: Weights of group indicators in the summary indicator in 2018

Among the leaders in quality of life: Tyumen, Moscow region, Moscow, Tatarstan, Yakutia (due to the indicators of the social sphere and welfare), the Chechen Republic (due to demographic parameters and indicators of the social sphere). Welfare criteria plays a leading role in shaping the quality of life. But not only welfare should be under close attention. It is equally important to provide measures and mechanisms to reduce mortality caused by cancer and diseases of the cardiovascular system and circulatory organs. The situation in the regions of the Central and North-Western Federal districts should be kept under close attention of the supervisory authorities. In order to prevent the growth of social problems due to the high level of unemployment and impoverishment of the population, it is necessary to take measures to create a prosperous social environment, in particular, measures to regulate employment and reduce unemployment in a number of regions of the Far East, Siberia and the North Caucasus. One of the main centers of social problems is the Republic of Tyva, the situation in which also requires special attention. Since, in addition to the difficult situation with the crime rate (the Republic of Tuva is one of the leaders in the number of crimes related to drug trafficking), the region also has a high degree of stratification of the population in terms of income.

3. RESULTS FOR SUBJECTIVE INDICATORS

In addition to the assessment of the objective quality of life, the analysis of the subjective component of this category in the form of an assessment of living conditions, material well-being and other parameters for 2018 according to periodic observation was carried out. Table 2 contains a list of the variables under consideration and their weights calculated during the transition to the modified main components.

Table 2: Indicators used to determine the values of the integral indicator "Assessment of living conditions"

№	Indicator	Weight coefficient
1.	The work fully corresponds to the specialty	0,11
2.	Satisfaction with the quality of service in regional government	0,15
3.	Good and very good health of respondents (sum of frequencies)	0,18
4.	Ability to make daily purchases without significant difficulties	0,23
5.	Sufficient satisfaction of the amount of wages	0,22
6.	During the last 12 months we have been studying under the advanced training program	0,11

The analysis of subjective data is also carried out using the principal component method. The results revealed a group of indicators that best determine the subjective quality of life in the context of differentiation in the level of development of the regions of the Russian Federation. Figure 7 shows a map of the regions of the Russian Federation, based on the values of the summary indicator of subjective quality of life.



Figure 7: Russian regions on the map (by subjective indicator)

4. COMPARISON OF OBJECTIVE AND SUBJECTIVE INDICATORS OF THE QUALITY OF LIFE OF THE POPULATION FOR 2018

To compare the objective and subjective indicators of quality of life, the data analysis tool – CHAID analysis (decision tree method) was used. The vector-column of values of the final objective indicator of quality of life was chosen as a dependent variable, explanatory variables-

indicators that form the subjective quality of life of the population of all regions of the Russian Federation (figure 8). To be able to implement the CHAID-analysis, all variables were subjected to the procedure of visual categorization with an unequal number of categories for all initial indicators. The most significant are the variables characterizing the material security of the population-satisfaction with the level of wages and the ability to make daily purchases without significant difficulties.



Figure 8: CHAID analysis results for QoL in Russian Regions

5. CONCLUSION

By results of calculations of indicators of quality of life (on data of objective and subjective sense) the material nature of quality of life of the population and satisfaction with life is confirmed. The regions whose population is at risk for certain criteria of quality of life – the death rate from neoplasms and cardiovascular diseases, poverty, uneven distribution of material resources-have been identified.

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THE LEGAL ENVIRONMENT OF BUSINESS – THE ARRANGEMENT PROCEEDINGS IN CASE OF INSOLVENCY OF THE ENTERPRISE IN POLAND (SELECTED ISSUES)

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ABSTRACT

The aim of the study is to discuss the arrangement proceedings as a way to avoid declaring bankruptcy and ensure further activity of the enterprise which is insolvent or threatened with insolvency in Polish legal system. The analysis reflects the comparison between the arrangement proceedings and other restructuring procedures established under Polish regulations. The paper concentrates on the characteristics of the subsequent stages of the arrangement procedure and the possibilities of using different legal measures to safeguard the interests of the insolvent enterprise at each stage of the procedure. In particular, the restructuring plan, the restructuring measures and the inventory of receivable debts are in focus. The article not only pays attention to legal regulation of the abovementioned procedure but also to practical consequences and possible threats to the wellbeing of the enterprise after issuing an application for the opening of arrangement proceedings. Subject to analysis is also the right time to initiate the arrangement proceedings and possible consequences of not initiating it in the right time. Last part of the text concentrates on the process of concluding the agreement by the debtor with his creditors. Description of the procedures of establishing the inventory of receivable debts and convening the meeting of creditors in order to hold a vote on the arrangement is limited with the stress being put on the possibility to continue the proceedings even in case of passive attitude of some creditors.

Keywords: *bankruptcy, insolvency, arrangement procedure, restructuring procedure, restructuring plan*

1. INTRODUCTION

Since 1 January 2016 the procedure in case of financial problems or insolvency of the enterprise in Poland has been regulated mainly by the texts of two acts - the Bankruptcy Law of 28 February 2003 (until 1 January 2016 known as the Bankruptcy and Reorganisation Law) and the Restructuring Law of 15 May 2015 (which is an entirely new legal act). These two acts regulate the situation of enterprises that are struggling with severe financial problems – both at an early stage (the threat of liquidity loss) and at its very advanced stage (bankruptcy). The aims of procedures regulated by the Bankruptcy Law and the Restructuring Law are different – in case of bankruptcy the aim is to enable the claims of the creditors to be satisfied to the greatest extent and, where the practical conditions allow, the existing enterprise of a debtor to be preserved. In case of restructuring procedures the aim is to avoid declaration of bankruptcy of a debtor through enabling him to undergo restructuring by making an arrangement with creditors and, in the case of remedial proceedings, also through conducting remedial actions, while securing legitimate rights of creditors. The Restructuring Law distinguishes four different restructuring procedures that can be initiated in the Restructuring Court. These are the arrangement approval proceedings; the accelerated arrangement proceedings; the arrangement proceedings and the remedial proceedings. The essence of three arrangement proceedings is in fact the same. Their purpose is to conclude the arrangement between the debtor and the creditors under the supervision of the Restructuring Court without any measures which are to be taken before the arrangement.

The premises differentiating various types of arrangement proceedings are the procedure of voting and the total sum of disputed receivable debts. Separate to the arrangement proceedings is the remedial proceedings both because of the premises of initiating and because of the scope of possible measures that can be taken in the course of the procedure. (Witosz, 2015, p. 11-12). The arrangement proceedings enable the debtor to make an arrangement after the preparation and approval of the inventory of receivable debts. The procedure may be conducted if the sum total of disputed receivable debts giving the right to vote on an arrangement exceeds 15 per cent of the sum total of receivable debts giving the right to vote on arrangement (contrary to accelerated arrangement proceedings which may be conducted if the sum total of disputed receivable debts giving the right to vote on arrangement does not exceed 15 per cent of the sum total of receivable debts giving the right to vote on an arrangement).

2. PROCEEDINGS FOR THE OPENING OF THE ARRANGEMENT PROCEDURE

2.1. Locus standi and formal requirements of the application

The arrangement proceedings – as all restructuring procedures – consists of two main parts: proceedings for the opening of arrangement proceedings and proceedings after the opening of arrangement proceedings (the proper/pure arrangement proceedings). Procedure for the opening of arrangement proceedings is initiated by an application. None of the provisions of the Restructuring Law (or any other act) stipulates initiation of the proceedings *ex officio*, which reflects the basic principle that the parties delimit the subject matter of the proceedings. Introducing this principle into arrangement proceedings relates to the belief that successful restructuring cannot take place without the clear intention of the stakeholders of the procedure. Since the priority aim of the proceedings is to avoid declaration of bankruptcy and to preserve the enterprise in the market, pursuing this aim without the will of the stakeholders may impinge on their civil and constitutional rights. The person who is legitimate to initiate the arrangement proceedings is only the debtor himself and the persons representing the debtor being a legal person or an unincorporated entity in which a separate law vests legal capacity. Application issued by entities other than the debtor will be rejected. Accordingly, the arrangement proceedings – contrary to the bankruptcy procedure and the remedial proceedings - cannot be initiated by any of the creditors (neither the personal one nor the one with a mortgage or pledge). Such restriction must be generally assessed positively. The arrangement proceedings is thought to be the way to clarify and improve the financial situation of the enterprise so it is possible only with the highest motivation of the debtor. The debtor must be properly represented in the arrangements proceedings. The Restructuring Law does not include the equivalent for article 20 par. 2.2 of the Bankruptcy Law, pursuant to which a petition for bankruptcy in case of legal persons or organisational units without legal personality that are granted legal capacity by a separate act of law - may also be filed by whoever has the right to represent the debtor and manage their affairs on the basis of act, company deed or its articles of association, either individually or jointly with other persons. Where the authority to represent the entity is conferred on two or more persons single Executive Board member is not entitled to apply for the opening of arrangement proceedings. Such regulation is connected with the lack of obligation of the debtor to issue the restructuring application and what is connected with this, the lack of responsibility for not issuing it resting on the members of the Executive Board. In case of partners of a civil partnership each of them can apply for arrangements proceedings on his own behalf. The procedure, after accepting the application, will be conducted only towards the partner that was the applicant. Issuing the application by one of the partners of a civil partnership will not result in opening the arrangement proceedings towards the other partners. Even in case the majority of partners decide in the form of the resolution that the application for opening of the restructuring proceedings is to be issued, the application signed by one of the partners will cause opening of the procedure towards this partner only.

The reason for such interpretation is that opening of the arrangement proceedings, in contrast to issuing a ruling by a Civil Court relating to payment obligations of the partners, is enforceable against all of the debtors property and not only against the common property of the partners. In such circumstances the resolution of partners may not enable one partner to apply for the restructuring of the others (similarly Filipiak, 2016, Lex, par. 10). The prosecutor lacks the capacity to apply in the arrangement proceedings. Pursuant to article 7 par. 1 of the Restructuring Law, unless the Act provides otherwise, the restructuring proceedings shall be instituted on the basis of the restructuring application filed by the debtor. The term 'The Act' must be interpreted strictly as covering only the Restructuring Law act (similarly SC, III CZP 58/05; Adamus, 2016, Legalis, par I.4; Filipiak, 2016, Lex, par. 12). The application for the opening of arrangements proceedings must comply with the formal requirements laid down in both – the general regulations of the civil procedure code (further also as CCP) and the specific regulations of the Restructuring Law (further also as RestLaw). This means the application must comply with the requirements for the procedural document (article 126 par. 1 CCP), the requirements for the first procedural document in the case (article 126 par. 2 CCP) and the requirements from articles 227 and 228 of the Restructuring Law (art. 265 - 266 RestLaw). The lastly mentioned provisions are *lex specialis* towards the provisions of the CCP. When it comes to specific formal requirements of the application for the opening of arrangements proceedings they are set out mostly in article 227 RestLaw. Application covers, inter alia, precise indentifying data of the debtor, arrangement proposals with the initial restructuring plan, the amount and list of disputed claims, the total sum of receivable debts and the list of creditors. Along with the application for the opening of the arrangement proceedings, the debtor shall submit a written statement that the information contained in the application and attachments is true and complete. If the statement referred to above is not true, the debtor shall be liable for any harm caused by misrepresentation. The fee for application for the opening of the arrangement proceedings is 1.000 PLN (around 230 Euro, the fee is the same for all restructuring proceedings). Pursuant to article 267 RestLaw, the court may demand that the debtor pay the advance payment for expenses of the proceedings for the opening of arrangement proceedings, on pain of omission of an act with which the request for an advance payment is connected, or, in the case of request for an advance payment for remuneration of the temporary court supervisor, on pain of discontinuance of proceedings.

2.2. Proceedings to secure the property of a debtor

In the procedure for the opening of arrangement proceedings, the court may secure the property of a debtor. Basic ways of securing the property are enumerated in the Restructuring Law, additionally, under the regulation of article 269 RestLaw, the court may use the ways of securing enumerated in the Civil Procedure Code. The aim of securing procedure in case of the procedure for the opening of arrangement proceedings is to secure the assets of a debtor to the greatest extent in such a way to enable the debtor to continue or even restore the activity of the enterprise despite high level of liabilities. Through restoring viability the debtor increases his ability to pay the debts which serves the interest of creditors. Under the regulation of art. 737 of the Civil Procedure Code in connection with art. 269 of the Restructuring Law, the application for securing the property of a debtor should be dealt with without delay, not later than within a week of the day when it was filed. The Restructuring Law enumerates four basic ways of securing the properties of a debtor – all of them serve different needs of both the debtor and the creditors as a group. Three of them are autonomous and the fourth one may be introduced only together with the other ones. The ways of securing the property of a debtor which are autonomous are: by the appointment of a temporary court supervisor, by the appointment of a temporary administrator or by the suspension of the enforcement proceedings led against the debtor.

The decision of appointing a temporary court supervisor or a temporary administrator shall be announced in the official national Register. The fourth way of securing the property of a debtor – by revocation of the seizure of bank accounts – is not autonomous. The Restructuring Court may abolish the seizure of bank accounts only in case of suspension of the enforcement proceedings led against the debtor and in such a case the court is obliged to appoint a temporary court supervisor if the supervisor has not been appointed before. Instructions of the debtor concerning cash means in the bank account whose attachment has been set aside, require consent of the temporary court supervisor. In the procedure for the opening of arrangement proceedings, three out of four ways of securing the property of a debtor enumerated above may be used – the appointment of a temporary court supervisor, the suspension of the enforcement proceedings led against the debtor and the revocation of the seizure of bank accounts. The proceedings to secure property is facultative, which means the court is not obliged to perform it even on debtor's request. The optionality of the procedure to secure the property does not exclude the possibility of initiating the procedure by the Restructuring Court *ex officio*. The court of its own motion, may appoint the temporary court supervisor. On the contrary, the suspension of the enforcement proceedings led against the debtor conducted in order to seek the recovery of receivable debts covered by the arrangement by operation of law and the revocation of the seizure of bank accounts may be appointed only upon application by the debtor or the temporary court supervisor (art. 268 par. 2 RestLaw). The Restructuring Court may not secure the properties of the debtor in these ways by its own motion. As it comes to the premises of appointing the temporary supervisor none of the provisions regulating procedure to secure the property of a debtor indicates when the Restructuring Court should appoint one. It seems appropriate to assume that the court shall secure the property by appointing a temporary supervisor when there is a need to control the activity of a debtor and limit the debtor in the possibility to perform acts exceeding the scope of ordinary administration. After appointing the temporary court supervisor the debtor may perform acts of ordinary administration by his own and in case of acts exceeding the scope of ordinary administration the debtor needs the consent of the temporary court supervisor (Zimmerman, 2016, p. 1590). Securing the property of a debtor by the suspension of the enforcement proceedings led against the debtor aims at securing the property of a debtor from the activity of some of the creditors and gives the possibility to retain the enterprise as a whole capable of further activity, which most often is the most important condition for implementing the arrangement. The suspension of the enforcement proceedings relates to all liabilities covered by the arrangement. It means that the suspension relates both to private and public institutional liabilities, but it does not relate to liabilities excluded from the arrangement (e.g. the maintenance, invalidity or death pensions or social security contributions) and to those, which are covered by the arrangement only with the consent of the creditor (employment liabilities and liabilities covered by valuable security). The fourth way of securing the property of a debtor – by revocation of the seizure of bank accounts may be applied only together with suspending the enforcement proceedings and appointing the temporary court supervisor. This way of securing the property may be especially important for the debtor as usually it is not possible to operate the business without free access to the bank accounts. Interests of creditors are secured by obligatory appointment of the temporary court supervisor in such a case. Besides basic ways of securing the property of a debtor enumerated in the Restructuring Law – which should be introduced in the first place – the court may also apply all ways of securing enumerated in the Civil Procedure Code. For instance the court may secure the property through the revocation of the seizure of movables such as storage, machinery or vehicles. If there is a risk the debtor may dispose of the assets the court may both appoint the temporary supervisor and secure the property by establishing the prohibition on disposal and encumbrance of the individual assets (differently A. Hrycaj, 2017, Legalis).

2.3. The premises of opening of the arrangement proceedings

Restructuring proceedings – including the arrangement proceedings - may be conducted against a debtor who is insolvent or threatened with insolvency (art. 6 RestLaw). As the Restructuring Law is designed for both insolvent debtors and debtors threatened with insolvency, it is absolutely unnecessary for the Restructuring Court to determine if the debtor is insolvent or threatened with insolvency in case of an application for opening of the accelerated arrangement proceedings. The only exception is considering these premises in case of an application to open remedial proceedings issued by a creditor (art. 283 par. 2 RestLaw). The state of insolvency of a debtor is defined in art. 11 of the Bankruptcy Law of 28 February 2003, to which the Restructuring Law refers. Under the definition included in this act a debtor is considered insolvent, if one is no longer able to pay his debts as they fall due. The Bankruptcy Law makes a legal presumption of insolvency in case of the delay in the payment of debts exceeding three months. A debtor who is a legal person or an organisational unit without legal personality that is granted legal capacity, is also considered insolvent when their debts exceed the value of their assets and this state of affairs persists for a period longer than twenty four months. The state of threat of insolvency happens when the economic situation of a debtor suggests that he may shortly become insolvent. Another premises of opening the arrangement proceedings are defined in art. 8 par. 1 – 2 and art. 3 par. 4.2 of the Restructuring Law and are negative which means they must not occur for the arrangement proceedings to be opened. These premises are: detrimental effect of arrangement proceedings to the creditors (art. 8 par. 1 RestLaw), lack of ability of the debtor to pay current costs of proceedings and perform any obligations arisen after opening of the proceedings (art. 8 par. 2 RestLaw) and non-exceedance of the total disputed claims which give the right to vote on the arrangement of the level of 15% of the total claims giving the right to vote on the arrangement (art. 3 par. 4.2 RestLaw). The term "effect of proceedings that would be detrimental to creditors" is a typical general clause, which is filled with content by the court while deciding on opening of the arrangement proceedings or dismissing the application. Detrimental effect of the proceedings may be determined for example when the activity of the debtor and the way in which the debtor is managing the enterprise or the way in which the debtor is negotiating with creditors indicate that the true aim of the debtor is to avoid the enforcement proceedings or to go through the arrangement with the use of the creditors concluding apparent contracts with the debtor (Gurgul, 2018, Legalis). The percentage of the total disputed claims which give the right to vote on the arrangement and its relation to the level of 15% of the total claims giving the right to vote on the arrangement is established by the Restructuring Court analyzing the application for the opening of the arrangement proceedings only on the basis of the debtor's declaration. (similarly Hrycaj, 2017, Lex, par. 9, Gajdzińska-Sudomir, 2016, p. 4 - 21)

2.4. The ruling on the opening of arrangement proceedings

An application for the opening of the arrangement proceedings shall be examined by the court – as a rule - at a closed session within two weeks of the day when it was filed unless it is necessary to schedule a hearing. In such a case the application shall be examined within six weeks. While granting the application for the opening of arrangement proceedings the court shall issue a decision to open arrangement proceedings. The decision shall be announced in the Register. For the time being, as the Register has not been launched yet, the announcement is done in the Official Court and Commercial Gazette (called 'Monitor Sądowy i Gospodarczy'). In the decision the court shall: list the name and surname of the debtor or his full legal name, place of residence or registered office, address and PESEL number or a number in the National Court Register, and in their absence - other data which allow his unambiguous identification; designate a judge-commissioner and a court supervisor and indicate the time of issuing the decision if the debtor is a participant under Polish law or the law of another EU Member State

of the payment system or securities settlement system, or a non-participant entity operating the interoperating system. Pursuant to article 233 par. 2 RestLaw, the decision on opening arrangement proceedings shall also indicate the basis for the jurisdiction of Polish courts. If Regulation (EU) 2015/848 of the European Parliament and of the Council of 20 May 2015 on bankruptcy proceedings applies, the decision shall also specify whether the proceedings is of primary or secondary character. A decision on refusal to open arrangement proceedings may be complained against only by the debtor. A pronouncement on the opening of proceedings by a second-instance court is inadmissible. A creditor within a week from the date of the announcement of the decision to open arrangement proceedings in the Register may lodge an appeal against this decision exclusively in the part concerning the jurisdiction of Polish courts. The term for a creditor who, on the day when the proceedings were opened, had his seat or ordinary place of stay abroad, is thirty days. The decision to open arrangement proceedings is effective and enforceable as of the date of its issuing. The effectiveness and enforceability of the decision is not limited. In particular the possibility of questioning by a creditor the basis for the jurisdiction of Polish court does not have any influence on the course of the procedure. Subsequent stages of the proceedings should be taken in accordance with the Restructuring Law. The list of creditors should be established and approved by the court, restructuring plan should be submitted, even the meeting of the creditors should be called, voting ordered and the arrangement agreed and approved without awaiting for the result of the appeal concerning the jurisdiction. The result of the appeal decides only if the proceedings is main/primary or secondary one.

3. PROCEEDINGS AFTER THE OPENING OF THE ARRANGEMENT PROCEDURE (THE PROPER / PURE ARRANGEMENT PROCEEDINGS)

3.1. The arrangement estate and administration of properties

Pursuant to art. 240 RestLaw in connection with art. 273 RestLaw, as of the day of the opening of arrangement proceedings the property serving to run the enterprise and the debtor's property becomes the arrangement estate. The arrangement estate is a property conglomerate of debtor's assets including tangible and intangible assets. It occurs under the law at the day of the opening of arrangements procedure. It is not possible to avoid this effect in the course of a civil law activity. During the course of arrangements procedure the property of a debtor is not sold – which is a difference in relation to the bankruptcy procedure. The arrangement estate consists of different elements than the bankruptcy estate and serves different purpose. The arrangement estate includes only the assets and does not include the liabilities. Transferable right to use an assets is included in the arrangement estate (SC, V CSK 405/11). After opening of arrangement proceedings, the debtor shall provide the judge-commissioner and the court supervisor with all the necessary explanations, documents concerning his undertaking and property and enable the court supervisor to become familiar with the debtor's undertaking, in particular with the debtor's accounting records. During the arrangement proceedings it is the debtor himself who administrates the properties. The court may *ex officio* revoke the self-administration of the debtor and appoint an administrator if the debtor, even unintentionally, has breached the law in the area of exercising the administration, which has resulted in detriment to creditors and/or the possibility of such detriment in the future or if it is clear that the manner of exercising the administration does not guarantee the performance of the arrangement and/or a custodian has been appointed for the debtor. The court may *ex officio* revoke the self-administration of the debtor and appoint an administrator also if the debtor does not perform the directions of the judge-commissioner or the court supervisor, in particular, if the debtor has failed to file lawful arrangement proposals within the period prescribed by the judge-commissioner. The decision to revoke the self-administration of the debtor and the appointment of an administrator is effective and enforceable as of the date of its issuing. It may only be appealed by the debtor.

The court supervisor determines the composition of the arrangement estate based on entries in the bankrupt's books and undisputed documents within thirty days of the day when arrangement proceedings were opened. The judge-commissioner may rule that the composition of the arrangement estate be determined by the debtor under the supervision of the court supervisor. The composition is determined by making an inventory stock-count. Together with the making of inventory stock-count the property comprised in the arrangement estate shall be valued by assessment. Things in possession of the debtor on the day when arrangement proceedings was opened shall be presumed to belong to the arrangement estate.

3.2. Asserting claims of receivable debts to be included in the inventory of receivable debts

The opening of arrangement proceedings shall not preclude initiation by the creditor of judicial or administrative proceedings, as well as proceedings before administrative and conciliatory courts with a view to seeking the recovery of receivable debts to be included in the inventory of receivable debts (art. 276 RestLaw). It also does not preclude the possibility to continue the proceedings concerning such claims initiated before the opening of the procedure. The court supervisor joins, by operation of law, judicial proceedings, administrative proceedings, as well as proceedings before administrative and conciliatory courts concerning the arrangement estate. The debtor shall forthwith inform the court supervisor about judicial or administrative proceedings, or proceedings before administrative and conciliatory courts concerning the arrangement estate conducted for the benefit or against the debtor. In these cases the debtor's recognition of a claim, waiver of a claim, conclusion of a settlement or ascertainment of circumstances important for the case without the consent of the court supervisor shall not give rise to legal effects. The costs of the proceedings initiated beyond the Restructuring Court shall be borne by the person initiating the proceedings if there were no obstacles to placing the receivable debts in whole on the inventory of receivable debts. Execution proceedings concerning a receivable debt covered by the arrangement by operation of law, initiated prior to the day when the arrangement proceedings were opened, are suspended by operation of law on the day when the proceedings are opened. Upon the request of the debtor or court supervisor, the judge-commissioner shall state in the decision the suspension of the enforcement proceedings. The enforcement authority shall also be served with the decision. Sums obtained in the course of suspended execution proceedings and not yet released shall be transferred to the arrangement estate forthwith after the ruling on the opening of arrangement proceedings has been issued. (Article 278 par. 1 - 2 RestLaw). Suspension of the execution proceedings does not confer an automatic cancellation of effected seizure, e.g. of receivable debts from bank accounts or other business entities. Upon the motion of the debtor or the court supervisor, the judge-commissioner may set aside the seizure effected prior to the day when the arrangement proceedings was opened in execution proceedings or in securing proceedings concerning a receivable debt covered by the arrangement by operation of law if it is necessary for further running of the enterprise. The decision is also delivered to the enforcement authority. The initiation of execution proceedings and the enforcement of a ruling on securing a claim or ordering securing a claim resulting from a receivable debt covered by the arrangement by operation of law is inadmissible after the day when the arrangement proceedings was opened. A creditor having a receivable debt secured on the debtor's property by a mortgage, pledge, registered pledge, Treasury pledge or a ship's mortgage may, in the course of arrangement proceedings, carry out execution out of the object of security only. Upon the motion of the debtor or the court supervisor, the judge-commissioner may suspend the execution proceedings concerning receivable debts which are not covered by the arrangement by operation of law, if the execution was levied against the object of security necessary for the running of the enterprise.

The total period of the said suspension shall not exceed three months. The seized object may be released from seizure in accordance with the provisions of the Civil Procedure Code.

3.3. The arrangement.

Within 30 days of the day when arrangement proceedings was opened, the court supervisor shall prepare and submit to the judge-commissioner the restructuring plan taking into account restructuring proposals presented by the debtor and the inventory of receivable debts. The judge-commissioner, forthwith after the submission of the restructuring plan and the approval of the inventory of receivable debts, fixes the date of the meeting of creditors for the purpose of voting on the arrangement. The time-limits are non-mandatory ones, their violation does not create any negative implications. After scheduling the time limit of the meeting of creditors in order to vote on the arrangement, the judge-commissioner notifies the creditors entered into the inventory of receivable debts of the date of the meeting, while serving on them the arrangement proposals, the information about the division of creditors entered in the inventory of receivable debts due to categories of interests, information about the manner of voting at the meeting of creditors and an instruction about the contents of suitable articles of the Restructuring Law. The same rules apply to creditors entered into the inventory of disputed receivable debts. When giving notice to a creditor entered into the inventory of disputed receivable debts, the judge-commissioner indicates that he may admit one to participate in the meeting of creditors if one credibly establishes the existence of the receivable debt. In practice, it is rare to meet the deadline of immediate scheduling of the meeting of creditors. Opposite, it is very often that the judge-commissioner waits for some discussions of the debtor and his creditors to be completed. Practice shows that usually debtors initiate the proceedings for the opening of the arrangement procedure at an early stage, when they do not have the acceptance for their proposals from the creditors yet. Discussions usually take place before the meeting in the court and during the meeting it is only voting that is to be conducted. The terms of agreement are agreed beforehand. Such practice allows more space and flexibility in discussions and gives more chances to work out the arrangement. The arrangement is concluded during the meeting of creditors that take place in the court. Under art. 150 of the Restructuring Law, the arrangement shall cover personal receivable debts arisen prior to the day of opening of restructuring proceedings unless otherwise provided in the act, interest for the period from the day of opening of restructuring proceedings and receivable debts contingent upon a condition if the condition was fulfilled during the performance of the arrangement. Receivable debts in respect of a debtor under a mutual contract which was not performed in full or in part before the day of opening of restructuring proceedings shall be covered by an arrangement only in the case where the performance of the other party is a divisible performance and only to the extent in which the other party fulfilled the performance before the day of opening of restructuring proceedings and has not received mutual performance. The arrangement shall not cover: maintenance and alimony receivable debts and pensions constituting compensation for causing diseases, incapacity to work, disability or death and resulting from conversion of the rights covered by the substance of the right to annuity into pension for life; claims for release of the assets and abstention from infringement of rights; receivable debts for which the debtor is liable in connection with acquisition of inheritance after the day of opening of restructuring proceedings, after the inheritance was included in the arrangement estate or remedial estate and receivable debts resulting from social insurance premiums in the part financed by the insured, the remitter of which is the debtor. It shall also not cover receivable debts under an employment relationship and receivable debts secured on the debtor's property by a mortgage, pledge, registered pledge, Treasury pledge or ship's mortgage, to the extent covered by the value of the object of security, unless the creditor expressed consent for covering the receivable debt by the arrangement. The consent shall be expressed in an unconditional and irrevocable manner, no later than before

commencement of voting on the arrangement. It may be expressed verbally during the meeting of creditors and recorded in its minutes. Covering by the arrangement of a receivable debt which is covered by another arrangement is inadmissible, unless said agreement has been revoked. Pursuant to article 150 par. 1 of the Restructuring Law the arrangement covers personal receivable debts arisen prior to the day of opening of restructuring proceedings. Personal receivable debts are receivable debts from the contractual relationship between the debtor and the creditor. The source of relationship is usually the contract, the tort or unjust enrichment. Non-personal receivable debts are not covered by the arrangement. Non-personal receivable debts are receivable debts of a creditor whose claim that can be directed at the debtor is the claim of drifting the execution from particular asset of the debtor. The example can be the liability of the mortgagor, which restricts only to the subject of the mortgage. If the owner of the immovable property is not personal debtor in case of the awarding from him to the creditor the mortgage sum of money the court should of its own motion reserve the debtor the right to claim limited liability in the course of execution (CA, I ACa 761/13). Taking into consideration the date of the obligation the receivable debts may be divided into two groups – the debts which arose before the date of the opening of the arrangement procedure and those which arose after that date. The arrangement covers all receivable debts which arose up to the end of the day before the opening of the arrangement procedure. The receivable debts which arose in the day of opening of the arrangement proceedings and later are not covered by the arrangement and should be met on an ongoing basis in the course of the proceedings and after its finishing with the exception of interest for the period from the day of opening of the restructuring proceedings which are covered by the arrangement also within the sum which arises after the date of opening of the arrangement proceedings. The date of arising of the receivable debt is the decisive moment. According to the judgement of The Supreme Court, concluding and approving of the arrangement does not influence on the sole existence of the receivable debts but determines the limits of its execution or other ways of satisfying, being binding so long as the approved arrangement is binding and under the condition that it is performed. (SC, V CSK 416/12)

4. CONCLUSIONS

Arrangement proceedings is a restructuring procedure that enables the debtor to continue the activity of an enterprise even in severe financial trouble. The main purpose of the proceedings is to avoid declaration of bankruptcy through enabling the debtor to undergo restructuring by making an arrangement with creditors. Arrangement proceedings is dedicated to entrepreneurs whose financial situation is not clear and who dispute their receivable debts in more than 15 per cent but who are able to conclude arrangement with their creditors in their current situation, without conducting any restructuring activities prior to the arrangement. For the time being the arrangement proceedings has been the procedure that has been chosen the least frequently. Practice shows that entrepreneurs whose sum total of disputed receivable debts giving the right to vote on an arrangement exceeds 15 per cent of the sum total of receivable debts giving the right to vote on arrangement most often choose remedial proceedings as proceedings giving opportunities to conduct remedial action before concluding the arrangement.

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USING FUZZY DECISION-MAKING METHOD FOR PRIORITIZING APPLICATION AREAS OF SMART CITY PROJECTS

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ABSTRACT

Smart city projects involve many application areas such as smart mobility, energy and governance which require a systematic approach of prioritization. To address the uncertainty faced by the decision-makers of Istanbul's recent smart city project, in this study, a hesitant fuzzy sets-based interval type-2 fuzzy TOPSIS approach is proposed. The main objective of the study is to prioritize and evaluate the application areas of this smart city project. The validity of the proposed method is tested with a case study from Istanbul. The results show that in terms of application areas, mobility and technology play a significant role which can be explained by the coordinator agency being a technology provider municipal company and partners being global and local technology companies.

Keywords: *Smart city, Application areas, Interval type-2 fuzzy set, Hesitant, TOPSIS, multi-criteria decision making (MCDM)*

1. INTRODUCTION

Cities are trying to cope with many urban challenges such as traffic congestion and environmental pollution, and smart city concept is proposed to manage those challenges and foster sustainable growth. However, the application areas of smart city projects undertaken in cities under the name of smart city often lack a guiding decision-making framework to identify the priorities and address the inherent uncertainty around the problem areas. Some of these studies as seen in fuzzy sets based smart cities problem: the selection of city for smart city transformation (Kumar et al., 2019), usiness models for developing smart cities (Abbate et al., 2018), imperfect and incomplete information systems in smart city (Abdel-Basset and Mohamed, 2018), health-care system in smart city (Bhunia et al., 2014), collective awareness in smart city (D'Aniello et al., 2016), stream processing in smart cities (De Maio et al., 2017), reducing emergency services response time in smart cities (Djahel et al., 2015), personal home healthcare system for the cardiac patient of smart city (Hussain et al., 2016), the estimating the free size of parking places in smart cities (Samaras et al., 2014), detection in smart home sensor networks (Usman et al., 2015). Many fuzzy decision making techniques can be used to evaluate the various problems.

For example, the evaluation of seasonal hydrogen storage (Iordache et al., 2019), the assessment for battery energy storage (Zhao et al., 2019), the prioritization of renewable energy alternatives (Çolak and Kaya, 2017), the evaluation of construction equipment (Ghorabae et al., 2018), the mitigating airport congestion (Bongo and Ocampo, 2017), the selection of car sharing station (Deveci et al., 2018) and so on. In this study, we propose a hesitant based interval type-2 fuzzy TOPSIS methodology for decision making in smart city applications. We build this study on a previous study which presents an application framework which combines dimensions and application areas in smart city applications (Canitez and Deveci, 2018). This methodology is suitable especially when determining the exact preference of decision-makers, whose decisions are given as a range with a lower and upper limit. By this way, when decision-makers compare two alternatives, they can use a more flexible range of options. This is especially important for smart city applications where decision makers face a multitude of factors in deciding the importance of a dimension compared to another dimension and have a hard time to give a precise preference. The main contributions of this study include the following:

1. The prioritization of the application areas is crucial to allocate resources in an efficient way, therefore this study fills an important gap in the literature for decision making in smart cities.
2. Firstly, the application of the smart city concept is conceptualized as a multi-criteria decision making (MCDM) problem and a hesitant based interval type-2 hesitant fuzzy TOPSIS method is proposed to solve this problem.
3. The uncertainty in smart city projects is better addressed with type-2 fuzzy approach compared to type-1 fuzzy sets approach.
4. Decision making process is facilitated when the weights of decision criteria are close to each other which complicates decision making.
5. A comparative analysis is carried out to test the accuracy and validity of the proposed method with the interval type-2 hesitant fuzzy sets proposed by Hu et al. (2015).
6. Lastly, the proposed methodology is applied to Istanbul's smart city project, thus providing an opportunity to see the benefits and limitations of this methodology.

The rest of the paper is organized as the following: Section 2 gives an overview of smart city project of Istanbul. The verification of case study with eight application areas are presented in Section 3. Results are discussed in Section 4.

2. ISTANBUL'S SMART CITY PROJECT

Smart city projects in Istanbul are guided by Turkish Ministry of Development's report on "Strategies and Action Plan for Building Knowledge Society, 2015-2018" (SAP-BKS, 2015). Although Istanbul formally started its smart city project in 2017, previous projects involving smart technologies in various areas helped to facilitate the later transformation. These projects include traffic control center, mobile applications for traffic, parking, public transport etc., smart signaling systems, traffic sensors, messaging communication systems, electronic traffic detection systems. Most of the previous projects addressed the mobility aspect of the application areas due to its critical role in Istanbul. Therefore, such a weighted framework would be of great benefit to decision makers and practitioners of the project. That is why Istanbul is a good case for this study. According to Big Smart Istanbul Visio (2016) specifically prepared for Turkey by one of the biggest GSM operators in Turkey and an international accounting, auditing and consulting company; urban mobility is the area having the most of the smart city investments (94.7%). Other areas include water management (42.1%), security (31.6%), waste management (31.6%), municipal government services (21.1%) and other urban services (10.5%). The information regarding the smart city project is obtained through semi-structured interviews with the project coordinator agency and private technology companies.

Three experts are interviewed from three different companies. They are asked about the relative importance of application areas which are defined in Section 3. They stated explicitly that the smart city project will primarily address the application areas where there is immediate need for reform and focus on those dimensions which are considered to contribute most to this reform. Therefore, the need for a framework of implementation where their preferences and priorities are reflected is underlined (Canitez and Deveci, 2018).

3. CASE STUDY

The application of the smart city concept is conceptualized as a MCDM problem and a hesitant based interval type-2 hesitant fuzzy TOPSIS method is proposed to solve this problem. The application areas in the project include smart building, smart mobility, smart infrastructure, smart technology, smart healthcare, smart citizen, smart governance and smart energy. These application areas are explained in Table 1. These application areas are assessed based on their performance by three decision makers. Decision makers are composed of 2 senior project managers and 1 director from the Smart City department of Istanbul Metropolitan Municipality.

Table 1: Criteria and definitions of application areas

Criteria (Dimensions)	Definition
C ₁ : Smart building	“Smart building” refers to the building services including illumination, thermal control, air quality, security and sanitation, which are all delivered in a productive, low-cost and environmental impact throughout the building lifecycle. Information technology is used to connect a number of subsystems to optimize the total building performance.
C ₂ : Smart mobility	“Smart mobility” is about using sustainable modes of transportation instead of conventional gas-powered vehicles. Among those modes are ride-sharing, car-sharing, public transport, walking and biking. It can effectively eliminate many problems caused by conventional transportation such as pollution, traffic congestion, fatalities and wasted time.
C ₃ : Smart infrastructure	“Smart infrastructure” has sensing technologies embedded within both infrastructure itself and the equipment that it interacts with. The sensors are all connected to a communication center which enables real-time data collection and analysis. The interpreted data provides reliable, robust and meaningful information to infrastructure providers, allowing better decision making in terms of the structural health and maintenance of the assets.
C ₄ : Smart technology	“Smart technologies” refer to a wide range of technologies enabling sensors, databases and wireless access to collaboratively sense, adapt and provide for users within the environment. They are capable of learning so as to use experience to improve performance, anticipate, think and reason about what to do next (https://www.igi-global.com/dictionary/smart-technology/38186).
C ₅ : Smart healthcare	“Smart healthcare” is defined by the technology which enables better diagnostic tools, better treatment for patients, and devices improving the quality of life. Key concepts include eHealth services, electronic record management, smart home services and intelligent and connected medical devices (https://www.activeadvice.eu/news/concept-projects/what-is-smart-health-and-how-do-people-benefit/).
C ₆ : Smart citizen	“Smart citizen” refers to informed citizens who collectively address the problems they face through using smart technology. They engage with service providers, cities, developers and researchers to help improve the environment and service levels. Citizen engagement is, hence, a key component of the smart citizen.
C ₇ : Smart governance	“Smart governance” is using technology to facilitate and support better planning and decision making by improving the democratic processes and transforming the ways public services are provided. E-government, mobile working and efficient service provision are important dimensions of smart governance (http://www.smartgovernance.net/smartdynamic/dynamic_default.asp?id=1).
C ₈ : Smart energy	“Smart energy” system refers to a cost-effective, sustainable and secure energy system by which renewable energy production, infrastructures and consumption are connected and synchronized. Energy services, active users and enabling technologies help facilitate this integration (Zong et al., 2017).

One of the widely used methods utilized in MCDM problems is TOPSIS (Technique for Order Preference by Similarity To An Ideal Solution) method, which was first introduced in 1981 (Hwang and Yoon, 1981). The most important feature of this linear weighting method is identification of the optimal solution, being closest to the positive ideal solution and farthest from the negative ideal solution. By this two-way distancing, not only the conditions to be maximized but also the the conditions to be minimized are taken into account and the decision is made according to that (Özdemir and Seçme, 2009; Çınar, 2010). The interval type-2 fuzzy TOPSIS method steps are given by Chen and Lee (2010). Hesitant fuzzy sets is also proposed by Torra and Narukawa in 2009 to make one preference when decision makers hesitate. The interval type-2 fuzzy sets (IT2FS) approach presented by Hu et al. (2015) is suitable for MCDM problems. First, decision makers evaluate each criterion by using rating scales (see Hu et al. (2015)). Select the appropriate linguistic terms to evaluate the criteria and these criteria are converted to interval type-2 hesitant fuzzy numbers (see Figure 1). The evaluations of these three experts are given in Table 2. For each two criteria, the preference relations (RI), or in other words IT2HFLTS, are expressed with lower and upper limits. After that, we can start to analysis for determination of criteria weights.

Table 2: Pairwise comparison matrix of application areas in terms of decision makers according to linguistic terms

Decision Maker 1	Smart citizen	Smart mobility	Smart governance	Smart healthcare	Smart energy	Smart building	Smart technology	Smart infrastructure
Smart citizen	-	[VL,ML]	[ML, MH]	[MH, VH]	[AL, ML]	[M, MH]	[VL, L]	[L, M]
Smart mobility	[VH, AH]	-	[M, H]	[MH, VH]	[H, VH]	[ML, MH]	[ML, MH]	[ML, H]
Smart governance	[M, MH]	[AL, VL]	-	[M, MH]	[M, H]	[L, H]	[AL, ML]	[L, ML]
Smart healthcare	[VL, L]	[AL, VL]	[ML, M]	-	[L, M]	[AL, ML]	[AL, VL]	[AL, L]
Smart energy	[H, VH]	[ML, H]	[L, ML]	[M, MH]	-	[M, H]	[VL, L]	[M, VH]
Smart building	[ML, M]	[L, M]	[ML, MH]	[VH, AH]	[MH, H]	-	[VL, M]	[M, MH]
Smart technology	[H, VH]	[M, MH]	[H, VH]	[VH, AH]	[ML, M]	[M, MH]	-	[ML, H]
Smart infrastructure	[M, VH]	[L, H]	[MH, AH]	[MH, VH]	[ML, MH]	[ML, MH]	[L, M]	-
Decision Maker 2	Smart citizen	Smart mobility	Smart governance	Smart healthcare	Smart energy	Smart building	Smart technology	Smart infrastructure
Smart citizen	-	[VL, ML]	[ML,M]	[H, AH]	[VL,ML]	[ML,MH]	[L,ML]	[VL,M]
Smart mobility	[VH,AH]	-	[MH,H]	[H, AH]	[MH,H]	[M,H]	[M,MH]	[M,H]
Smart governance	[M,H]	[L,M]	-	[ML,MH]	[M,MH]	[L,MH]	[VL,M]	[ML,M]
Smart healthcare	[ML,MH]	[MH,H]	[H,VH]	-	[ML,MH]	[ML,MH]	[ML,MH]	[ML,MH]
Smart energy	[M,MH]	[ML,M]	[L,M]	[M,H]	-	[M,MH]	[L,ML]	[ML,MH]
Smart building	[M,MH]	[VL,L]	[M,MH]	[H,VH]	[ML,M]	-	[L,ML]	[ML,MH]
Smart technology	[MH,H]	[ML,M]	[M,H]	[H,VH]	[MH,H]	[MH,H]	-	[M,MH]
Smart infrastructure	[MH,H]	[ML,M]	[M,MH]	[H,VH]	[ML,MH]	[M,MH]	[ML,M]	-
Decision Maker 3	Smart citizen	Smart mobility	Smart governance	Smart healthcare	Smart energy	Smart building	Smart technology	Smart infrastructure
Smart citizen	-	[L,ML]	[L,M]	[MH,VH]	[VL,M]	[L,MH]	[VL,ML]	[ML,M]
Smart mobility	[H, VH]	-	[H,AH]	[VH,AH]	[MH,H]	[MH, VH]	[M,H]	[M,MH]
Smart governance	[MH,H]	[VL,L]	-	[ML,M]	[MH,H]	[M,MH]	[L,ML]	[M,MH]
Smart healthcare	[ML,M]	[VL,L]	[ML,M]	-	[L,M]	[ML,M]	[VL,ML]	[L,ML]
Smart energy	[MH,H]	[ML,M]	[ML,MH]	[MH,H]	-	[MH,H]	[MH,H]	[MH,H]
Smart building	[MH,H]	[AL,L]	[M,H]	[M,MH]	[L,ML]	-	[L,ML]	[ML,M]
Smart technology	[MH,H]	[ML,M]	[H,VH]	[H,AH]	[M,MH]	[MH, VH]	-	[M,MH]
Smart infrastructure	[H, VH]	[ML,M]	[MH,H]	[H,VH]	[ML,M]	[H, VH]	[ML,M]	-

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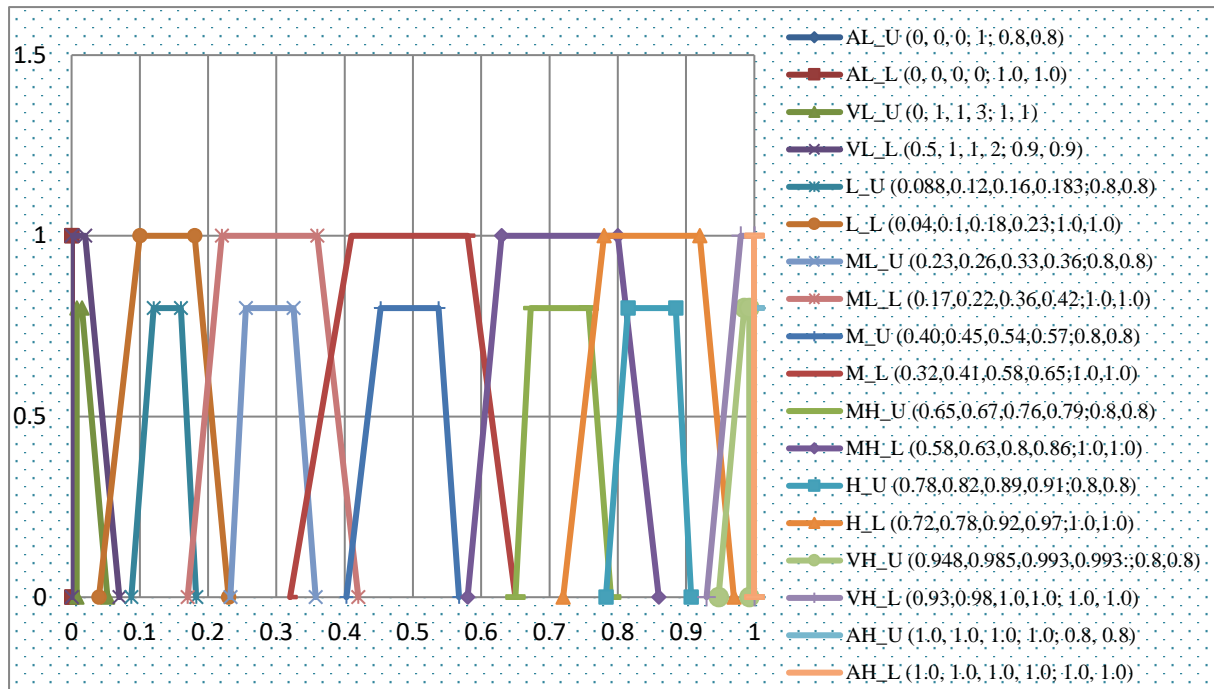


Figure 1: Linguistic term set and their fuzzy numbers

3.1. Experimental Results and Comparative Analysis

The accuracy and validity of the proposed method in this study is tested by comparing it with the results of interval type-2 hesitant fuzzy sets method proposed by Hu et al. (2015). Table 3 gives the comparative ranking results of Hu et al.’s method and our proposed method. The results obtained show that hesitant interval type-2 fuzzy TOPSIS method is more successful in terms of accuracy. Furthermore, experts validated these findings, stating that they better reflect the case of Istanbul’s smart city project.

Table 3: Criteria rankings for application areas

Criteria		Hesitant based Interval type-2 TOPSIS (HIT2FT)	Interval type-2 Hesitant Fuzzy [Hu et al. (2015)’s study]
Smart citizen	(C ₁)	4	3
Smart mobility	(C ₂)	1	1
Smart governance	(C ₃)	5	6
Smart healthcare	(C ₄)	7	5
Smart energy	(C ₅)	8	7
Smart building	(C ₆)	6	8
Smart technology	(C ₇)	2	2
Smart infrastructure	(C ₈)	3	4

The ranking of criteria weights by the proposed HIT2FT method is $C_2 > C_7 > C_8 > C_1 > C_3 > C_6 > C_4 > C_5$, whereas the method proposed by Hu et al. (2015) gives a ranking as $C_2 > C_7 > C_1 > C_8 > C_4 > C_6 > C_5 > C_3$. Though based on different decision-making methods, a similar ranking is obtained. The proposed method gives a more reasonable ranking, when the preferences of Istanbul’s decision makers are considered. The comparison of values obtained from different MDCM methods are given in Figure 2. The interval range of weights in the proposed method is wider and this facilitates the decision-making process. The other ranges are narrower which makes decision making harder.

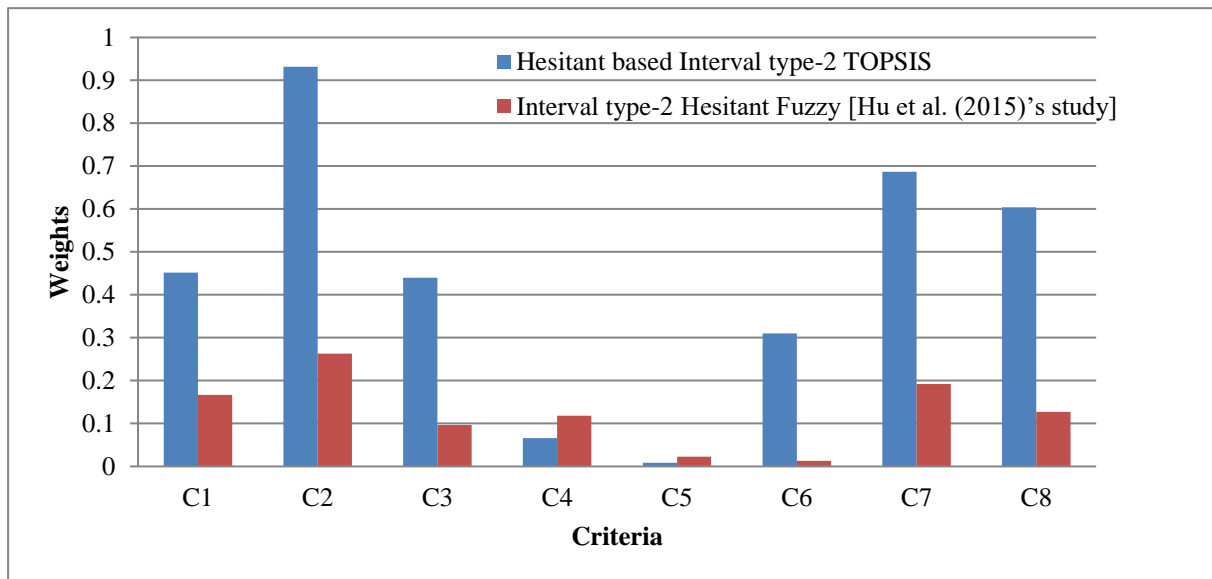


Figure 2: Ranking of the evaluated criteria using proposed methodologies

The results show that smart mobility area has the highest priority for the project experts. The urgency of urban transport problems in Istanbul can arguably be the reason for this high level of importance. Smart technology applications are considered supportive of smart mobility solutions. For example; offering bike sharing platforms (stations and bicycles), iTaksi mobile application (online taxi management platform), IBB Navi mobile application (online real-time navigation platform), vehicle-to-vehicle and vehicle-to-infrastructure communication systems, transport demand management solutions such as congestion charging and high-occupancy vehicle lanes are some of the projects addressing smart mobility. On the other hand, energy and healthcare areas are given the least priority. There is not any project related to healthcare in the project plan. Given that some projects aiming smart energy such as distant reading electric meter data, smart city lighting, smart energy demand management, solar power plants are included in the project, the low priority assigned to this area is unexpected. This may be due to other areas' having more priority and urgency amongst urban problems.

4. CONCLUSIONS

In this study, we propose a new hybrid hesitant based interval type-2 fuzzy TOPSIS (HIT2FT) method by combining positive and negative ideal solutions with hesitant fuzzy sets for smart city decision making and prioritization problems. With this method, decision makers have the opportunity to make two-way comparisons by expressing them with a hesitant linguistic term set. In addition, they can also make individual evaluations of criteria without two-way comparisons. By this way, different importance weights are obtained for each criterion. We also explored the application of hesitant fuzzy sets for MCDM problems by TOPSIS method and offered a ranking approach for those problems. The distinguishing feature of hesitant based interval type-2 fuzzy TOPSIS method is to allow the decision criteria to take different weight factors. This method is suitable to employ in addressing the uncertainty faced by the decision makers for ranking and prioritizing smart city application areas. Although there are advantages such as adequacy of the small number of decision makers and ease of application, the correct determination of criteria weights depends on the objective evaluations of the decision makers. Allocating smart city funds in an objective basis also provides a better public recognition of these projects. Instead of focusing on a single aspect of smart city projects, the fair distribution of resources for the several aspects better serves the demands of the people. Smart city projects focusing exclusively on technology are not adequate to address the urban problems. The social aspects along with the technological aspects should also be properly taken account of.

This methodology, offering a more comprehensive perspective and decision tool, can address this problem. By conceptualizing the smart city projects as such a MDCM problem, our study suggests a solution for including the hesitant conditions that decision makers face in those problems. Compared with other MCDM methods such as WASPAS, MABAC, ARAS, EDAS, TODIM, ELECTRE etc., the proposed method in this study, namely ITHFS method, is easier to comprehend and implement.

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HISTORIOGRAPHICAL APPROACH TO INTERREGNUM IN MANAGEMENT PHENOMENON - THE CASE OF POLISH JOURNAL "TYGODNIK WARSZAWSKI" (1945- 1948)

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ABSTRACT

The purpose of this paper is to "intellectually face" the phenomenon of interregnum in modern management. For this purpose, the authors use historiographic analysis on the example of the Polish journal "Tygodnik Warszawski", which was published in 1945-1948. The term interregnum introduced by Antonio Gramsci means that "the old is dying and the new cannot be born". Later, this concept was re-examined by the Polish sociologist Zygmunt Buman. He stated that this is "a time-span of yet unknown length, stretching between a social setting which has run its course and another, as yet under-defined and most certainly underdetermined, which we expect or suspect will replace it". Zygmunt Bauman in discussion with Monika Kostera, Jerzy Kociatkiewicz and Irena Bauman (2015) the term interregnum referred to organizational practice. The presented paper is the result of seeking interregnum antecedences. It is an analysis of the content of historical texts supported by the analysis of semantic fields. It is an attempt to counter the tendencies of modern managers and researchers who, when making decisions, rarely resort to solutions from the past. The main role is played by modern and fashionable management concepts, which in the long run often prove to be useless.

Keywords: *Interregnum, "liquid modernity", „Tygodnik Warszawski”, historical approach, organizational historiography, meso level organizing, self-organization, utopia*

1. INTRODUCTION

This paper is a contribution that uses the humanistic approach, based on the example of a historical perspective, to management science. It is worth remembering, the trivial but forgotten thesis, that not only through numbers and mathematical models, but the researcher is also able to learn about reality. Thanks to qualitative research, understood as a humanistic undertaking, one can look at the research problem in a broader context, also from a longer time perspective than it usually takes place in surveys or experiments. Metaphorically speaking, dealing with the history of the world of the organizations from the past, with archival documents and stories of the people who created it, is like becoming a part of these organizations for a moment. Moreover, one can get inspiration, without falling into presentism, for a better understanding of today's organizational challenges. One of the aspects of using the historical approach in management is the historiography of the organization that according to the Ochowski (2016: 3), and using terminology suggested by Monika Kostera, means "using the cognitive apparatus of history of historiography both for research purposes to cater for the needs of management, as well as in order to enrich the reading of publications on the past (and various other stories about it) by a reflective manager who thereby seeks inspiration for his/her own practice." The analysis of texts, documents, financial statements from the past can bring a lot of new informations, which then can be used to improve the future. Of course, the issue of discussion is how to analyze these texts. One solution is to use the method of flâneurie.

The essence of this method is "unhurried walking around the texts". It means to analyze them in a reflective and even poetic way, without losing the critical nature of this reading, which gives it a scientific character, although not in a neo positivist sense. The concept of flâneur means the literary type of leisurely passerby, which is identified with the city observer with calmness traversing the city streets - his way of becoming an inspiration for the way of analyzing texts. The aforementioned method consists of free "drifting" after texts and searching for alternative, possibly also intertextual, meanings" (Kociatkiewicz and Kostera 2019, see also Ochowski and Radowska, 2019). In this article, the flâneur method was used to analyze texts from Polish post- World War II journal „Tygodnik Warszawski” (1945- 1948). Its purpose was to search for antecedences of phenomenon of interregnum of contemporary management in the times immediately after World War II.

2. INTERREGNUM IN RELATION TO CONTEMPORARY MANAGEMENT

The concept of interregnum was introduced into intellectual circulation by an Italian historian, philosopher, journalist and politician, as well as the communist activist Antonio Gramsci (1891-1937). The times of his greatest activity fell on the first half of the 20th century. The aforementioned philosopher pointed out that the essence of the crisis is determined by the situation when “the old is dying, and the new cannot be born” (Achcar 2018:1). This is the state of interregnum in which many disease symptoms appear. At the time in which Gramsci lived, these were the following symptoms (Achcar 2018):

- the financial disaster on Wall Street in 1929 that started the Great Depression (the most severe crisis of capitalism to date),
- the rise of the far-right in Europe,
- also the strengthening of communist influences (most visible in the Soviet Union, but also visible in various European countries).

The interregnum term was borrowed from Gramsci, developed and popularized by the Polish philosopher and sociologist Zygmunt Bauman (1925-2017). He postulated that at present, that is, in post-modern times, humanity is experiencing a state of intellectual interregnum. This situation requires responsible thinking, focused on seeking ways out of the interregnum, as well as creating a new reality. Challenges that the perspective of the interregnum poses to the thought and organizational practice were broadly developed during the internet discussion between Zygmunt and Irena Bauman, Jerzy Kociatkiewicz and Monika Kostera, which in our opinion is one of the most important scientific voices devoted to management of recent years, i.e. since the financial crisis 2007 (Bauman et al. 2015). The transcript of the conversation was published as a book of Zygmunt Bauman, Irena Bauman, Jerzy Kociatkiewicz and Monika Kostera entitled "Management in a Liquid Modern World" (2015). It was written in the form of an e-mail dialogue. Nowadays, the state of interregnum, according to proponents of using this category to describe the times of our contemporaries from a management perspective, manifests itself in a kind of crisis of capitalism. These are problems such as unregulated market, commodification of everything¹ (Kostera, 2019) and the fact that public trust institutions do not operate effectively. Instead of solving current issues, they create "more of the same" and thus a vicious circle is formed (Bauman et al. 2015). Interregnum is a challenge, and at the same time, it can be something extraordinary, creative and despite its pessimistic nature, bring a lot of hope for a better future. It is also associated with the need to find the right people who are not afraid to dream and are able to come up with custom solutions. Dialogue and discussion during which various ideas will be verified are also important.

¹ Commodification - processes related to the expansion of ideas, institutions and practices of a self-regulating market outside the sphere of ordinary goods (goods and services produced for sale) (Szarfenberg 2015: 1).

The above-mentioned authors propose some solutions to overcome the modern state of interregnum. These ideas are:

- management without managers
- cities as a place to look for the best organizational solutions
- solidarity, which is the strength that forms the foundation of society
- the important role of utopia, heterotopy and the organization model based on a craft (Bauman et al. 2015).

3. CASE STUDY: “TYGODNIK WARSZAWSKI” (1945-1948) AS A PLACE TO DISCUSS THE NEW SITUATION AFTER WORLD WAR II

3.1. A few words about the intellectual environment of the polish journal “Tygodnik Warszawski”

In the circle of scholars and management practitioners who create now the independent think-tank Warsaw Group for Organizational Historiography, affiliated to Polish Chapter of Humanistic Management Network, historical and historiographic research on the intellectual legacy of the “Tygodnik Warszawski” (1945-1948) has been continued for 9 years . The potential significance of this legacy for contemporary managerial thought and its historiographical character has already been discussed before (Ochinowski 2016). In this article, we present the preliminary analysis of journalistic texts of “Tygodnik Warszawski” as “a vehicle” of content anticipating the interregnum categories. We were inspired by Theodore. from Oxford University suggestions, who pointed out that the mentioned journalists, like today's analysts of the interregnum, were aware of the need to "start over" and saw in this situation, above all, the opportunity to create and implement innovative ideas also organizing. We have already described the intellectual environment of “Tygodnik Warszawski” in earlier texts (see, for example, Ochowski 2016). For the purposes of this study, it is worth recalling that it was a circle of the Polish Catholic intelligentsia, which tried to find a place to act legally in the conditions of totalitarian oppression in Poland after 1944. As in previous studies of this environment, we offer a so called secularized reading of “Tygodnik Warszawski” authors’ ideas, apart from the religious context. Straight to management, the project of journalists from "Tygodnik Warszawski", which was called “The New Culture of Work”, was especially interesting. It was based on the postulate of cooperation between entrepreneurs and artists. We analyzed it in our previous works (for a summary of it, see Ochowski 2016).

3.2. Attempts to find interregnum antecedence in “Tygodnik Warszawski”

The current analysis is the “flâneur clash” of the modern idea of interregnum in management with the views of educated laymen (journalists) from years ago. To obtain a "lay" sample of understanding the interregnum, we conducted an analysis of the semantic field analysis (Robin 1980) of written narratives of third-year students of management at the University of Warsaw. Their task- to task to get credit for the organizational behaviour lectures- was to write “letters” to the authors of the book "Management in a Liquid Modern World". Separate groups of approximately six students focused on separate chapters of this book. 69 written narratives of students have been analysed by the authors of presented article. It turned out that, for students, the following interregnum elements are the most readable: "crisis", "change" and "management". On the basis of these separate categories, we read, without any supporting techniques, articles from “Tygodnik Warszawski”. At present, initial stage of study, it turned out to contain common categories for both sources: contemporary discussions about interregnum- mediated by perception of students as contemporary educated laymen and the journalism from the 1940s. The first of the interregnum category we were able to find both in the works of students and in the journalistic texts of “Tygodnik Warszawski” is the role of cities.

According to "Management in a Liquid Modern World" the task facing cities is to build small communities operating on a collaborative basis. By using innovations, they are able to create new solutions for contemporary management problems and then implement them. A fairly similar picture of cities emerged from Jerzy Braun's (the leader of "Tygodnik Warszawski" group) journalistic texts. After the war, cities were often razed to the ground, and the process of their reconstruction (also using the idea of cooperation for this goal) was to symbolize the rebirth of the country and show its strength and beauty. From both descriptions, it follows that the category connecting cities is the idea of solidarity, concern for the common good and the search for new, creative ideas for the future. Cities symbolize the chance for better times. The category of creativity is also visible in both sources. Both students and authors of "Tygodnik Warszawski" emphasize the huge role of creativity in the interregnum. The "creative attitude" about which Braun wrote, for example, was to be a counterweight to consumerism, a concept which is also common to the past and present state of interregnum. Caring for employees and providing them with the right conditions for creative work is another important common category. The opposite of this is the pursuit of wealth mainly by managers, which, as we noted, is an important feature of contemporary business corporatism. In the articles published in "Tygodnik Warszawski", there was some reference to the idea of management without managers, namely the view of allowing employees to power, that is, that they would have a greater impact on decisions taken in the enterprise. This was to involve a larger share of the company's profits. There was also a view in „Tygodnik Warszawski” about the equal distribution of goods, which is a clear reference to social inequalities and the notion of resource redistribution. Regarding the functioning of companies, the article from "Tygodnik Warszawski" shows that quality is important, not quantity, to be more precise, the results are not the most important, but honest work and mutual assistance. We read it as an intuition of the "craftsman-gardener" utopia (Braun 1947a, Braun 1947b, Studentowicz 1946, Studentowicz 1947, Skarbek 1947). During our preliminary analysis, we did not find in student narratives the issues of contemporary interregnum discussion related to the lack of faith in one's own abilities, development of new technologies, self-management, empathy and morality, departure from the "village mode", adiaphorization (in Bauman's language it means neutralization, banality of instrumentality), lack of interest of influential people in world problems and the fact of the lack of the possibility for individual people to play their potential roles. To sum up, the main relevant content-related antecedents of the interregnum discussion mediated by the student "letters" turned out to be present in journalistic texts from the 1940s. However, these were not all interregnum elements contained in the contemporary discussion on interregnum developed in management. For further research, we left possible interregnum antecedents, which are probably in the journalism of "Tygodnik Warszawski", but exceed the analysis scheme selected from student "letters". The analysis so far shows that the journalistic texts of "Tygodnik Warszawski" largely suggests the historical, "emerging in time" character of contemporary interregnum discussion. We make this statement on the basis of convergence between the issues raised both in the book "Management in a Liquid Modern World" (Bauman et al. 2015) and in the texts published in "Tygodnik Warszawski". The categories that are repeated in both sources in a particularly clear way include the role of cities, ideas for cooperation and creative thought, redistribution, "the craftsman-gardener's" utopia, problem of business corporatism, problem of pursuit of wealth, and problem of consumerism.

4. CONCLUSION

The preliminary analysis of potential interregnum antecedents, presented in this article, suggests that such antecedents occur and can be inspiring today. Interregnum as a phenomenon, whose description emerged in a certain historical process (see Kociatkiewicz & Kostera, 2018), subject to historiographic analysis, shows the shades of meaning that could be overlooked

today. For example the issue of the hierarchy of interregnum elements and universal character of some of them seems to be interesting and practical theme at the same time. Of course, our results are only a preliminary contribution. They require further research, also of other intellectual environments, especially in Central and Eastern Europe (to obtain comparative material) and discussion on their application, especially for management education.

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RECESSION IN NIGERIA: ENTREPRENEURSHIP EDUCATION TO THE RESCUE

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ABSTRACT

The overall goal of this paper was to provide insight into the roles of entrepreneurship education in the rescue of the economy during recession. Recession is seen as a general slowdown in economic activity for two consecutive quarters. Recession can be caused by two factors, which are; internal (endogenous) and external (exogenous). It was observed that, the roles of entrepreneurship education is to help in addressing the level of poverty which is synonymous with recession, also in checking high dependency on foreign goods, it helps in revenue generation in the form of taxes, levies, fines, fees and duties which help to stimulate the economy during recession. It was therefore recommended that government and other bodies should adequately fund the programme (entrepreneurship education) in order that the laudable objectives and goals of the programme should be realized.

Keywords: *Economic recession, entrepreneurship education, entrepreneurship, Nigeria, recession*

1. INTRODUCTION

The concept of Economic Cycles, which are sometimes referred to as Business Cycles, is a theory that attempts to explain changes in economic activity that vary from a long term growth trend as observed in a developed market economy. Factors considered in shaping economic cycles include growth of Gross Domestic Product (GDP), employment rates, household income, and the likes. Economic Cycles are divided into two groups: booms and recessions. Booms are associated with a strong economic activity while recessions are characterized by below-trend economic growth. Therefore, recession is a business cycle contraction and it refers to a general slowdown in economic activity for two consecutive quarters (Central Bank of Nigeria, 2012). During recession, there is usually a decline in certain macroeconomic indicators such as capacity utilization, investment spending, GDP, employment, household income, business income and inflation with the attendant increase in the rate of unemployment. Technically, when an economy recorded two consecutive quarters of negative growth in real GDP, it can be said to be in recession. GDP is the market value of all legitimately recognized final goods and services produced in the country in a given period of time, usually one year. A typical business cycle has a period of booms (prosperity) followed by a period of recession, slump, and recovery. During the boom period, there is minimal unemployment, high production and consumption; high standard of living; high inflation and so on. It is a period when most macroeconomic indicators are positive. In recession period, economic activities are slow down considerably. Entrepreneurship education is the incorporation into the student syllabus steps involved in starting a new business based on a recognized business opportunity as well as operating and maintaining that business. The belief of some people is that entrepreneurship is born to be so.

It should, however, be noted for one to be a successful entrepreneur, he/she needs to learn the skills (Graffin & Hammis, 2001). There have been conscious efforts by stakeholders to ensuring that the educational system is truly responsive to societal demands. The inability of the graduates of the educational system to contribute meaningfully to the economic development of the nation by being self-employed or reliant was what informed the introduction of entrepreneurship education in schools. The call for the introduction of entrepreneurship education in schools is an indication of its importance in repositioning the economy towards ensuring self-sustenance, economic empowerment and job creation in particular. Entrepreneurship education has become necessary as Nigeria continues to produce graduates that are hardly self-reliant but solely dependent on white-collar jobs (Kizito, 2014).

1.1. The Causes of Recession

Recession can be caused by two broad factors: internal (endogenous) and external (exogenous). The former is usually as a result of a conflict of ideas, misapplication of economic theory and regulatory negligence or policy inconsistency. The Asian financial crisis of 1997-1998 was caused partly by internal factors; banks were lending abroad in pursuit of high-profit-margin, due largely to slowdowns at home, desire to pursue development without due consideration of economic fundamentals, corruption, and structural and policy distortions (Wong, 1999; Corsetti et al, 1999). Other factors were the overheating of the private sector and excessive investments in real-estate with non-commensurate returns. In the same vein, the global financial crisis of 2007 and the ongoing recession was triggered by the United States housing bubble; excessive lending of banks into high-risk subprime and adjustable rate mortgages resulted in high default rates as well as the downfall of the banking sector. Defaults and losses on other categories of loans also rose considerably as the crisis expanded from the housing market to other sectors of the economy. The bankruptcy of several highly rated investment banks started to panic on the inter-bank loan and stock markets and eventually, the bubble busted. This resulted in the fall of global GDP, rising unemployment and economic difficulties in many parts of the world (Kamar, 2012). The external causes of recession have to do with factors that are exogenous to the economy over which policymakers have little or no control. Factors like a natural disaster, climate change, revolution, and wars. An agricultural economy could face crop failure resulting in a general economic slowdown. Also, a mono-economy could suffer recession from international price shock for its product. The neoclassical economists are of the view that state interference in the market, labour union, monopolies, and technological shocks are external causes of recession (Central Bank of Nigeria, 2012). To another group, negative demand and supply shocks, as well as deflationary macroeconomic policies, are the main causes of recession. The negative demand-side shocks that affect the aggregate demand work through a global economic slowdown that impacts major trading partners of a country. In the case of Nigeria, when there is an economic slowdown in the U.S., China, India, and EU, it could have a negative impact on the demand of Nigerian crude oil from these countries. As a result, government's revenue and spending would drop, taxes will rise, disposable income will fall and aggregate demand will fall, adversely impacting the production of goods and services (Central Bank of Nigeria, 2012). These developments would culminate in an economic recession. Also, a crash in asset prices as was the case during the GFC, credit crunch, where financial institutions reduced the amount of credit to support production could occur. Another source of negative demand shocks could be a sharp appreciation of the domestic currency, which encourages import and discourages export of goods and services and causes disequilibrium in the balance of trade and deterioration in the balance of payments position (Central Bank of Nigeria, 2012). Supply-side shocks causes of recession result mainly from general increases in commodity prices such as crude oil, metals and other non-fuel inputs, foodstuff prices, etc. These factors are inflationary in nature.

Inflation, which is the persistent rise in prices of goods and services, results because of the high cost of inputs, which are usually transferred to the final consumers who can only afford less quantity because of higher prices. This lowers demand for goods and services, and reduces the standard of living, and ultimately depresses production of goods and services by firms. The macroeconomic policies work more or less like the internal factors discussed above. Here, when monetary and fiscal policies are not well coordinated it results in recession. During contracting growth or economic slowdown, taxes ought to be lowered, and the government also ought to spend more to stimulate the economy. On the other hand, monetary authority ought to encourage borrowing by households and businesses by lowering the interest rate. However, when the above policy mixes are not properly synchronized, it could further stifle the economy. Macroeconomic policies need to be complementary to achieve the desired result.

1.2. Effects of Recession

The following are the effects of recession.

1.2.1. Effects on Employment

One of the consequences of recession is unemployment which tends to increase, especially among the low-skilled workers, due to companies and even government agencies laying off staff as a way of curtailing expenses. Unfortunately, this results in further restriction in overall spending which is required to help pull the economy out of recession. Where a family or individual income is drastically reduced due to loss of employment or underemployment, discretionary spending, or disposable income, is severely restricted. This reduction in income, in turn, leads to non-payment or delayed payment of debt obligations – especially credit cards. This further reduces the funds available for financial institutions to lend out to businesses for expansion/investment to increase production; a process that could have resulted in increased employment, income, and spending that could help pull the nation out of recession (Oti, 2016).

1.2.2. Effects on Businesses

Another result of recession is drops in output and/or productivity and business closures. Falls in output tends to last until weaker companies are driven out of the market, then output picks up again among the surviving firms. During recessions, stronger companies look to swallow up weaker and smaller ones through mergers and outright takeovers, and this negatively affects the competitive environment; some level of scarcity, artificial or really – begins to emerge, and prices of goods creep up in response. These mergers or outright acquisitions also result in job losses; thereby, further depressing family incomes and reducing discretionary spending that is needed to combat recession. The combined effect of job losses, scarcity of goods, and increased prices help drive families further into economic difficulties (Oti, 2016).

1.2.3. Effects on Society

With more people out of work, and families increasingly unable to make ends meet, the pressure on demands for government-funded social services increases. Since governments also experience drops in revenue collection during recession (something that, in some cases, lead to the recession in the first place), it becomes difficult to meet the increased demands on social services. Worst hit is those who are either on a fixed income – social security checks –, Medicaid, and Medicare services (the elderly and disabled). Unlike those on wages and salaries who experience little or no reductions in salaries, the fixed income earners usually experience cuts in their benefits and services provided by the government, and these cuts increase the level of hardship the families are already feeling. Another, and probably the most devastating, social effect of an economic recession is destabilization of families.

With the loss of a job, every plan for the future – college education, home purchase, vehicle replacement, and other family-enhancing plans are all suspended, and may never be reactivated or achieved (Oti, 2016).

2. CONCEPT OF ENTREPRENEURSHIP EDUCATION

There is no doubt that a functional educational programme is capable of accelerating the development of any economy regardless of the geography of the country. Several scholars have stressed the importance of education in bringing about the socio-economic development of the nation. The development of the education sector remains a sine-qua-non for the development of all other sectors. According to the European Union Commission (2010), as cited in Ekankumo and Kemebaradikumo (2011), Entrepreneurship Education seeks to provide students (especially those in tertiary schools) with the knowledge, skills, and motivation to encourage entrepreneurial studies in a variety of setting. The Commission emphasizes that different aspects of Entrepreneurship Education are offered at all levels of schooling. In a similar vein, the Consortium for Entrepreneurship Education (2004) maintained that it is a lifelong learning process, starting from elementary level to other levels of education and spanning to adult education. Entrepreneurship Education is compulsory across all tiers of the educational system in Nigeria. It is hoped that all the graduates from the various tiers of the educational system will be equipped with the entrepreneurial skills required to function in today's business world.

3. ROLES OF ENTREPRENEURSHIP EDUCATION IN THE RESCUE OF THE ECONOMY DURING RECESSION

The introduction of Entrepreneurship Education in Nigerian tertiary institutions is actually a direct response to the changing socio-economic and political conditions in the world and Nigeria in particular. There are indeed obvious roles of Entrepreneurship Education in the economy and some of these roles are examined in this section. Entrepreneurship Education no doubt aims at properly and adequately equipping and making students' experts in the production of certain items which in turn make them contribute meaningfully to the economic development of the nation (Ewubare, 2010; Babalola, 2010). Once a student is empowered, that is, having the skill to produce items, this will have a positive effect on the Gross Domestic Product (GDP) and the national income of the nation. Most of the countries that are progressing in the world today are as a result of skills they have been able to harness in ensuring greater productivity in the nation. The curriculum framework of this programme has been designed such that individuals will be able to channel their creative abilities and skills to an area or areas of interest. The interest area may be barbing, soap making and farming (Agoha, 2011). The spread of small and medium scale industries in the world today may not be unconnected with this fact, and these SMEs are identified as the catalyst in any economy. Entrepreneurship Education can greatly help in addressing the level of poverty in the country. The issue of poverty eradication has been a top priority of many governments and institutions, especially in developing countries where extreme poverty is conspicuous and has become pandemic (Akpomi, 2009; Kalirajan, 2009). Eradication of poverty is a top goal of the Millennium Development Goals (MDGs) now Sustainable Development Goals (SDGs). The incidence of poverty in Nigeria is on the high side, where about 70% of the total population has been classified as poor (Ewhrudjakpor, 2008). Entrepreneurship education equally helps in checking high dependency ratios (That is, the ratio of dependent population to the working population) in the country. Once the population is adequately empowered with these entrepreneurial skills thereby leading to self-employment, the burden arising from the dependent population will be reduced drastically. The term economic development entails all-round transformation of the population. In other words, once the citizen is empowered, the living standard and well-being of the people will be improved; this will help in overcoming economic recession.

Entrepreneurship education helps in empowering the students with the necessary information that will help to boost teaching and learning (Agoha, 2011). Entrepreneurship education builds in the students the spirit of being entrepreneurs. Thus, this kind of education has a way of discouraging laziness and idleness among our teeming population; particularly our youth. Most people that are idle today or probably lazy are those that seem to know little or nothing about entrepreneurship. That is, what it takes to develop business plans, carry out a feasibility study, start-up and manage businesses; when these are in place it will help to revive the economy during recession. Entrepreneurship education has the tendency of enhancing the wealth and income of the nation. The government gets substantial revenues from the businesses/SMEs that are established as a result of the knowledge of Entrepreneurship education. The National Income (N.I) and the Gross Domestic Product are useful indicators in ascertaining the standard of living and growth of the nation. These revenues derived from businesses are in the form of taxes, levies, fines, fees, and duties. This income derived will help to stimulate the economy which will go out recession as soon as possible.

4. CONCLUSIONS AND RECOMMENDATIONS

This paper has been able to explore some of the integral facts in the field of Entrepreneurship Education with a view to actualizing economic development and in helping to rescue recession if well-articulated in Nigeria. Therefore, there is no doubt that with a well implemented Entrepreneurship Education in Nigeria, the citizens will be empowered and there will be an overall economic development of the nation. Based on the submission above; the following recommendations are made:

1. The government and other bodies/institutions should adequately fund and finance the programme in order that the objectives and goals of the programme be realized;
2. The students should be encouraged to embrace Entrepreneurship Education or training in order for them to become self-reliant and wealth creators;
3. There should be uniformity in the curriculum offerings in the various institutions that are saddled with the teaching and learning of this Entrepreneurship Education.
4. The government and non-governmental organizations should make adequate provision for necessary resources (that is, human and material) needed to fully run the programme.

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INTERLINKAGES AMONG FOREIGN DIRECT INVESTMENT, INTERNAL MIGRATION AND STRUCTURAL CHANGES IN ECONOMY

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ABSTRACT

*Economic structural changes influenced by various factors such as: demographic and social technological, economic factors and expansion of financial sector. The theory of structural changes in the economy explores structural transformation from the traditional agricultural economy to modern and advanced on technology-based economy. Modern economy highly influenced on the movement of capital from one country to another. Even more, foreign direct investments (further – FDI) create new job places that stimulates both labour force movement from one sector to another and internal migration in a country. At the same time movement of labour force from one economy sector to another is driven by fluctuations of income, as well as structural changes in demand. The object of research lies on interlinkages among FDI, internal migration and structural changes in economy. The research focuses on the causes of structural changes and FDI impact on structural transformation. Furthermore, internal migration has been taken in account as internal migration often is caused by income fluctuation, unemployment level, opportunities for better career in the large foreign capital corporations. This paper has aimed to examine the causal relationships between FDI – structural changes, FDI – internal migration and internal migration – structural changes in Lithuania. Meanwhile, economic structures are described by sub-sector changes in gross value added. In assessing and comparing structural changes in national economies structural rate of change intensity have been estimated. Research extends theory of structural changes in economy and employs several econometric methods for implementing the aim of the research.
Keywords: foreign direct investment, internationalization, migration, structural change*

1. INTRODUCTION

Economic structural changes from the different perspective angles have been a discussion object over the years in the economic theory. Sposi (2019) has found the vast studies on structural change while using general equilibrium models which explains the decline in agriculture's share across levels of development, hump shape in industry's share, and the rise in services' share. Scientific literature (Lin & Wang, 2017; Pi & Zhang, 2018; Valli & Saccone 2015; Dudzeviciute, Maciulis & Tvaronaviciene 2014) provides various definitions of structural changes. However, the general structural change is seen as the change of the composition of different sectors' activities (Pi & Zhang, 2018). The other two scientists (Lin & Wang, 2017) state that structural changes occur when economic development enforces new composition of industries with different capital intensities. The economic structural changes are driven by variety of processes that transfer economy from traditional agriculture economy to more modern and industrially diverse manufacturing and services (Dudzeviciute, Maciulis & Tvaronaviciene 2014). Alonso-Carrera and Raurich (2018) claim that process of structural change is driven by demand and supply factors. These scientists state that the process of structural change consists in a large shift of both employment and aggregate production from

agriculture to other sectors. Even more, these processes have been forced by movement of capital (Wagner, 2015), migration (Swiecki, 2017; Alonso-Carrera & Raurich, 2018; McGowan & Vasilakis, 2019), innovation (Buera & Kaboski, 2012; McGowan & Vasilakis, 2019) or economic growth (Dudzeviciute, Maciulis & Tvaronaviciene 2014). Cardinale and Scazzieri (2018) describe structural changes as the different position of productive activity in the economy and different distributions of productive factors among various sectors of the economy, various occupations, geographic regions, types of product, etc. One of the major factors fostering economic changes foreign direct investment. FDI stimulates the adoption of innovations, decreases the unemployment level and stimulates the growth of economic development (Simelyte & Dudzeviciute 2017). FDI is the most significant in earlier stages of emerging economies. Besides, considering to the business sector, privatisation process, licenses and agreements, FDI encourages the modernisation pace of manufacturing technology. Thus, the governments expecting positive impact of FDI on the country's economy promote inward FDI flows. In this way foreign potential employers are searching for members of staff within the invested area. For this reason, countries which attract more FDI face with high internal migration level or even high level of migration from villages to cities (Mihi-Ramirez, Kumpikaite-Valuniene & Cuenca-Garcia, 2017). Thus, due to the high level of FDI and economic structural changes even wage inequality increases and deepen the gap among the regions within the country. For example, Pi and Zhang (2018) notice that in China due to existing structural changes poor provinces benefit more from inter-province trade than rich ones. China has gone through transfer from agriculture to heavy manufacturing and services. Even more, foreign capital companies have created great number of job places which effected migration from rural areas to the urban ones. The article aims to examine relationship among FDI, structural changes in the economy, and migration in Lithuania from 1939-2019. The research focuses on the causes of structural changes and FDI impact on structural transformation. The research is limited by the data availability and different estimation methods. Even more, considering, that Lithuania was annexed by Soviet Union, data from 1970-1989 shows economic structure in the planned economy. For the methodological purposes the article has been divided into three parts. The first part analyses the theoretical point of view towards relationship among FDI, structural changes and migration. The second part describes the methodology of the research. The third part provides results and insights on the topic.

2. LITERATURE REVIEW

The overview of recent studies shows that most of the researchers analyse structural changes in the economies of different countries in the context of three main sectors such as agriculture (primary economic sectors), industry (secondary economic sectors) and services (tertiary economic sectors). (Li & Koustas, 2019; Dudzeviciute, Maciulis & Tvaronaviciene 2014). Meanwhile, structural changes are the much broader process that involves changes of production and employment between all sectors of the economy as well as the emergence of new sectors and the disappearance of old ones (Gabardo, Pereima & Einloft, 2017). Due to such changes, additionally, quaternary sectors (research and development, consulting, education, financial services) and quinary sectors (artificial intelligence) might extend division of economic structure. Both the quaternary and quinary economic sectors include knowledge-based sectors. Furthermore, quaternary and quinary economic sectors are the part of tertiary sector. For example, tertiary and quaternary sectors employ 76% of workforce in the United Kingdom. The search for similarities in patterns of structural change go back to Clark's (1940) and Fisher's (1939) works. At that time, attention was focused on in the interrelationships between agriculture and manufacturing, to lesser extend to services. Kuznets (1965 and 1966) was among the first ones to note sectoral similarities in pattern of structural changes in different countries as income per capita rose.

Theory of structural changes has been developed by W. Arthur Lewis later in the mid-1950s were modified by John Fei and Guataw Ranis (Dudzeviciute, Maciulis & Tvaronaviciene 2014). The Lewis model is best known a classical model which consists of an under developed economy with two sectors. The first one is a traditional and over populated subsistence sector characterized by zero marginal labour productivity. Meanwhile the second one is a high-productivity modern sector with an unlimited supply of labour available at subsistence wage. This means that the labour is able to move to the modern sector without lowering output. Modern economic literature on economic growth is linked to interrelation of structural changes within country's economy and its capacity to influence economic growth. Swiecki (2017) analyses determinants of the structural changes. Especially, he emphasises consumer preferences, productivity, international trade, and labour cost across the sectors. He claims that sector-biased technological change is the most important driver of structural change. On the other hand, customer preferences seem to be essential for the relocation of labour out of agriculture in the early stages of structural changes. Meanwhile, international trade has more significant impact on structural changes in smaller globalized countries. In addition, trade interacts with wages between sectors which causes labour relocation. Gabardo, Pereima & Einloft (2017) lay claim to that structural change is based on two sources. It is the result of sectoral differences in income elasticities of demand or of sectoral differences in productivity growth. Li and Koustas (2019) analyse the long-run effects World War II defence spending on structural change in local economies. Their study has revealed that wartime expenditure had long-lasting effects on the reallocation of labour to manufacturing and other non-agricultural sectors in war production centres which has caused the population growth in long-run in those regions. Allen, Bartiloro, Xian Gu and Kowalewski (2018) focus on the relationship between the structure of the real economy and a country's financial system. They study has covered the data from 108 countries. It has been found that that countries with asset-intensive sectors are more likely to have a bank-based system. Additionally, it has been noticed that market-based financial system is more common in the countries which economy is based on knowledge and intangible assets. Thus, the conclusion might be drawn that the structure of real economy influences the structure of financial system as well. The other two researchers McGowan and Vasilakis (2019) put emphasis on productivity boosting agricultural technology affects urbanization by stimulating structural changes from early 1900s to 1975 in the U.S. Results of the study reveal that in less urbanized areas the technologies improving crop productivity has led structural changes from manufacturing and services to agriculture. In addition, study shows that introducing new technology in agriculture has increase labour demand. Thus, it might be stated that changes in labour demand effect internal migration as well. Alonso-Carrera & Raurich, (2018) support statement that structural changes cause migration of labour force. They have developed two-sector growth model. The research model has explained the U.S. economy development pattern during the period of 1880-2000. These scientists have analysed structural changes in the sectoral composition of employment and GDP. They have found that the movement of labour force from one sector to another generates a sectoral wage gap which limits structural changes. The paper of Romano and Trau (2017) considers relationship between industrial structural changes and economic development in the context of global change. They maintain that industrial development has been changed by both the sectoral concentration of manufacturing activities and the internal structure of the economy. FDI directly affects market structure in the host country. In the context of market structure FDI can improve the competitive forces or, on the contrary, worsen the situation by creating oligopolistic or even monopolistic forces (Tvaronaviciene, Kalasinskaite & Simelyte, 2009). Singer (1950) claims that the host country would not be able to benefit from FDI if foreign capital goes mainly to primary business sectors instead modern manufacturing ones. Neoclassical Growth theory explains that FDI has an effect on growth rates only for a short time.

Meanwhile, in the New Growth theory FDI is evaluated endogenously in the model. It is considered that FDI has long term positive impact on growth rate through technology and spillovers effect. Inward FDI increases in both emerging market and developed countries. In the emerging markets, FDI is one of the external financing sources. The attraction of FDI is highly important for developing countries, as it is one of the external funding sources, which encourages innovative technologies, decreases unemployment, and promotes technological development (Simelyte, Dudzeviciute & Liucvaitiene, 2017). According to Wagner (2015), high level of export and FDI have an impact on economic growth and allocation of resources. Even more, he states that FDI results economic growth and structural change over the time but also has effect on the degree of economic openness.

3. METHODOLOGY OF THE RESEARCH

Research is based on three-sector model which was developed by Clark (1940), Fourasterie (1954), Balance (2017), Swiecki (2017), Cardinale and Scazzieri (2018). The descriptive statistical analysis is performed on primary-secondary-tertiary sectors in Lithuania. This approach has been chosen according to the research of Kuznets (1965), Dudzeviciute, Maciulis & Tvaronaviciene (2014), and Balance (2017) when structural change is understood as the process of economic growth. Even more it allows to determine change in economic structure using cross-sectoral data of Lithuania. According to the studies of Vitas (2012) and Balance (2017), to determine sectoral shifts, the absolute structural changes rate and the intensity rate of structural change have been used assess sectoral shifts. The absolute structural changes rate shows economic structural change and its impact on economic growth. Positive rate value means that structural change accelerates economic growth; and negative rate diminishes economic growth (Dudzeviciute, Maciulis & Tvaronaviciene 2014). The absolute structural changes rate is calculated as follows:

$$M = D_i - D_0 \quad (1)$$

$$M_{sum} = \sum_{i=1}^n M_i \quad (2)$$

where: M – the absolute structural change rate; D_i economic activity share in percentage; D_0 – economic activity share, % in the basic year; M_{sum} – sum of the absolute structural change rate. The intensity coefficient of structural changes shows the economic changes intensity in time t_i compared with basic period. The greater coefficient shows the higher level of intensive structural changes of economy. The intensity coefficient of structural changes is calculated as follows:

$$K = \frac{\sqrt{\sum_{t=2}^n (S_{ti} - S_{t0})^2}}{m} \quad (3)$$

where: K – the intensity rate of structural changes; S_{ti} – economic activity share; t_i, t_0 – current and basic time; n – economic activity quantity; m – year.

In order to evaluate relationship among FDI and migration, and cross-sectoral changes, correlation – regression has been chosen. As the research is based on three sector economy and structural changes have been determined as economic development process, thus, GDP of primary, secondary and tertiary sectors is defined as dependent variable and independent variables cross-sectoral FDI and cross-sectoral migration have been chosen.

$$GDP_p = \alpha_p + \beta_p FDI_p + \beta_p M_i + \varepsilon \quad (4)$$

$$GDP_s = \alpha_s + \beta_s FDI_s + \beta_s M_i + \varepsilon \quad (5)$$

$$GDP_t = \alpha_t + \beta_t FDI_t + \beta_t M_i + \varepsilon \quad (6)$$

Where GDP_p stands as GDP generated from primary economic sectors, GDP_s – generated from secondary sectors, GDP_t generated from tertiary economic sectors; FDI_p attracted into primary economic sectors, FDI_s attracted into secondary economic sectors, FDI_t attracted into tertiary sectors, M_i – internal migration; α, β are parameters; $\beta_p, \beta_s, \beta_t$ - indicate how much GDP may change on average, if independent variables changes.

4. DISCUSSION OF THE RESULTS

4.1. Patterns of Structural Changes in the World and Lithuania

Structural changes are the consequences of shifts in more fundamental but less clear economic determinants involving the pattern of resource allocation, the nature of technological advancement and other features which are not transcend shifts in market conditions. Even more, changes are permanent alterations rather than temporary or cyclical fluctuation. In many Western Countries, it has been noted the tendency that for manufacturing sectors share in total employment and/ or GDP is going to decline. Usually the decline is associated with the sector's shrinking growth rate. Especially when manufacturing growth is slower then agriculture of services. The progressive movement of labour from agriculture to manufacturing was a prominent feature of Western industrialization during nineteenth and twentieth centuries. Table 1 represents the growth performance in several sectors during the period of 1960-1975, the period of the most rapid expansion in the world's economy.

Table 1: Growth rates of selected categories by economic grouping in the post-war era, 1960-1975 (in percentage) (Balance, 2017)

Sector	Western Countries	Socialist countries	Less Developed Countries	World
Agriculture	1.8	0.8	2.8	1.8
Manufacturing	5.2	8.7	7.4	6.1
Construction	3.6	6.7	6.6	4.6
Transport and communication	5.3	7.4	6.4	5.7
Wholesale and retail trade	5.1	6.8	6.1	5.4
Other	4.1	7.0	6.2	4.3

On average manufacturing grew more rapidly than in other sectors, particularly in the socialist countries and less develop countries. The growth performance of manufacturing sector in the western countries was not so much impressive. Nevertheless, along the transport with communication and wholesales and retail trade has been rapidly expanding. Meanwhile in Lithuania before WWII 51% of all labour force has been employed in agriculture, hunting, fishery or mining sectors and only 3% has been employed in service sectors (Figure 1). Due to collectivization, technological development within 30 years this number decreased by 20 percent. However, from 1970 to 1975 approximately 30% of labour force has been employed in primary sectors. From 1973 to 1975 more than 65% of labour force has been employed in service sectors. The labour market structure radically has changed after Lithuania obtained independence from Soviet Union in 1990. In 2008 only 3% of labour force has been employed

in agriculture, hunting, fishery and mining sectors while the others have been working in services sectors which made up to 81%. From 2005 to 2017 economic structure of Lithuania has been slightly changed (Figure 2). During the period 2005-2017 about 1% of total value added has been generated from agriculture, hunting, fishery and mining sectors. The share of total value added from manufacturing sectors decreased from 29% to 24% during the period of 2005-2017. Meanwhile, the share of total value added from services has increased by 4 % in 2006 compared with 2005. However, during the last twelve years the share of total value added generated from services has been fluctuating. The highest peak has been reached in 2008 when services created 78% of total value added.

Figure 1: The structure of employment in economic sectors during the period of 1939-2018 (compiled by the authors according to StatisticsLithuania)

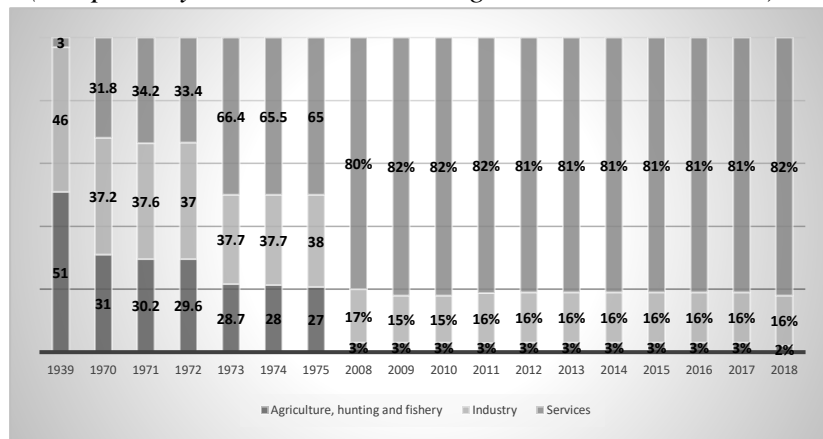
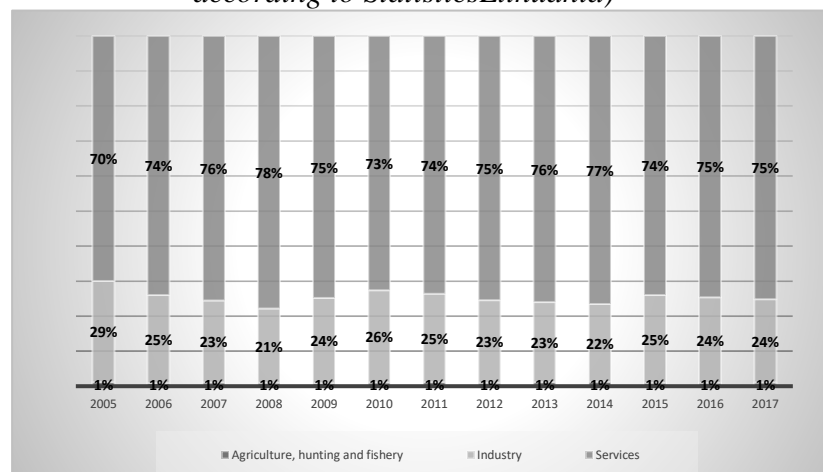


Figure 2: Economic structure of Lithuania from 2005 to 2017 (compiled by the authors according to StatisticsLithuania)



Structural changes of economy may have positive or negative effect to economic development. During the period of 1971-1975 (Table 2) industry made up to 36%-38% of total value added, while construction made approximately 11-12%, the same number of total value added produced trade, preparation, materials, transport and communication made up to 4%. Agriculture mining produced 37% of total value added in 1971. Estimated absolute structural change rate showed that greatest structural changes suffered agriculture while industry increased by 0.042 points. During that period the highest intensity coefficient of structural changes has been reached by agriculture. These changes show that country has been slightly moving from agriculture as primary sector to manufacturing.

Table 2: Economic structure in percentage, absolute rate of structural changes and intensity of structural changes in Lithuania during the period of 1971-1975 (source: estimations made by the authors)

	1971	1972	1973	1974	1975	Absolute rate of structural changes in 1995-2018 in percentage points	Intensity coefficient of structural changes
<i>Industry</i>	36%	38%	37%	38%	37%	0.042	0.027
<i>In trade, preparation, material technical supply and other branches</i>	11%	12%	12%	12%	12%	0.022	0.016
<i>Construction</i>	12%	12%	13%	12%	11%	0.010	0.011
<i>Transport and communications</i>	4%	4%	4%	4%	4%	0.015	0.011
<i>Agriculture</i>	37%	35%	34%	33%	35%	-0.089	0.058

Results from modern Lithuania (table 3) prove that primary sectors have been changed by tertiary ones. The absolute rate of structural changes of primary sectors made -1.33 which explains the shrinkage of primary sectors value added and decreasing number of the labour force employed in the primary sectors. The opposite results obtained for tertiary sectors. The absolute rate of structural changes of tertiary sectors made up 1.32 which explains the growth of number of services, demand for labour force in specific area, and the increase of the share of tertiary sector in total value added.

Table 3: Absolute rate of structural changes and intensity of structural changes in Lithuania in 1995-2018 (source: estimations made by the authors)

	Absolute rate of structural changes in 1995-2018 in percentage points	Intensity coefficient of structural changes
<i>Primary sector</i>	-1.33	0.301
<i>Secondary sector</i>	0.02	0.048
<i>Tertiary sector</i>	1.32	0.298

Thus, statistical analysis and the estimated absolute rate of structural changes and intensity coefficient of structural changes unveil that economy of Lithuania is oriented towards tertiary sectors which also proves that low-tech sectors have been replaced by tertiary sector. This phenomenon reveals positive development of the economy and the country.

4.2. Interlinkages among migration, foreign direct investment and GDP

The obtained results from bivariate correlation analysis revealed that internal migration and GDP generated from primary sectors has very weak positive relationship (Table 4). Meanwhile, there is a strong links between migration and attracted FDI in primary sectors. Thus, it might be made conclusion that inward FDI to primary sectors would motivate people to change living place. Estimated correlation coefficient between GDP generated from primary sectors and inward FDI to primary sectors, shows that inwards FDI to primary sectors would have positive impact.

Table 4: Bivariate correlation among Migration, Inward FDI in Primary Economic Sectors and GDP generated from Primary Economic Sectors Economics

	Migration	FDI primary	GDP primary
<i>Migration</i>	1		
<i>FDI Primary</i>	0.805	1	
<i>GDP primary</i>	0.186	0.531	1

Table 5: Bivariate correlation among Migration, Inward FDI in Secondary Economic Sectors and GDP generated from Secondary Economic Sectors

	<i>Migration</i>	<i>FDI secondary</i>	<i>GDP secondary</i>
<i>Migration</i>	1		
<i>FDI secondary</i>	0.205	1	
<i>GDP secondary</i>	0.796	0.259	1

However, inward FDI attracted to secondary sectors (Table 5) has weak relationship with migration which means that FDI attracted to manufacturing (0.205) would not so much motivate to relocate as inward FDI to primary sectors. Meanwhile, migration and GDP generated from secondary sectors has much stronger impact (0.796) then in primary sectors case. Both migration and FDI attracted to tertiary sectors have positive relationship with GDP generated form tertiary sectors. In this case inward FDI attracted to tertiary sectors would increase GDP in tertiary sectors (Table 6) as they are highly dependant.

Table 6: Bivariate correlation among Migration, Inward FDI in Primary Economic Sectors and GDP generated (estimation made by the authors)

	<i>Migration</i>	<i>FDI tertiary</i>	<i>GDP tertiary</i>
<i>Migration</i>	1		
<i>FDI tertiary</i>	0.698	1	
<i>GDP tertiary</i>	0.841	0.895	1

Table 7 provides results of regression analysis. Regression 1 has been estimated according to 4 formula, regression 2 has been estimated according to 5 formula and regression 3 is based on 6 formula. In the first case when situation in primary sectors has been analysed. Multiple R (0.670) shows that 67% of generated GDP from primary sectors might be explained by inward FDI attracted to primary sectors and migration. If migration and inward FDI in primary sectors would be equal to zero than primary sectors would generated 8764 millions to GDP, if FDI would increase by 1% than GDP from primary sectors would decrease by 0.23% and if migration would increase by 1% than GDP from primary sectors would increase by 13.85%.

Table 7: Results of Regression analysis (estimation made by the authors)

	<i>Regression 1</i>	<i>Regression 2</i>	<i>Regression 3</i>
<i>Intercept</i>	8764.81	-1800.7683	-122.158
<i>FDI</i>	-0.23 (-1.905)	0.066 (4.409)	0.009 (-1.572)
<i>Migration</i>	13.85 (3.00)	0.057 (0.571)	0.014 (3.20)
<i>Multiple R</i>	0.670	0.803	0.945
<i>R square</i>	0.449	0.644	0.892
<i>Adjusted R square</i>	0.357	0.585	0.875
<i>Standard error</i>	928.878	193.03	25.095
<i>F</i>	4.89	10.86	49.81
<i>significance F</i>	0.028	0.00203	1.54E-06
<i>Number of observations</i> 15			

In the second case 80% of GDP growth in secondary sectors is explained by inward FDI in secondary sectors and internal migration. In this case if migration and FDI equal to zero then GDP from secondary sectors would decrease by 1800 millions of euros. If inward FDI in secondary sectors would increase by 1% then generated GDP from secondary sectors would

increase by 0.06%. In the third case almost 95% of GDP growth in tertiary sectors is explained by fluctuations in attracting FDI into tertiary sectors and migration. If inward FDI attracted to tertiary sectors and migration would be equal to zero then GDP from tertiary sectors would decrease by 122 millions of euros. If inward FDI to tertiary sectors would increase by 1 % then GDP from tertiary sectors would increase by 0.009%. The results of correlation regression analysis proved that tertiary sectors are more dependent on FDI. While migration and FDI has closest linkages in primary sectors.

5. CONSLUSION

Scientific literature provides plenty of research on economic structure in the context of the world, region, or state level. Economic structure is divided into primary, secondary and tertiary. Before WWII economic structure of Lithuania was based on agriculture. Meanwhile due to technological process and economic development tertiary has become dominant in Lithuania. Approximately, 80% of total value added produced by tertiary sectors. The estimation of absolute rate of structural changes has revealed that primary and tertiary sectors have experienced the greater change in comparison to secondary sectors. These results reveal that the share of primary sectors in total value-added shrinks. The bivariate correlation has proved that GDP in all sectors has strong positive relations with FDI. However, the migration in primary sectors and GDP has weak relationship. Meanwhile, the migration has the strongest relationship with FDI in primary sectors rather than in secondary or tertiary. The regression simulation has revealed that the highest dependence on inward FDI and migration is in the case of tertiary sectors where 95% of the growth of GDP in tertiary sectors is explained by inward FDI and internal migration. Meanwhile, if values of FDI and migration are zero the highest losses in growth of GDP might be experienced in secondary sectors.

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SHARED MOBILITY IN TRI-CITY

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ABSTRACT

Cities are shaped by their transport systems. However, as a consequence of spatial, economic, technological and ecological global changes, these systems have recently been transformed. The role of transport in cities has become more important and new urban mobility models have emerged based upon shared mobility, smart mobility and sustainable mobility. Transport is perceived as a service, which is open to everyone and can be ordered and paid for via mobile applications (Mobility-as-a-Service). Some examples of rapidly developing vehicle sharing systems such as: car-sharing, scooter-sharing, bike-sharing. Furthermore, shared transport is taking on an increasing importance, as a key strategy for reducing greenhouse gases and other emissions from the transport sector by finding ways of getting more effective use of vehicles on the road. The aim of this paper is to present the changes taking place in shaping mobility and compare them to those in the Tri-City (Gdańsk-Gdynia-Sopot). The paper also refers to the author's study, which compares 9 different journey possibilities in the new urban mobility model in this agglomeration. The Tri-City has introduced car-sharing and scooter-sharing as well as its investment the cycling infrastructure and has also provided the IV generation bike-sharing system in March 2019.

Keywords: *global changes, shared mobility, sharing economy, sustainable transport, urban mobility model*

1. INTRODUCTION

In recent years, shared mobility services have had an increasing impact on transport systems in many countries around the world. This is the effect of global changes taking place in the spheres of technology, economics, ecology and migration. Rapid urbanization has increased the demand for urban transport, which has increased problems concerning environmental pollution, congestion, and long travel times (Przybyłowski, 2019, p. 615). In order to improve the situation in cities, state of the art technological solutions in the field of communication and management (ICT-Information and Communications Technology, ITS-Intelligent Transport Systems) were used (Mourey, Köhler, 2017, p. 4). As a result, the concept of smart mobility and smart cities has emerged, which is also in line with the idea of sustainable development (Stawasz, Sikora-Fernandez, 2015, p. 56). In addition, the progressive trend of the sharing economy strongly affects transport, bringing beneficial effects. The resources available are used more efficiently by connecting people through online platforms, which enables the provision of services and the cooperative use of assets (Ziobrowska, Kalina-Prasznica, 2017, p. 261). The word 'transport' is increasingly being replaced by 'mobility', which refers to the idea of sustainable development and the sharing economy, as well as the development and promotion of eco transport. Urban mobility also means creating a co-modality between public and private means of transport and optimizing the use of various modes of transport. Shared-mobility services are based essentially on a common set of principles e.g. they rely on mobile solution applications enabling users to enter into the rental/lease or usage contract anytime, anywhere; they have a strong social component since users can share their evaluation of the hired services; they provide transport that can be easily customized to specific demands (Civitas Policy Note, 2016, p. 13). Moreover, transport is perceived as a service open to everyone, which can be ordered and paid for via mobile applications (ITS Australia, 2018, p. 20). It is called the concept of 'Mobility-as-a-Service', which aims to provide consumers with integrated, flexible, efficient and user-oriented

mobility services (Little, 2018, p. 59). The purpose of the paper is to explore the changes taking place in shaping mobility and compare them to Tri-City (Gdańsk-Gdynia-Sopot). The paper presents Tri-city shared mobility characteristics (chapter 2). Furthermore, the urban mobility model in the Tri-City was thoroughly characterized. The article also refers to the author's study, which compares 9 different travel possibilities in the new urban mobility model in the agglomeration: on foot, Mevo, own bike, public transport, electric scooter, motor scooter, MiiMove/Traficar, Uber/mytaxi, own car (chapter 3).

2. TRI-CITY SHARED MOBILITY CHARACTERISTICS

Tri-City is an agglomeration located in northern Poland, directly on the Baltic Sea. The agglomeration has almost 750,000 inhabitants and covers an area of 414 square kilometres. Tri-City consists of three connected cities: Gdańsk (located in the south), Gdynia (located in the north) and Sopot (located in the middle). Gdańsk, capital of the province, is historical city which was built in 7th century. In 2018, the city had 467k residents (Urząd Statystyczny w Gdańsku, 2018) and was visited by 3,1 million tourists (Gdańska Organizacja Turystyczna, 2019). Gdynia was created in 1926 and has a quarter of millions population. Sopot is a very popular resort city in Poland, where lives almost 40k of inhabitants.

2.1. Transport System Characteristic

Tri-City is connected by a network of roads and city railways. Public transport system is organized by independent management boards of ZTM Gdańsk and ZKM Gdynia as well as PKP SKM Trójmiasto. The cities are interconnected by a suburban train called SKM (Fast City Train), which runs along thoroughfare from Gdańsk to Gdynia (across Sopot). In addition SKM connects centre of Gdańsk with Gdańsk Lech Wałęsa Airport and centre of Gdynia. The journey between the main station of Gdańsk and Gdynia last 34 minutes (distance of 23 km). SKM carries around 40 million passengers a year. Gdańsk and Gdynia have numerous amount of urban buses which service transport in Sopot too. Gdańsk promotes ecological public transport using 11 tramlines, while Gdynia develops trolleys (16 lines) (Wołek, 2016). Furthermore, two water taxis lines run during the summer season. The three cities promote and invest in cycling. Gdańsk has one of the biggest network of cycling roads in Poland which in 2017 was 174,5 km long (Orcholska, 2018). Since 2009 year bicycle motion has growth from 2% to 6% in modal split (Via Vistula, 2016). Despite new road buildings, implementing Intelligent Transport System (Tristar), improving public transport and bike transport, congestion is still increasing. There are more and more cars on roads, Sopot has the highest number of road motor vehicles per one thousand residents in Poland, that totals 733 in 2017 year (703 in 2013 year), Gdańsk reaches the number of 593 cars in 2017 (524 in 2013) and Gdynia 584 in 2017 (503 in 2013) (Statistical Office in Gdańsk, 2016). To improve traffic management in the Tri-City area, the TRISTAR system has been implemented gradually since 2012. This integrated traffic management system provides commuters with access to full information on a range of traffic conditions through: traffic problems and speed limits, electronic displays showing the actual time of public transport vehicle departures, parking information signs with the quantity of parking places available and signs warning of weather conditions (Wołek, 2016, p. 40).

2.2. Bike-Sharing

2.2.1. MEVO – Metropolitan Bike

The first bike-sharing systems appeared in Poland a few years ago. Tri-City, as one of the largest agglomerations, implemented such a system relatively late. It resulted from the strategy of the region and cities, that wanted to implement the most modern system in Poland – the 4th generation system, characterized by geo location and the possibility of renting bicycles without docking stations.

Due to the moraine hills occurring in Tri-City, it was also decided to use electrically assisted bicycles. Initially, the system was to be implemented in April 2017, and finally it was launched on March 26, 2019. The name of the system is MEVO – Metropolitan Bike. MEVO is the largest and most modern bike sharing system in Europe. It consists of 4080 electric bicycles and 660 stations operating in 14 communes. Bike rental is intuitive: using a mobile application on a smartphone (Android and iOS operating systems), through the NFC module (approaching a smartphone to a terminal in a bike), scanning a QR code or using a proximity card (Metropolia Gdańsk, 2017). Bicycles are a perfect complement to public transport system and reduce traffic congestion in the metropolis.

2.2.2. *E-cargo Bikes*

In 2018 Gdynia bought 10 electric cargo bikes, so-called e-cargo bikes. Bicycles are comfortable, have a large volume and can carry around 100 kg of goods. This is a good solution if there is a need to quickly transport products in the city centre. From November 8, 2018, cargo bikes can be rented by entrepreneurs from the city centre. It is enough to report such willingness to the employees of the Gdynia Road and Green Board. Bikes are provided free of charge and are used to:

- carriage of various types of goods between branches
- deliveries (max 100 kg, depending on the model)
- transport on the so-called "first and last mile"
- order fulfillment
- promotion of your business
- implementation of tasks resulting from the statute

The city council is currently working on the possibility of renting cargo bikes by residents. There is a plan to implement this solution in the summer of 2019.

2.3. Car-Sharing

2.3.1. *Passenger Cars*

The idea of car-sharing in Poland is new. The first company offering this type of movement began its operations in October 2016 in Krakow (Kubera, 2018, p. 119). There are currently 10 companies offering car-sharing services in Poland and 2 companies in Tri-City: Traficar and MiiMove. Both companies were established in Poland, Traficar provides services in 9 regions of Poland, while MiiMove is a local company from Gdynia. In October 2017, Traficar launched the Tri-City system offering 200 Renault Clio vehicles. Its system includes 22 residential districts of the agglomeration. The convenience for users is the ability to move between cities without incurring additional costs. In addition, users do not incur parking costs, also within urban paid parking zones. Low-emission exhaust cars can be rented and left anywhere in the entire zone, previously reserving them through an application that can be downloaded to the phone. Each kilometre costs PLN 0.80, in addition, each minute costs PLN 0,50. A car stop costs 0,10 PLN per minute (Trójmiasto, 2017). The other company offering car-sharing in Tri-City is MiiMove, which started its operations on February 18, 2019. The system offers 200 Opel Astra cars available in the Tri-City. The cars are equipped with 1.4-liter gasoline engines and 150 HP. It is worth noting that all vehicles have automatic transmissions. The pricelist is exactly the same as for the competitive Traficara. A person using MiiMove for each kilometre driven will pay 0,80 PLN. Additionally, the fee for the time of using the vehicle should be added to this. Every minute is the cost of 0,50 PLN. In the case when the car is immobilized, but the rental has not been completed, then 0,10 PLN are charged for each minute of stoppage.

2.3.2. *Cargo Cars*

From October 2018, in Tri-City, two systems are available for renting cargo cars for minutes. The first of them, TrafiCargo, is an extension of Traficar company. The delivery service works in a closed system 'from point A to point A'. It can be used at IKEA stores throughout Poland, at selected locations of Castorama network and at Leroy Merlin chain stores. The total TrafiCargo fleet in Poland currently counts 105 vehicles (Traficar, 2019). In addition, Galeria City Meble in Gdańsk provided three parking spaces for cargo vehicles TrafiCargo and two for passenger vehicles Traficar. The service is available 24 hours a day. For the vans, the places have been marked with the TrafiCargo logo and the places for passenger cars with the Traficar logo. The places for the service of cargo vans and passenger cars are located next to each other, which is a convenient and comprehensive solution for the customer. When, after returning the purchase, the customer returns the cargo van under the shop, he will be able to return home by Traficar. The system offers Renault Kangoo Van cars with a spacious luggage space of 190cm (length), 120cm (width) and 110cm (height). It can be further increased to 290 cm in length after folding the passenger seat. Fees for using TrafiCargo are the same as in the case of Traficar, which is PLN 0.80 per kilometre, PLN 0,50 per minute of driving and PLN 0.10 per minute of parking. CityBee is the second company, that provides cargo car rental in Tri-City. The company's headquarters is in Vilnius, and its services are provided in several European countries. In Poland, the company started operating in October 2018, currently has a fleet of 150 vehicles in 11 cities (90 Fiat Ducato and 60 Volkswagen Crafter). Fees for the time of using the cargo car are quite varied, depend on the length of the rental and amount to PLN 0,99 per minute, PLN 49 per hour, PLN 219 for the whole day or PLN 1299 per week. For the first 50 kilometres driven, only the fee for the time period of use of the vehicle applies. Price per kilometre is calculated only after driving 50 km - then every next kilometre will cost 0.65 PLN. Fuel, liability insurance and other technical costs are included in the price. Due to the large size of cargo vans, they are available in zones designated by the operator. There are currently 18 zones in the Tri-City.

2.4. **Motor Scooter-Sharing**

Electric motor scooters are another form of shared means of transport. The principle of renting is very similar to Traficar or MiiMove applications. Using the mobile application, the vehicle can be reserved 15 minutes before the journey, and then open the storage compartment with the key. Two helmets are hidden in the trunk together with hygienic caps. The user has two free minutes to prepare for the ride. After finishing the ride, the driver can leave the scooter anywhere in the zone in which the operator operates. Currently, there are 4 companies in the Tri-City offering motor scooter sharing for minutes: Blinker, EcoShare, Yumi and Hop.City (formerly SingleSlad). The comparison of motor scooter sharing is included in the table 1. It can be seen that the largest differences occur in the fleet of available vehicles. Companies offering motor scooter-sharing have different areas of operation, however, not all of these areas overlap. It is worth noting that lending is possible mainly along the main artery of the Tri-City, while external districts are not served by the system. In Gdynia, only one of the companies (Hop.City) allows to reach the northern districts of the city.

Table following on the next page

Table 1: Comparison of Tri-City motor scooter-sharing systems (own study)

Feature/ company	Blinkee	EcoShare	Yumi	Hop.City
Start date	August 2017	August 2018	July 2018	April 2019
Area of accessibility	Tri-City	Tri-City	Gdańsk, Sopot	Gdynia, Sopot
Number of scooters	50	109	45	24
Daily max fee	PLN 89	PLN 69	PLN 69	Lack of limit
Fee per minute	PLN 0,69	PLN 0,69	PLN 0,49	PLN 0,69
Stop fee	PLN 0,09	PLN 0,09	PLN 0,49	PLN 0,69

2.5. Electric Scooter-Sharing

Electric scooter-sharing (kick scooters) has been around since 2012 when Scoot Networks launched their service in San Francisco. However the first successful implementation of the system was the result of Lime's operation on the west coast of the USA in the city of Santa Monica in the autumn of 2017. To rent a scooter it is necessary to use a mobile application that locates scooters in the city. After unlocking the scooter, the ride begins, and finally a fee is paid for each minute of riding. After finishing riding, the scooter should be put up in a way that does not disturb other road users. Some of the companies require to take a picture of the scooter in the place where it is left. Scooters do not need docking stations, so they do not have a fixed home location, and are dropped off and picked up from arbitrary locations in the service area. This makes them a convenient mobility option for first-/last-mile mobility in urban areas. In Tri-City there are 3 companies offering electric scooters: Quick, Blinkee and Logo. The start date of the rental system, the area of accessibility, the number of available scooters and fees are shown in the table 2. Scooters of these companies differ significantly in the area of accessibility. By far the smallest range has Blinkee, it is limited only to the centre of Gdańsk and the neighbouring district. However, it is the cheapest system. Quick offers its services on a larger part of Gdansk and also in Sopot, while scooters of Logo can be rented throughout Tri-City.

Table 2: Comparison of Tri-City electric scooter-sharing systems (own study)

Feature/company	Blinkee	Logo	Quick
Start date	April 29, 2019	May 19, 2019	May 6, 2019
Area of accessibility	Part of Gdańsk	Tri-City	Gdańsk and Sopot
Number of scooters	70	190	250
Starting fee	PLN 2,5	PLN 3,0	PLN 3,0
Fee per minute	PLN 0,49	PLN 0,50	PLN 0,50
Stop fee	PLN 0,09	PLN 0,10	No option

2.6. Peer-To-Peer Ridesharing And Taxis Systems

Peer-to-peer ridesharing, by definition, is any means of transportation in which multiple people use the same car, truck, van, or vehicle to arrive at a similar destination. Ridesharing can include carpooling and sharing taxis, as well. Furthermore, the term real-time ridesharing is often used, what means a service that arranges one-time shared rides on very short notice. Since last few years there are many rideshare companies like Lyft, Uber or Wingz. In Tri-City Uber appeared as the first ridesharing system, providing its services from the summer of 2015. The number of its users grew rapidly due to lower prices compared to taxis and a simple mobile application.

However, uberPOOL option does not work in the Tri-City. This option allows to travel together with another user who is planning a trip on a similar route. In May 2016, the first licensed taxi company MyTaxi appeared, which allows ordering and paying for transport through a mobile application. The model proposed by the start-up from Hamburg is similar to that offered by Uber. Ordering a taxi is possible by one click using the smartphone application. MyTaxi uses its own taxi fleet. Another company is iTaxi, which have a fleet of 10k taxis across the country. To use this system, it is also necessary to download the mobile application. In the summer of 2018, Taxify company (currently Bolt), the biggest competitor of Uber, started its activity in the Tri-City. The company offers applications for a mobile phone, connecting passengers and drivers with each other. The prices are similar to Uber, depending on the time of day and traffic.

3. NEW URBAN MOBILITY MODEL

The trend related to the sharing economy in transport arrived relatively late to the Tri-City. The first system related to shared mobility appeared only in 2017 (Traficar), however, from 2018-2019 many new companies providing services in this field have appeared. The biggest revolution is the modern bike sharing system, which complements the functioning of public transport. Electrical scooter systems have been also developing very fast, which are mainly responsible for the 'last mile trip'. Recent traffic research in the Tri-City carried out in 2016 shows a negative transport phenomenon - an increase in the share of travel by own car as a result of reducing travel by public transport. However, residents and tourists enjoy using new forms of transport with interest. As an example, it is worth giving the results of a survey carried out recently among employees of one of the largest business centre in Gdańsk. According to this study, 40% of employees commute by city train, 23% by car, 21% by bicycle, 11% by foot, 8% by bus, 7% by tram, 2% by other (the research allowed to choose more than one answer) (Trójmiasto, 2019).

3.1. Transport Planning Applications

Tri-City does not have one dedicated application for transport planning. However, it uses many applications available throughout Poland, mainly for public transport. The widest range of services is provided by the application Google Maps, which allows to plan a trip using: your own car, on foot, by bike, as well as public transport (from April 2019). The second universal free application is jakdojade. It is a Polish internet service designed to search for transport connections and to plan travel by public transport in cities. A distinctive feature of the application is that the service allows to plan travel by many means of transport of various carriers along with sections covered on foot. Moreover, Polish myBus application is in operation in Gdansk. In addition to the traditional timetable, the application can display the nearest departures based on data obtained from vehicle tracking by the GPS system. Thanks to this, it is possible to get much more accurate time of arrival at the bus stop, taking into account unforeseen delays or acceleration of the courses. MyBus application works in two modes: on-line and off-line. A popular application used while traveling in Tri-City is SkyCash. The application allows to make payments for city tickets, parking fees and rail travel.

3.2. Study

In order to compare different travel possibilities in the new urban mobility model, an own analysis was made. The study includes 9 ways of traveling, ordered from the most to the least ecological: on foot, Mevo, own bike, public transport, electric scooter, motor scooter, MiiMove/Traficar, Uber/mytaxi, own car. The study includes distance, travel time and cost. It was carried out on Tuesday at 8 am during the morning rush hour. The starting location is Osiedle Wejhera in Gdańsk, where a large number of residents live (17 thousand residents in Żabianka-Wejhera-Jelitkowo-Tysiąclecia district).

The destinations are two places where a large number of people work: a business centre in Gdańsk Oliwa (about 9,000 employees), located 2,7 kilometres away; the city centre of Gdańsk, distanced by 9,4 kilometres. The aim of the study was to compare all travel modes in the current urban mobility model. The data for the study were obtained from the operators' application. Travel time was estimated based on the Google Maps application and the author's own journeys. The results are shown in table 3. The cheapest way to travel is walking and cycling. For a distance of 2.7 km, walking takes the most time from all journeys (36 min.), while cycling takes relatively little time (13 minutes). The fastest form of travel is own car and Uber/mytaxi (both 9 min.). However, the cost of Uber/mytaxi is the largest of all possibilities of transport (3.10 EUR). Renting a motor scooter allows a slightly faster and cheaper travel than Traficar/mytaxi. Travel by public transport, in this case by tram, takes a lot of time due to the large number of stops and the time needed to reach the destination. In conclusion, the most advantageous price/time ratio in this case is the trip by own car, due to the small traffic on this section and not taking into account the time needed for parking. While adding the ecological and health aspect, it is best to travel by bicycle. For a distance of 9.4 km the fastest means of transport is motor scooter (24 min.). The rental price is 3,87 EUR and it is lower than the price of the electric scooter, MiiMove/Traficar and Uber/mytaxi. To move quickly it is also worth to use own car, Uber/mytaxi and MiiMove/Traficar. A cheap way of traveling is by bike, as well as by public transport, in this case a city railway - the journey by rail lasts only 17 min., but over the second it takes to get to/from the platform. Using an electric scooter for such a long distance is unprofitable and takes a long time (39 min.). Taking into account the price, cost and ecology, the most recommended means of transport could be an own or Mevo bike.

Table 3: Comparison of different ways of transport in Tri-City (own study)*

Mode of transport	Distance: 2,7 km		Distance: 9,4 km	
	Price (PLN)	Time (min.)	Price (PLN)	Time (min.)
On foot	0	36	0	119
Mevo	1,4	14	3,5	35
Own bike	0	13	0	36
Public transport	3,2	27	4,2	38
Electric scooter	10,5	15	22,5	39
Motor scooter	6,9	10	16,6	24
MiiMove/Traficar	7,9	11	21,0	27
Uber/mytaxi	13,3	9	27,7	25
Own car	2,1	9	5,3	25

* The study did not include:

- the purchase price and exhaustion of own bike
- the purchase price and the exhaustion of own car
- car parking fee
- time needed to get to and park own car
- the price of a monthly subscription for a Mevo bike, then the trip would be cheaper
- the price of a monthly ticket for public transport, then the trip would be cheaper
- small differences in the price in the Uber and Mytaxi offer, resulting from traffic and the number of available vehicles

* the study assumed the average combustion of 10 litres of gasoline per 100 kilometres for the own car.

* the research assumes that 2 minutes are needed to book and run: cars from the car-sharing system, scooters, Mevo bikes.

4. CONCLUSION

New transport solutions, which appeared in Tri-City, have filled the deficiencies in the transport system. Although the use of shared mobility systems is quite expensive (except for Mevo bicycle), they could complement the agglomeration transport system. Traveling an electric scooters over a longer distance is not profitable, although, it can significantly reduce the time to reach a public transport stop, located within 1-2 kilometres. The study requires further work that would consider combining different forms of transport during the journey. Is transport on demand, both public (buses, minibuses, vans) and private (taxis, Uber) able to displace owning a car? In addition, the work on autonomous vehicles should also be taken into account, as it can also meaningfully change the model of travel in cities.

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THE IMPACT OF THE INTERNAL RATE OF RETURN (IRR) AS A BENCHMARK MODEL FOR VALUE CREATION IN PRIVATE EQUITY

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ABSTRACT

The contribution of performance ratios on the capital markets goes along with the inconsistency of investors' expectations and deregulated premium of return for different asset classes on alternative markets. In the introduction part of the paper, the role of the multiple ratios related is highlighted as an applicable standard in the industry. In practice, performance fees, often derived by general partners, do not always take into consideration the concept of internal rate of return (IRR), as a benchmark model for value creation in private equity investors. Because of that, the multivarious conditions defined in the statute or the rule book of the equity entities should be examined under value creation perspectives. Conversely, from the perspective of prominent fund investors, there should be taken into calculation the standard of a carry for unrealised investments, market timing, utilisation of financial leverage, operational excellence, and residuals. Taking into consideration the perspectives above, authors of the paper have extracted the internal rate of return as a consistency ratio for four different horizons (a year, three years, five years and ten years) with the benchmarks from the Preqin Pro database. The authors intend to reassess alternatives according to best practices in the field of alternative asset class investments while offering alternative benchmarking methods as a measure of ranking fund performance via internal rate of return. In the discussion part of the paper, the model aims to define which alternative assets class or mechanism is affected by endogenous shocks (deregulation) or exogenous opportunities (consolidation) without going into the details. In the conclusion part, the authors shall summarise all useful findings related to the area of interest and studies in science and business.

Keywords: *alternative asset, endogenous shocks, exogenous shocks, internal rate of return, opportunity cost*

1. IMPACT AND ROLE OF INTERNAL RATE OF RETURN FOR PRIVATE EQUITY INVESTMENTS

The total cost of ownership relies on the inconsistency of investors' expectations on capital markets via transmission mechanisms. The rise of overall standards in the industry is a result of the newly-developed vision of limited and general partners extracted in the "Global Private Equity report 2019" (Bain & Company, 2019). The newly-established standards target different areas which are related to the massive growth of a business through efficiency and flexible labour contacts. More service-oriented limited partners are accommodating smaller ticket sizes to utilise position in the sphere of market liberalization, technology innovation, product imitation and financial optimization from actual sources of value creation.

Under the given assumptions and circumstances, it presents the main reason for leaving the management team of general partners after three years of commitment. More often, it is described as a lack of leadership to deliver credible results. Linking to the topic of the paper and interest in the industry, a growing corpus of recent researches show private equity rise in deal-making on the year base (Bain & Company, 2019). Although it is contrary to growth in feasible mechanisms in the sphere of alternative markets, from the perspective of deal-making, it approves the argument that the required opportunity cost of capital should narrow the power of the internal rate of return (Pereiro, 2015). As a model or corrective measure in financial decision making, the internal rate of return presents a benchmark model in financial modelling (Brown, Gredil, & Kaplan, 2019). To simplify, the internal rate of return, as the minimum rate of return, evaluates the present value of the deterministic cash flow stream (Magni, 2011). According to Magni (2013), the internal rate of return ignores project operational lifespan, especially when investors are comparing mutually exclusive projects (Silva, Sobreiro, & Kimura, 2018). As a time-weighted percentage of return, it represents the sale value creation of a private equity entity. Besides, in that case, the rate does not consider accounting information relevant to decision making (Ivashina & Lerner, 2019). The impact of arguments mentioned in this chapter emphasised consistency from the perspective of time lag investors, according to fund statues and book rules governed by both partners. The authors' are going to extract relevant findings to the value creation of the internal rate of return under different alternative asset classes.

2. MULTIVARIOUS CALCULATIONS OF INTERNAL RATE OF RETURN

From the practice and perspective of the private equity investments, the internal rate of return stimulates a multivarious version of internal calculation for the rate of return. Value creation gives a few possible solutions to it. By applying compound annual growth rate, prosecuted under GAAP and IFRS:

$$\sum_{n=1}^N = \frac{(CF)_n}{(1+IRR)^n} = \frac{P_n}{(1+IRR)^{(d_t-d_{t-1})/365}} = \left(\frac{FV}{PV}\right)^{1/n} - 1 \quad (1)$$

First part of the previous basic equation is for the internal rate of return calculation (IRR), second part is for the calculation of internal rate of return for a series of cash flows that may not be periodic (XIRR) and the third part is for the calculation of modified internal rate of return (MIRR). From the fact that calculations stand for explanations of the IRR with triple propositions to solutions (1), alternative option proceeds MIRR (cash flows, financing rate, reinvestment rate), as positive cash flow at the external rate of return. Thus, this rate of return explains the cost of capital as a single solution (2) to a model:

$$\sum_{n=1}^N = MIRR = \sqrt[n]{\frac{FVCF}{PVCF}} - 1 \quad (2)$$

Moreover, for the aggregation of the different amounts in different time intervals, investors use the aggregation of multiple compound annual growth rates to find the real rate of return. The third well-known option as a formula in Excel stands for XIRR (values, dates, guess) where distributions and unrealised value paid in have positive sign while capital calls and management fees stand for a negative sign. These basic findings are consistent with the concept of the specific pricing, liquidity and monitoring models to meet a hard time assessing innovative investments (Fang, Ivashina, & Lerner, 2015). Options, as mentioned earlier, are relevant for measuring methodologies and models like Kaplan-Schoar Public Market Equivalence (KS PME), Long-Nickels Public Market Equivalence (LN PME) and Public Market Equivalence

Plus (PME+). The main conclusion drawn from it takes consideration of ignoring the timing of cash flows.

Methodology	Metric	Private Capital Outperformance if:	Description of Calculation	Strengths	Weaknesses
KS PME (Kaplan-Schoar)	Ratio	Value > 1	Calculated by discounting the private capital fund cash flows by the public market index value. The discounted distributions plus the current remaining value are divided by the discounted contributions to obtain the ratio.	The calculation looks at the ratio of outflows versus inflows as opposed to generating an IRR, which is time-dependent and is easily manipulated. Easy to interpret.	Ignores the timings of cash flows.
LN PME (Long-Nickels)	Annualized Rate	Estimated PME IRR < Private Capital Fund IRR	Contributions to the private capital fund are converted to an equal purchase of shares in the public index. Distributions represent liquidation of share in public index. IRR calculation uses the same contributions and distributions as the private capital fund, but with a different final period remaining value.	LN PME IRR is directly comparable to the PE Fund IRR, allowing an apples-to-apples comparison.	IRR sensitive to early distributions. Large distributions could cause a negative PME final period remaining value, making PME IRR calculation computationally impossible.
PME+	Annualized Rate	Estimated PME IRR < Private Capital Fund IRR	Uses a fixed scaling factor (lambda) to modify each distribution to ensure the PME final period remaining value is the same as the private capital fund remaining value. IRR calculation uses modified contributions and distributions but same final period remaining value.	As for LN PME, with the added benefit of avoiding a final period negative remaining value, making PME IRR calculation possible in more cases.	PME+ does not match the cash flows perfectly.

Figure 1: Description of Public Market Equivalence as methodology, outperformance and description of calculation with the pros and cons of each, *Prequin Private Capital Performance Data Guide (2017), 14-15*

This may be considered as an alternative approach in the estimation of numbers related to mark to market investment performance. Single interpretation of metrics via strengths and weaknesses could mislead investors if the general partner is specialised in particular asset class due to the illiquid nature of irregular timing of cash flow. This assumption generates ideas for data analysis of the benchmark model and augmentation in value creation of the internal rate of return in private equity in the next two chapters.

3. INTERNAL RATE OF RETURN FOR THE MODEL IN PRIVATE EQUITY

The authors have taken an assessed sample size of 15.300 raised funds (not fund of funds) for ten consecutive observations via the Prequin Pro database. The particular strategy of each fund under the general partner is defined by specialisation of the management team and incentives to outperform previous distributions relative to the peers. From the context of diminishing return in a short period, irregular cash flows and the ticket size create non-monetary incentives for illiquid assets that cannot be attached with institutional investors or pension funds in a longer period. At the end of the monitored period, it presents a potentially distorted value of the net asset value if distributions are always recorded as capital inflows. The mission of the paper is to put focus only on meaningful data from a large fund sample size. The transmission mechanism, reported in data, shows different results under different asset classes in Table 1. As the flow of the IRRs is closer to the referent year, the result favours more capital intensive investments.

Table following on the next page

Table 1: IRRs from the perspective of 10 consecutive periods for different alternative assets classes

Timeline IRRs (%)	PRIVATE EQUITY	BUYOUT	VENTURE	MEZZANINE	REAL ESTATE	DISTRESSED PE	FUND OF FUNDS
1 year to 2019	14,1	14,2	16,4	9,7	6,2	7,6	14,2
3 years to 2019	15,5	16,8	11,5	9,7	8,8	10,2	12,9
5 years to 2019	14,1	15,3	11,3	10,3	10,7	6,9	12,5
10 years to 2019	15	16,2	11,3	11	8,4	11,7	11,9

Source: Preqin Pro database with modification made by the authors in Excel

Note: fund of funds present limited partners' investments, while private equity stands for the combination of the general partner's investment, its secondary investments, and co-investments

Table 2: Correlation of IRRs from the perspective of 10 consecutive periods within different alternative assets class

	PRIVATE EQUITY	BUYOUT	VENTURE	MEZZANINE	REAL ESTATE	DISTRESSED PE	FUND OF FUNDS
PRIVATE EQUITY	1						
BUYOUT	0,916342	1					
VENTURE	-0,52734	-0,82192	1				
MEZZANINE	0,060133	0,262946	-0,53877	1			
REAL ESTATE	0,070823	0,455525	-0,84605	0,33349945	1		
DISTRESSED PE	0,831017	0,74093	-0,43892	0,49553962	0,106359601	1	
FUND OF FUNDS	-0,41498	-0,69412	0,918723	0,82566928	0,698130562	-0,5604304	1

Source: Data analysis in Excel made by the authors

From Table 1, the internal rate of return is a result of at least 50% capital commitment done by limited partners. Total capital called to date is irrelevant for the interpretation because only general partners know when capital will be called and distributed. In terms of the internal rate of return, general partners claim to be a superb position. Besides, general partners should seek liquidity solution when facing a hefty sum in short term deposits and money market instruments. Conversely, limited partners realise less promising returns spurred by general partners. Uncorrelated nature of some alternatives in the model intends to increase the exposure of each class to riskier portfolio investments. Unrealized values of the funds' are reported as negative net asset value at the starting period with the positive inflow as distributions of unrealised portfolio investments. Besides, dry powder stands for committed but not yet deployed or called for investment. At the end of the treated period, net asset value is nonnegative. The tighter correlation between less regulated asset in a secondary investment supports the thesis of risk aversion in the case of the default of the fund vehicle or a company under the asset. When we compare the lower starting base of distressed private equity the results have shown that restructuring opportunities are affected by local laws and regulations of the geographical location of the asset under the proprietorship. The present findings confirm the fact that alternative asset classes have a stronghold in growth supported by the robust motivation of general partners when facing unpredictable market cycles.

4. UNREALISED VALUE AS PUBLIC MARKET EQUIVALENT IN VALUE CREATION FOR INTERNAL RATE OF RETURN

From the perspective of authors, expectations in the sphere of private debt follow the argument of the time value of money in the era of "cheap money" (Shehadeh, Erdős, Li, & Moore, 2016). The residual value multiple, developed by the methodology and relations given and extracted from the Preqin Pro database shows the unrealised potential relative to the total limited partner commitment over the capital called amount relative to the size of the fund.

$$\sum_{n=1}^N = FYO_n = MO - TVP_{n-1}$$

$$\sum_{n=1}^N = N * \left(\frac{1}{5}\right) * MO - TVP_{n-1}$$

$$RVM_{VINTAGE2019t-n} = \frac{Unrealised\ Value_{VINTAGE2019t-n}^{1.32}}{Dry\ Powder_{VINTAGE2019t-n}^1} \quad (3)$$

FYO_n stands for full yearly obligation from vintage year via management fee until the fifth year of the fund life cycle. N stands for number years of funds in progress until the maximal obligation of capital commitment MO is reached. TVP_{n-1} presents the total amount of realised fund capital commitment. For the first five years of the fund lifetime, the performance metric is irrelevant in terms of distribution to paid-in capital. In the later stage of fund maturity (after 6th year), a closed examination of funds performance and the underlying portfolio should be carried out (Bain & Company, 2019). Besides, these findings provide additional information that residual value multiple $RVM_{VINTAGE2019t-n}$ in equation presents basepoint when $UV_{VINTAGE2019t-n}^{1.32}$ unrealised value is divided over $DP_{VINTAGE2019t-n}^1$ as a dry powder in n time (3).

Table 3: From the perspective of 10 consecutive extracted and calculated is a decomposition of cumulative raised, unrealized value and dry powder of private equity

YEAR	PRIVATE EQUITY				
	NO. FUNDS	RAISED (USD bn)	UNREALISED VALUE (USD bn)	DRY POWDER (USD bn)	RVM Multiple
2018	1696	596,9	795,9	102	7,8
2017	2226	610,6	814,1	110	7,4
2016	2285	534	712	121	5,9
2015	2076	423,7	564,9	126	4,5
2014	1586	424,4	565,9	186	3,0
2013	1316	335	446,7	170	2,6
2012	1160	244,2	325,6	203	1,6
2011	1167	238,8	318,4	210	1,5
2010	975	180,5	240,7	243	1,0
2009	813	212,8	283,7	294	1,0

Source: Preqin Pro database with modification made by the authors in Excel

From the perspective of already taken procedures and regulations in the fund statute, the general partner is a qualified partner to support maximal or minimal obligation via fund vehicles (mechanisms) as capital calls and distributions to limited partners. From the opinion of the authors' residual value multiple in Table 2 presents a negative correlation of unrealised value and dry powder in private equity. The value of the mentioned multiple exceeds projections of unrealised value because of diminishing returns of the dry powder mechanism. Additional research should be conducted to test the variance of the model. This allows the conclusion that multiples derived by categories under the private equity stimulate fund vehicles in the scope market to market valuations (Morrisette & Hines, 2015).

5. ALTERNATIVE APPROACH IN CALCULATION FOR MULTIPLE IN VALUE CREATION MODEL

To our knowledge, the general public should be informed that the performance ratios and portfolio valuations in private equity in this paper are prosecuted under GAAP, IFRS, FAS 157 which is accessible from IPEVC (International Private Equity and Venture Capital) guidelines (Preqin, 2017). The alternative approach of calculation in value creation for multiples mentioned earlier stands for testing correlation, variance and standard derivation each dependent variable relative to the overall independent variable. The compound annual growth rate in equation (4) describes the main components of IRR: sales improvements, financial leverage, time management and remain value of residuals (Acharya, Gottschalg, Hahn, & Kehoe, 2013).

$$1 + CAGR(Equity) = [1 + CAGR(Sales)] * [1 + CAGR(EBITDA\ margin)] * [1 + CAGR(EV/EBITDA)] * [1 + CAGR(E/EV)] * [1 + CAGR(Residuals)] \quad (4)$$

In the non-negative result of each dependent variable should be divided by logarithm $1 + IRR(Equity)$ (5).

$$1 + IRR(Equity) * 100\% = (\ln[1 + CAGR(Sales)])/(\ln[1 + IRR(Equity)]) + (\ln[1 + CAGR(EBITDA\ Margin)])/(\ln[1 + IRR(Equity)]) + (\ln[1 + CAGR(EV/EBITDA)])/(\ln[1 + IRR(Equity)]) + (\ln[1 + CAGR(E/EV)])/(\ln[1 + IRR(Equity)]) + (\ln[1 + CAGR(Residuals)])/(\ln[1 + IRR(Equity)]) \quad (5)$$

The final line is described as a relative contribution of each component (6) regarding the benchmark for value creation of the internal rate of return for private equity funds.

$$100\% = (Sales\ margin)growth + Multiple\ expansion + Leverage + Residuals \quad (6)$$

For a more in-depth exploration of each component of the model, authors could do the double-check with the results provided by a discounted cash flow valuation of each entity in the fund. Based on the proposition in this chapter and paper, future work should take care of limitations for growth and discount factors of the capital inflow and outflow in the model.

6. REMARKS ON THE TOPIC AND ITS BROADER IMPLICATIONS

Over recent years, the longer-term perspective of multiple creations introduces innovative ways in the internal calculation of the internal rate of return for individual investments of fund performance. It is difficult to arrive at any conclusion concerning experience before 2009. In the period of post-crisis, mark to a market valuation with newly defined public market equivalents motivates limited partners to think more about the firm's capability rather than about ticket size. Limitations, which are recognised and restricted to active managers, are reflected as raising capital since 2013, with an active role in generating their committed capital, with calling up an already distributed positions. The relevant topic to our knowledge highlights deployment capacity as more important and sophisticated than fundraising capability. These findings are consistent with research that shows support of the consumption of long-term deposits via dry powder in insurance companies and pension funds owned by principals or investors. In most cases, professional investors cannot tap the bond markets via mezzanine finance. Nowadays it is doable under the alternative asset investment via its transmission mechanism with "investors towards investors" approach. The residual value multiple and the alternative approach to the calculation of IRR gives perspective in the sphere synergies expansion related to growth in margins, leverage, and residuals in the era of "cheap money".

From the perspective of returns in deal-making, the United Kingdom seems to have the best potential based on lower efficiency in returns comparing it with peers lately (Antoni et al., 2019; Bain & Company, 2019). The approach between macroeconomic growth and efficiency of the labour force leads investors to take advantage of the deregulation premium as part of the buyout program as a measure of the cost-cutting program. It raises potentially interesting questions regarding the locational responses of multinational financial service firms to endogenous shocks like leveraging assets through assets stripping, currency risks and risks which can result in tightening disclosure and regulations (Mingo, Morales, & Dau, 2018).

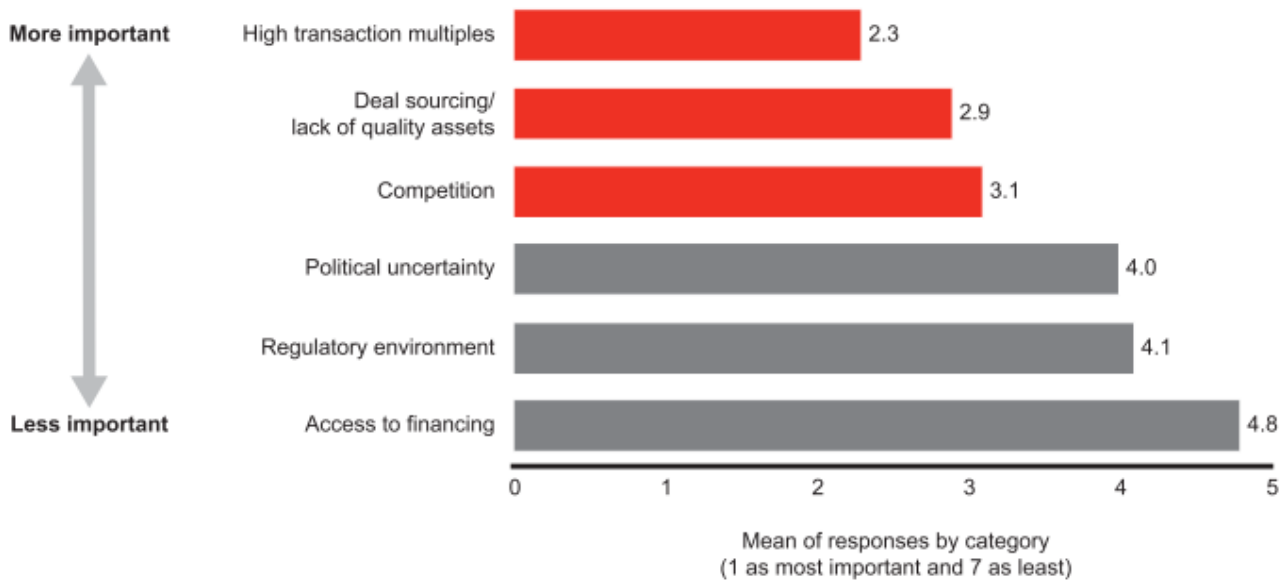


Figure 2: "The biggest challenges for private equity in 2019", *Global Private Equity Report (2019)*, Bain and Company, 6-7

As the relative importance of buyouts depends on its efficiency in exogenous opportunities, government policy could be a reason for tailoring investors' specific incentives (Shinkle & Suchard, 2019) for targeted sectors through the consolidation. The reason for that stand in "sweeping technological change" to take advantage of record movement in stock prices, lower borrowing costs, and supportive buoyant consumer confidence. In the conclusion part, all useful findings related to the topic of paper are going to be summarised as a new concept for value creation in private equity.

7. CONCLUSION

The result of the paper is to provide alternative insight toward the value creation in the term of benchmark methods and multiple in the private equity industry. The individual approach in the analysis of each valuation method, mechanism or multiples presents a good starting point in developing critical awareness toward opinions and options in the industry under the deregulation premium. Internal rate of return as a broadly known option, presented in practice, contributes to value creation as a good basis for the new ventures in terms of business research and development. The adoption of competitive results in returns of alternative assets on nearby financial markets proves complexity in the tax regime in the European Union. The social and business-friendly environment, from the perspective of private equity, could be spurred by the institutional or wealth fund investors who are allocating minority interest in the alternative assets of their portfolio. The limitation of the mentioned findings in the value creation of the internal rate of return is reflecting through strict book rules and laws in statutes monitored by supranational financial services supervisory agency.

Future studies and research could continue to explore which process and participants in the financial industry are generating favourable outcomes regarding deregulation in value creation for alternative asset investments on capital markets.

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PATTERNS OF RELATIONAL CONSCIOUSNESS AS ETHICAL POTENTIAL IN VOCATIONAL TRAINING OF INFORMATION TECHNOLOGY PROFESSIONALS

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ABSTRACT

The key objective of this article is to explore patterns of relational consciousness as ethical potential in Vocational Training of Information Technology (IT) professionals. Relational consciousness is the necessary biological precursor of spirituality, and it is believed that it is the underpinning of ethics. David Hay's model of spirituality, which is used in the study, contains awareness sensing, mystery sensing, and value sensing. For the current research, the author has chosen narrative epistemology as an example of a constructive paradigm. The research approach is qualitative exploratory, narration analysis looking for patterns of spiritual dimensions and meta-dimensions, which are based on Hay's model. The data was collected through in-depth interviews with eight experts, IT professionals from Pakistan. Qualitative data has been analyzed by using Nvivo 11. According to the results of the study, awareness sensing, mystery sensing, and value sense found in the personal and professional life of IT experts. It is recommended that ethics can be a starting point for developing practical skills if information technology professionals. Moreover, the awareness of spirituality can also be introduced during the professional education of IT professionals through organizing conferences, workshops and interactive sessions.

Keywords: *Relational consciousness, Ethical perspective, IT professionals, David Hay's Spiritual conception, Vocational Training*

1. INTRODUCTION

According to some scholars, previous two eras have seen noticeable changes in research patterns of organizational studies specifically in business ethics perspective around the globe. This paradigmatic shift has entirely changed the scenario from the economic structure of societies to the social life of individuals (Baker, Bloom, & Davis, 2012; Dempsey, 2013; Mitchell & Ward, 2010); not only this, Tran and Dempsey (2017) presented the upscaling need of knowledge, skills and abilities requisite to meet the needs of various fields of life. The underpinning factors of this dynamic shift are turning from agriculture and steps ahead to industrialization and moving forward towards institutionalization of knowledge and information. Jaremczuk and Mazurkiewicz (2014), and Guthrie, Perkins, and Mitchell (2005) stated the most significant associated factor is the swift advancement in technology responsible for the quick changes in social and economic lifestyle and work patterns include modification in communication configurations, trade arrays, and social as well as development patterns can be seen globally. Organizations are now experiencing wide-ranging and enduring variations that taking place within the active surroundings in which it functions. In reaction, modern societies are much elastic, placing more emphasis on worker empowerment and cooperative employee relations. Because of a changing environment, employees are feeling harassed, nervous, insecure, disheartened, unfulfilled and terrible, with a want to be spiritually satisfied

(Jaremczuk and Mazurkiewicz, 2014). It seems a requisite to inspire individuals to provide an ethical environment that can be helpful for developing their relational skills. Keeping in view the importance of training in the economic and social development of the societies, this is dire need of time to explore professional training diverse perspectives. There can be different ways to develop IT professional's practical skills in their professional lives, and ethics can be considered as the starting point, the overview of spirituality into a workplace may help as a foundation to create this sense. The researcher aims to explore the patterns of exploring the relational consciousness as ethical potential in Vocational Training of Information Technology (IT) professionals

2. THE CONCEPTION OF RELATIONAL CONSCIOUSNESS AND SPIRITUALITY IN ETHICS BY DAVID HAY

Relational consciousness is a psychosocial term that has recently gained attention in the field of spiritual development. It refers to an awareness of our interdependence with other beings, including God, animals, and other humans (Reimer & Furrow, 2001). David Hay has discussed in his research that relational consciousness is the necessary biological precursor of spirituality, and as the result of his research he has also come to believe that it is the underpinning of ethics (Hay, 2004). Hay (2004) has stated that if the natural antecedent of both religion and morality is relational consciousness, this may help to make sense of the traditional intuition that there is a close link between morals and religion, without insulting the morality of those who happen not to hold a conventional theistic belief. To understand the concept of spirituality, Hay and Nye (2006) have developed a model, which uses three sensitivities: awareness sensing, mystery sensing and value sensing.

2.1. Awareness sensing

The word "awareness" is the most frequently used word in the work of spirituality. According to Hay and Nye (2006) 'awareness' is described as a state of high alertness. This can happen involuntarily, i.e. when a person suddenly finds himself in danger, or it may arise when we are 'paying attention' to what is happening. David Hay's understanding of 'awareness' includes when a person is attentive to what tasks he is performing practically and "being attentive to one's attention or being aware of one's awareness" (Hay and Nye, 2006). This form of awareness is of immense importance in spirituality. David Hay has used four examples to describe the generality of this phenomenon which includes Here and Now, Tuning, Flow and Focusing.

2.2. Mystery sensing

This is a feeling of amazement for something. Otto R. (1958) highlights two aspects of the mystery of the sacred, i.e. fear or awe and fascination or wonder. If someone sees rivers, mountains and beautiful natural sceneries, then he says wow, wonderful, awesome, what a beauty the God has created. In this way, people praise God's invincible power in the creation of these things, which means there is a feeling of mystery of the sacred (secrets of God). God' creation of humans itself is a big source of wonder and awe. Human beings have so much wisdom and knowledge that they have discovered so many hidden truths about this universe, for example, man has stepped on to the moon and now planning to reach Mars. This gives us a sense of wonder, surprise and feeling of amazement about what humans have achieved so far by using their intellects and brainpower which God has given them. When the consideration is given to the vastness of this universe, it creates a feeling of awe in a person (Hay and Nye, 2006). David Hay has used four examples to describe the generality of this phenomenon which includes Wonder and Awe, and Imagination.

2.3. Value sensing

The term 'value sensing' was first introduced by Margret Donaldson (Donaldson, 1992). Value sensing relates to significant human emotions. Things with which individuals are connected the most become associated with their deep feelings. Feelings could be structured according to the line between delight and despair. Feeling of delight refers to the emotions when a person feels happy, relax, excited due to some reasons. This feeling of delight specifically comes from the awareness of the presence of higher being/transcendence. Which means that a person feels connected with higher being in a way that he believes whatever good happens to him; it is transcended from a higher being (Hay and Nye, 2006). David Hay has used four examples to illustrate this phenomenon which includes Delight and Despair, Ultimate Goodness and Meaning.

3. PURPOSE OF THE STUDY

The objective of this research article is to explore patterns of relational consciousness as ethical potential in Vocational Training of Information Technology (IT) professionals. Relational consciousness is the necessary biological precursor of spirituality, and it is believed that it is the underpinning of ethics.

4. RESEARCH METHODOLOGY

The present study employs a qualitative method that is inductive and fulfils the aim of the investigation. The idea of spirituality is abstract in nature. The notion of spirituality cannot be detected straightforwardly. Everyone may have a diverse insight and understanding about spirituality. The qualitative research method is useful for exploring the abstract concept of spirituality. The present research has made use of biographical interviews to have an idea about everyone's insight and knowledge of spirituality in vocational training. For the current research, the author has chosen narrative epistemology as an example of a constructive paradigm. The research approach is qualitative exploratory, narration analysis looking for patterns of spiritual dimensions and meta-dimensions, which are based on Hay's model. The data was collected through in-depth interviews with eight experts, IT professionals from Pakistan. Qualitative data has been analyzed by using Nvivo 11. Interviews were conducted online through Skype at the convenience of the respondent. Each interview was consists of 90 to 150 minutes. In the end, the researcher suggested sharing the results of the study and the transcript of their interview to verify. For the purpose of analysis, verbatim transcriptions of interviews were generated and further read thoroughly by three independent researchers repeatedly. After mutual discussion, themes were generated in nodes form in Nvivo 11 software. Themes were generated with mutual discussion in the forms of nodes in NVivo 11 software. Nvivo 11 software has been used to analyze the qualitative data, and it is produced by QSR International. According to QSR International, "It has been designed for qualitative researchers working with very rich text-based and/or multimedia information, where deep levels of analysis on small or large volumes of data are required." NVivo helps researchers to transcribe, save and code audio recordings and further analyzes the data thematically. Tape-recorded audios were used to generate themes and categories of spirituality. Emerging codes were established after detailed discussion. The codes were further refined through analysis and organizing of interviews.

5. RESULT ANALYSIS BY NVIVO 11

Nvivo 11 was used in this study to accomplish qualitative results and to confirm consistency in analysis process (Bazeley, 2007). Applying the manual coding and the Nvivo analysis methods, the purpose is no explanation of the data remained ignored. Additionally, using these two methods supplement one another.

5.1. Concept analysis

The researcher emerged codes by using concept mapping and the flow of information. The transcribed interviews were prepared for coding or analyses. After verification and falsification in manual coding, the verified codes was moved to a computer for additional analysis. By using Nvivo 11, a node for every sub-indicator was created by the researcher in the light of David Hay’s conception of spirituality. For example, ‘intense concentration’ is one of the nodes under ‘awareness sensing’. The researcher was able to see all nodes of ‘intense concentration’ by opening that node. In this way, it's easy to sort out how many participants spoke about ‘intense concentration’ and how often it appears in the whole conversation.

5.2. Graphical representation of David Hay’s biological conception

Figure 1 described the graphical version of David Hay’s biological conception of spirituality.

Figure 1: All Nodes Mapping (David Hay’s Conception)

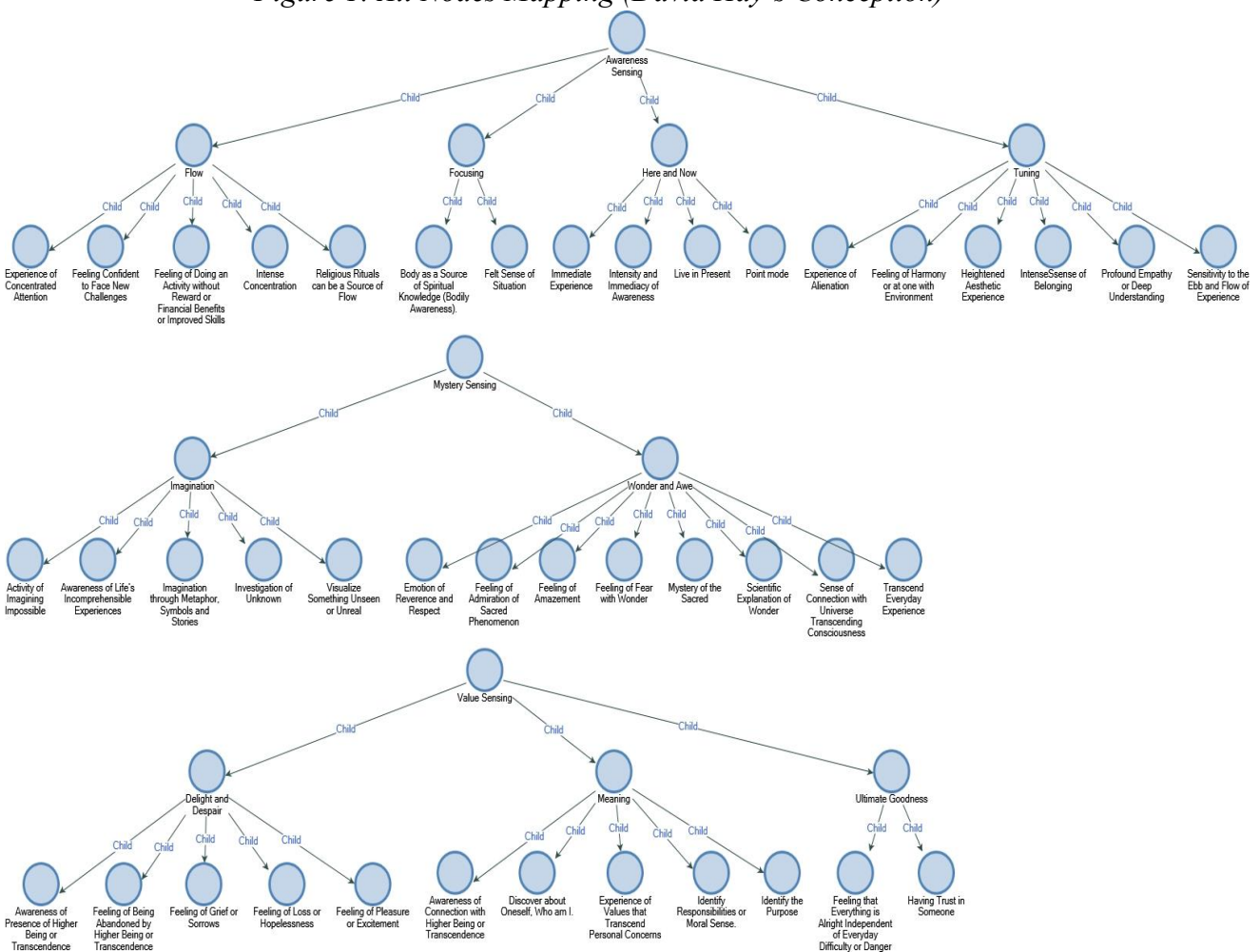


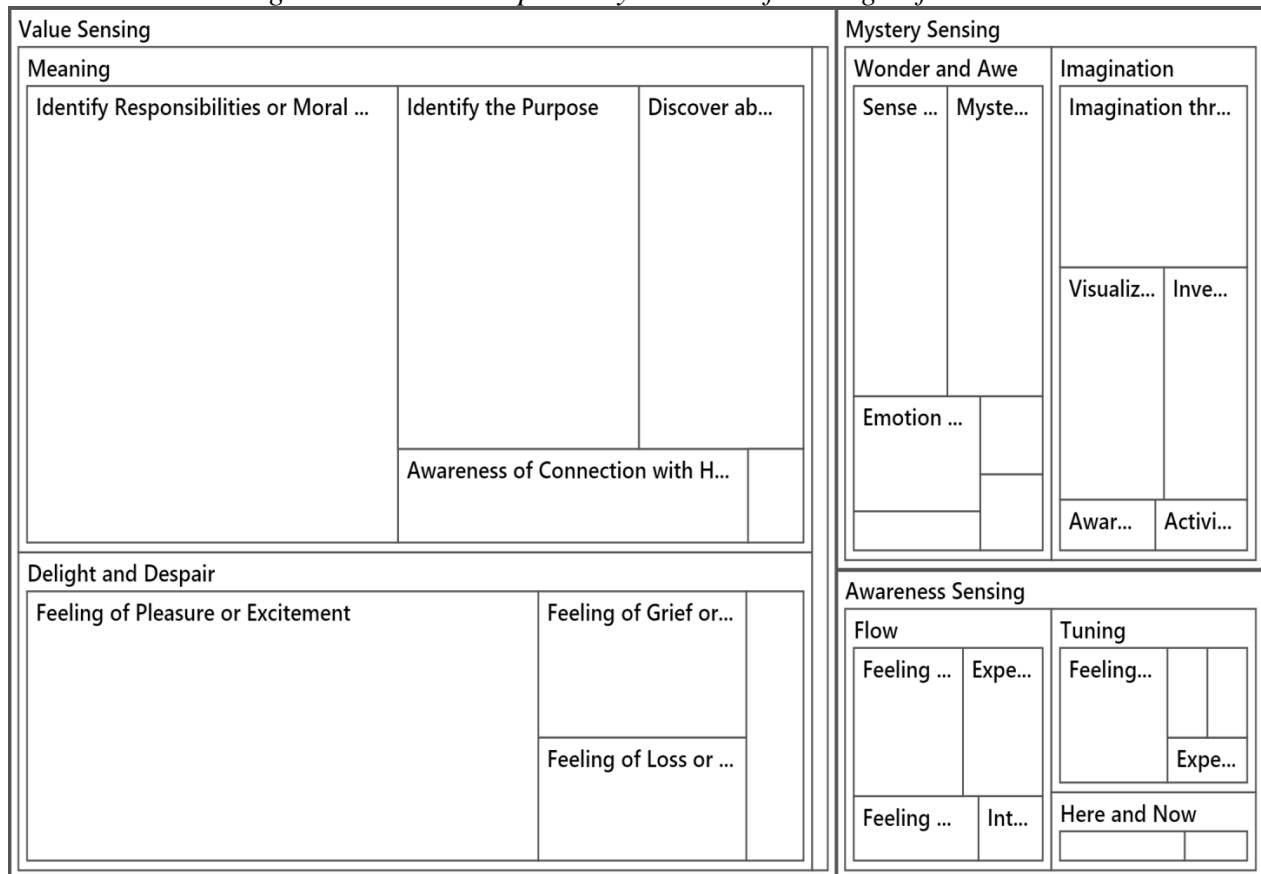
Figure 1 clearly described the all nodes mapping which includes awareness sensing, mystery sensing and value sensing. This figure also graphically described the sub-indicators of each dimension of spirituality.

5.3. Cluster analysis

Nvivo presents an exploratory procedure named as ‘cluster analysis’ which is used to find out data pattern by making groups of similar values and concepts. Cluster analysis charts give a graphical introduction of sources or subject to make it simple to see differences and similarities.

Closer subjects in group indicate comparability in the importance when compared with those who are far separated. Huang and Lai (2006) highlight that when there is a huge amount of data, and it is difficult for the user to realize all at the same time, a cluster chart is exceptionally useful. In their view, “a clustered graph can greatly reduce visual complexity by temporarily replacing a set of nodes in clusters with abstract nodes”. Word similarity shows topics which are increasingly identified with one another dependent on the event and recurrence of words appear as a group together, and subjects with a lower degree are further separated. Treemap is utilized to look at different codes and themes which graphically demonstrates themes and codes against each topic (Figure 2). A treemap is a diagram that presents data in the type of nested rectangles shapes of various sizes. The measure of every rectangle shape describes a number of coding references for each topic. Bruls, Huizing, and Wijk (2000) called attention to that treemaps are compressed and organized presentations, which demonstrates the size of the final components in the structure. In figure 2, a treemap highlights the coding references on each significant subject, i.e. ‘awareness sensing’, ‘mystery sensing’, and ‘value sensing’.

Figure 2: Nodes Compared by Number of Coding Reference



The large rectangle shows that in the data most of the references are a form that particular theme and that how and in which form David Hay’s dimensions of spirituality exists in the vocational training of IT professionals. Major references are ‘identify responsibilities/moral sense’, ‘identify the purpose’, ‘discover about oneself’, ‘awareness of connection with higher being/transcendence’ and ‘feeling of pleasure/excitement. Among these, the first three themes lie under ‘meaning’, an indicator of ‘value sensing’ whereas the last themes come under ‘delight and despair’, indicator of ‘value sensing’. These references lie in the ‘meaning’ that is the dimension of ‘value sensing. With respect to our second dimension of spirituality ‘mystery sensing’, figure 2 shows the larger rectangles which represent ‘sense of connection with

universe transcending consciousness', 'mystery of sacred', 'emotion of reverence and respect', 'imagination through metaphors/symbols and stories', 'visualize something unseen/unreal' and 'activity of imagining impossible'. Among these themes, the first three themes lie under 'wonder and awe' indicator of 'mystery sensing' whereas the last three themes belong to 'imagination' which is another indicator of 'mystery sensing'. Lastly, figure 2 represents the large rectangles of our third dimension of spirituality that is 'awareness sensing'. This dimension of spirituality exists very rarely in IT professionals as can be seen from the sizes of rectangles in figure 3. However, this dimension exists mostly in the form of 'flow' and 'tuning'. Furthermore, a few themes from 'flow', which exist the most are 'feeling of doing an activity without reward' and 'experience of concentrated attention' whereas 'feeling of harmony or at one with the environment' is the theme which mostly exists under 'tuning' which is another indicator of 'awareness sensing'.

6. RESULTS AND DISCUSSIONS

The results of the study show that spirituality exists in vocational training of IT professionals in all forms of expressions which were specified by David Hay, like awareness sensing, mystery sensing and value sensing. Moreover, the results of the study show how spirituality can enrich the vocational training of IT professionals. It is investigated that 'here and now' plays an important role in providing solution of the problems in a critical situation and works as a catalyst to spark the idea to find the solution of the problem in professional life of IT experts. This spiritual indicator makes IT professionals more active in terms of providing solutions in IT environment. It could be useful to make IT environment more energetic. The results of the study show that tuning is helpful in creating deep understanding of information technology for IT professionals in their professional life and the person having feeling of tuning is more deeply involved in his work. This spiritual indicator could be beneficial to make IT organizations more dynamic. Regarding the results related to another spiritual dimension, flow plays an important role to provide courage to face new challenges, provide feeling of satisfaction, and create empathy to others in the professional life of IT experts'. It could be useful to create resilience in IT professionals that is the key element in the IT environment. The results revealed that the person who feels 'wonder and awe' is more motivated, more hopeful in difficult situations, more humanistic and more respectful to others in their professional lives. This spiritual indicator of 'imagination' plays a key role to provide creativity and encouragement to IT professionals to do impossible things in vocational training of IT professionals. The results of the study show that the person having a feeling of 'imagination' is more creative to perform some difficult tasks in professional life. Both these spiritual indicators ('wonder and awe' and 'imagination') could be beneficial for IT experts to make their work more innovative, which is ultimately required in the IT environment. The present study finds that the persons who have feelings of 'value sensing' are more purposeful, responsive, and helpful to others. Moreover, they feel more happiness and more patience in tough times, which is ultimately required in an IT environment. It is also analyzed from the results that the feeling of pleasure/excitement is quite dominant in the professional life of IT professionals and it creates a vital role in the development of the positive IT environment. The presence of another spiritual indicator, 'ultimate goodness' create patience in tough times and create a peace of mind in the professional life of IT professionals. 'Value sensing' could be supportive in making IT environment healthier and more humanistic that ultimately positively affects the IT's training. This healthy atmosphere could be useful to enrich the vocational training of IT professionals. Moreover, the results of the study highlight how spirituality as a source of relational consciousness plays an important role in developing the practical skills of IT professionals.

7. LIMITATIONS OF THE RESEARCH

Spirituality in the vocational training context is a comparatively new field of discussion. It was not possible for the researcher to explore all the factors that are of some importance in this field. The current research can be extended in different cultures so that the impact of culture can be analyzed while exploring spirituality.

8. IMPLICATIONS OF THE RESEARCH

The current research is an attempt to explore the concept of spirituality in vocational training of IT professionals, which was overlooked for many years. The results of the study show the relationship of Spirituality with Vocational Training of IT professional in David Hay's concept of spirituality. The practical implications of the research are that how vocational training providers can use spirituality to enhance the quality of vocational training and to improve the knowledge and skills of the trainees.

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APPLICATION OF COMPLIANCE IN FRAUD RISK MANAGEMENT IN BUSINESS PRACTICE

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ABSTRACT

Fraud and abuse have become an integral part of the business of economic operators. This is indicated by the growing scale of fraud in companies and financial institutions. Moreover, this phenomenon is evolving together with economic and technological development, in a very dynamic way. Solutions for limiting this phenomenon are adopted both at the international and national level, as well as within the organizational structures of enterprises. Within the latter, the tool, which is increasingly used in managing the risk of abuse, is compliance. Its popularity is particularly evident in the case of financial institutions, which develop entire compliance systems aimed not only at verifying compliance, but also at preventing fraud and corruption. The aim of the publication is to present the compliance mechanism as a tool to reduce the risk of fraud. Due to its wide application among German market economy entities, its use was analysed using the example of 30 companies included in the Deutscher Aktienindex Index (DAX30). The results of the research were related to selected companies listed on the Warsaw Stock Exchange Index (WIG20), which implemented the compliance function in their structures, however, its anti-fraud application is not used to such extent as by German operators. The basic research method was quantitative and qualitative analysis. It referred to the verification of information contained in the reports on the activity of management boards of the surveyed entities in the scope of application of the compliance tool, in the frame of limiting the phenomenon of fraud by defining its tasks, placing it in an organisational structure and entrusting it with responsibility for detecting fraud. The analysis made it possible to formulate conclusions within the framework of popularization and effectiveness of compliance in fraud risk management and to start a discussion on the directions of changes that should be taken in relation to the perception and application of compliance in the Polish market economy.

Keywords: *compliance, fraud, corruption, money laundering, risk management*

1. INTRODUCTION

The nature of business carries a risk (Brady, Honey, 2007, pp. 19). Therefore, it is not possible for a company to function without risk. The progressive process of globalization is not conducive to this as it causes that everyone who has access to information and data of the company is able to take advantage of its weaknesses in the form of manipulation or misappropriation, which results in the risk of abuse (Spencer Pickett, Pickett 2002, pp. 227), (EY 2018, pp. 3). The dynamics of the fraud phenomenon development makes this type of risk not only an inseparable part of the organization, but is also characterized by considerable unpredictability. The risk of abuse requires efficient operation with the use of broad thought horizons (Raczkowski, Noga, Klepacki, 2015, pp.13), which means that we should consider it individually with a simultaneous systemic approach (Doody, 2009, pp. 9-10). This forces companies to take continuous actions aimed at its quantification and control in order to protect their capital against liquidity loss (Rossi, 2012, pp. 14), (Małecka, 2016, pp.7). The problem of fraud does not lose its importance, as it results from the fact that the scale of committed fraudulent acts does not show a decreasing tendency. The number of actions taken by companies to counter these phenomena is also increasing (EY, 2018). The multitude of existing and emerging tools and methods means that instead of focusing on improving the existing

mechanisms, companies are looking for new, better and more effective ones. The popular concept of monitoring the internal control system by COSO indicates that even the best organized system requires continuous monitoring at every stage of its operation (COSO, 2008, pp. 5). It should focus on the overview of the existing tools and the assessment of their effectiveness (Lai, Azizan, Samad 2009, pp. 44). Therefore, the problem does not result from the imperfection of the tools, but from their improper application and lack of monitoring. Despite this, companies, striving to reduce the growing scale of fraud as quickly and effectively as possible, take actions and implement mechanisms other than those used so far. Companies use various business tools to reduce the risk of fraud. Coherent measures and control mechanisms can be distinguished in this respect (Spencer Pickett, Pickett, 2002, pp.106), (Iyer, Samociuk 2007, pp. 66). The first group is a group of statistical methods for threat assessment, the second group refers to risk control methods and is aimed at risk reduction and detection. The development of statistical methods in this area is estimated at the 1990s. These include methods using advanced mathematics, statistics and econometrics based on exploratory techniques (Kupiec 1995, pp. 73-84), (Christofferson, 1998, pp. 841), (Engle, Mangadeli, 2004, pp. 367), (Wang, 2010, pp. 4), (Berkowitz, Christofferson, Pelletier, 2011, pp. 2213), (see. Małecka, 2016, pp. 7), (see. Chłapek, 2015, pp. 8). On the other hand, risk control tools are a form of soft anti-fraud mechanisms implemented in enterprises in the form of procedures and guidelines. They include codes of ethics, codes of conduct, anti-corruption policies, as well as guidelines developed within a given area or type of enterprise activity (Jasiński, pp. 11), (Kutera, 2016, pp. 17). Both approaches to risk management are described in the literature on the subject and are subject to ongoing research (Berg, 2010). However, it is difficult to consider one to be more effective than the other. The most effective form of combating the phenomenon of fraud will be full cooperation of all groups of tools, then the effectiveness of the fraud risk management system should be the greatest. This is due to the fact that the difficulty in verifying the risk of fraud is so complicated that it requires the use of both those tools which analyze the compatibility and effectiveness of operations and their efficiency. Therefore, a tool is needed not only to assess the efficacy of restrictive mechanisms, but also such that would combine in itself detection capabilities. These include internal audit, control departments and fraud detection units (Vona 2012, pp. 14-17). Currently, the compliance function is significantly gaining in popularity in this respect. It has become an impulse for the development of new tools not only for identification and assessment of compliance risk or lack thereof, but also for its analysis in terms of potential fraud. One evidence of this is the results of a survey conducted by EY among heads of companies from different countries on threats and challenges to fraud risk, and compliance efforts in this area. They indicate a growing involvement of compliance to reduce fraud, as well as a growing organizational maturity of companies in this area (EY, 2018, pp. 3). The aim of the publication is to assess the extent to which the compliance function is used as a mechanism to limit the risk of fraud. The research was conducted on a sample of 50 companies listed on German and Polish stock exchanges, included in indices DAX30 and WIG 20. Each of them was verified in terms of the use of the compliance tool, the form of its implementation in organisational structures and its application in relation to reducing and combating the risk of fraud. The basic research method was quantitative-qualitative analysis. It referred to the content of reports on the activity of management boards and their verification in terms of information on the implementation and application of compliance. In this respect, industry literature and descriptions of stock exchange reports of companies included in the DAX30 and WIG20 indices were used. The results of the study were used not only to assess the extent to which compliance was used, but also to make a comparative analysis of its application, taking into account two different groups of companies listed on German and Polish stock exchanges. A discussion was also held on the degree of lack of homogeneity in this area and its causes, which allowed to formulate proposals for directions of changes in the

development of compliance in Polish market entities. The results of the analysis served as research material within the framework of a publication cycle devoted to the analysis of the formation of the phenomenon of fraud in the economy and the actions and mechanisms taken to limit it, as well as their effectiveness.

2. THE COMPLIANCE FUNCTION AND ITS ROLE IN LIMITING AND DETECTING THE RISK OF ABUSE

The compliance function derives primarily from financial institutions whose activities are very sensitive to non-compliance, and any attempt to breach it can have a very serious impact. To this end, the Basel Committee on Financial Supervision issued in 2005 a document setting out the compliance function, its role, relevance and application to compliance risk and the exercise of the compliance function in banks. This document required banking institutions to take action to manage non-compliance risk by incorporating this type of risk into existing risk management structures and to implement compliance arrangements, including the establishment of a compliance function unit (Basel Committee on Banking Supervision, 2005). These events have contributed to an increased interest in compliance functions among other organisations. Currently, the application of compliance is also recommended to entities issuing securities which are obliged to publish financial statements. Moreover, there function independent compliance institutes in various countries, which help to increase the interest of companies in the implementation of this tool. Nevertheless, the experience of using the compliance tool is relatively small. For example, in Poland, most of the organizations that have implemented compliance systems have had them operating for no longer than 7 years (EY, 2018, pp. 25). It is difficult to clearly define the concept of compliance (Faure, Lefevre, 2012, pp.173), which is due to the fact that it is subject to constant evaluation (Kim S., Kim Y., 2017, pp. 986-1010). Initially, it referred to the verification of the organization's compliance with legal regulations and internal regulations, thus taking the form of legal advice. With time, however, it began to transform into an organised system focused on limiting the risk related to the violation of broadly understood principles and rules of enterprise conduct (Sadiq, Governatori, 2010, pp.173), (Badea, Pana, 2010, pp.70), (Eleryk, Piskorz-Szpytka, Szpytka, 2019, pp.32). Currently, compliance is a function, a tool within which an organization, by applying specific solutions, seeks to ensure ongoing supervision of compliance with its operations in particular areas of activity, while striving to reduce the risk of non-compliance in this respect. Compliance is a form of defense against the risk related to the organization's non-compliance with the legal environment, both in terms of external and internal regulations of the entity, including its legislative and financial consequences (Solms, 2005, pp. 443-447). Compliance means accordance with regulations, both international, national and industry-specific, as well as those established by the organisation itself (e.g. rules, regulations, internal decrees). The literature on the subject, as well as practice, indicate that this concept has a much greater scope of influence than just checking accordance with the letter of the law, it takes into account the full range of activities of the institution and constitutes one of the hard factors of competitiveness of a company (Dylus, 2009, pp. 69-70). The fact that the contemporary compliance has such a diverse range of problems has resulted in its evolution from "traditional" regulatory and investigative tasks towards a business partner (Fanto, 2016, pp. 2). His presence in the organization affects not only the shape of the organizational culture, implementation of the strategy, but also has a reflection in the entity management system and the way it is perceived externally. Having compliance systems is an additional asset for the company in relation to the others. In a situation of making a decision to choose an entity as a contractor, the companies which have compliance systems are in a predominant position (EY, 2018, pp. 8), (Miller 2014, pp. 1). The purpose of compliance is to ensure that not only the organisation but also its employees, including the management board, act with integrity.

The mechanisms used to perform the compliance function within the organization are the tools used within the internal supervision (Becker J, Delfmann P., Eggert M., Schwittay S., 2012, pp. 223), (Eleryk, Piskorz-Szpytka, Szpytka, 2019, pp. 32). Hence, there are many solutions for implementation of compliance. Starting from the development of policies and procedures in the area of compliance and non-compliance (Jagura, 2017, pp. 101-102), through distinguishing of a compliance unit in the organisational structure, or creation of a compliance committee at the level of the organisation's management board. Increasingly, compliance is implemented as a system, including all the above mentioned solutions and other tools limiting and detecting the risk of non-compliance, referred to as the Compliance Management System (CSM). It includes procedures, systems and processes, as well as the structure and division of responsibilities. It is based on a high awareness of organisational culture and maturity, within which both managers and employees act in accordance with the law and internal guidelines, and promote its values. A CSM is defined as a factor increasing the competitiveness of a company, because organisations with properly organised and equipped CSMs are not only better perceived by investors, but also much more trusted. An effective compliance system is the one that minimizes the risk of irregularities (Makowicz 2011, pp. 10). Application of compliance in this respect refers to the so-called non-compliance risk, i.e. a situation in which the lack of compliance of the conduct of employees, organization or both will not prevent the situation of action inconsistent with the adopted principles of operation of the unit, thus contributing to exposure to the risk of fraudulent activity. Of course, not every risk of non-compliance must result in abuse, however, action violating regulations and procedures in force in an enterprise, regardless if aware or unaware, is a form of threat, the effects of which may be felt to a greater or lesser extent. These include, in particular, legal or regulatory sanctions, material financial losses or damage or loss of the company's reputation. Hence, the compliance function should play a significant role in fraud risk management, both at the stage of risk identification, assessment and its management (see: Raczyński, Pinitz, Amberg, Weippl, Seufert, 2010, pp. 16). The task of the compliance system is also to verify the validity of the procedures and policies in force concerning acts of fraud. Often the guidelines implemented within the organization are not updated and verified on an ongoing basis in terms of their compliance with the changing internal and external environment factors, organizational structure, employee competencies and other aspects affecting the operations of the entity. These elements not only disrupt the functioning of the organization but also increase the phenomenon of abuse. Obsolete systems, outdated data, system gaps can be illegally exploited by potential fraudsters, resulting in fraud. Compliance as a system is a form of good governance, its task is to identify and properly manage the risk of non-compliance, including fraud (Becker, 2014). Therefore, it should be equipped with renewed mechanisms which constitute its component part, both of preventive and detection nature, in relation to such risks (EY, Wolters Kluwer, Instytut Compliance, pp. 9).

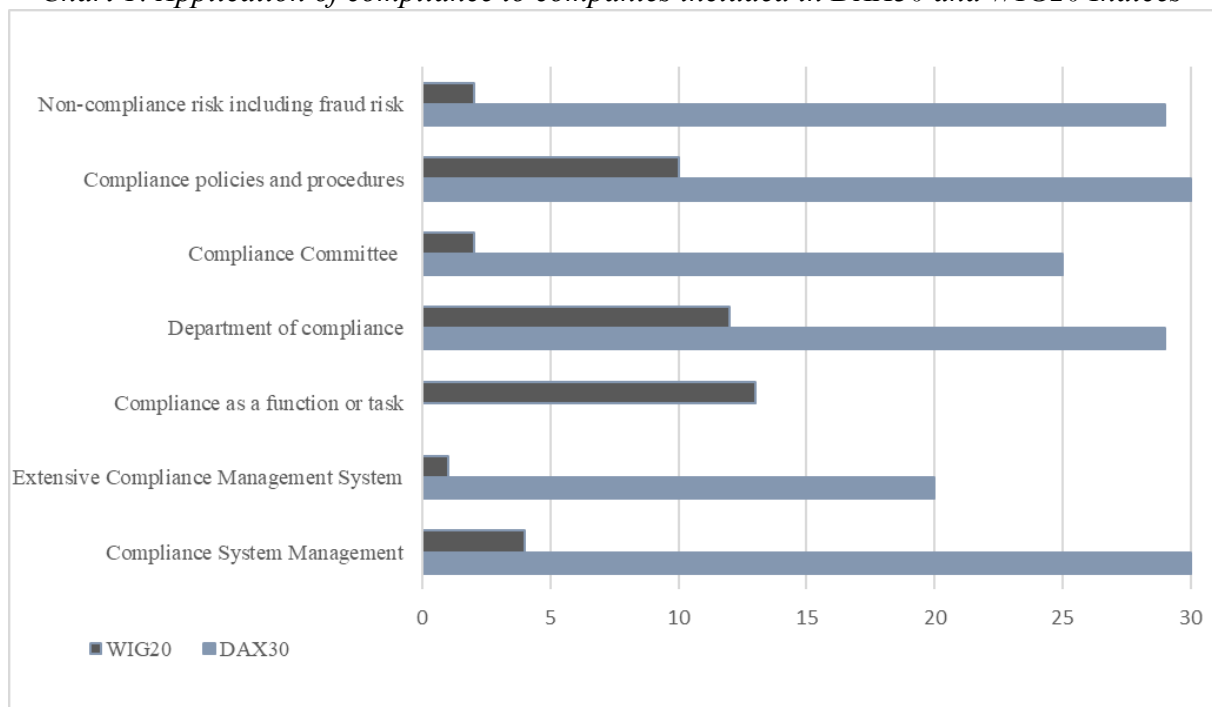
3. APPLICATION OF COMPLIANCE IN ECONOMIC PRACTICE

Compliance is not a tool that can be found in every organisation, although the need to implement it applies to the majority of organisations. It is necessary not only to analyze whether it is possible to apply it, but also whether the unit has sufficient potential to use it. This is where human and intellectual capital should be considered. The company must demonstrate a certain degree of organizational maturity, which will allow it not only to understand the compliance system properly, but also to use it appropriately. In this publication, the verification of the implementation and application of compliance was carried out on the example of listed companies included in the German index DAX30 and the Polish index WIG20. The selection of these two groups of entities was purposeful and dictated by the obligation to apply compliance resulting from the principles set out in the stock exchange codes of both countries, as well as by the diversity of companies in terms of the approach to the creation and operation

of compliance systems. The rule of binbing nature or the so-called comply or explain for compliance is specified, in relation to DAX30 index companies, by German Corporate Governance Code for companies listed on the German Stock Exchange (Regierungskommission, 2017, pp. 2) and for WIG20 index companies by the document Good Practices of Polish Listed Companies (GWP, 2016, pp. 6). Both documents include in their provisions the necessity to establish and operate compliance systems, and in the event of failure to create them, to provide the reasons for withdrawal. Compliance tasks in the German Corporate Governance Code have been defined as compliance with all legal regulations and internal rules of the company and striving to achieve their compliance. In accordance with the Code, it is necessary to apply appropriate measures in this respect, reflecting the situation of the company's risk included in the Compliance Management System (CMS), and to establish within it the possibility to report, in a protected manner, suspicions of violations of the law (Regierungskommission, 2017, pp. 6). Best Practices of Polish Listed Companies define compliance as a form of supervision of activities with the law, in particular with respect to financial reporting and operating activities (GWP, 2016, pp. 13). The implementation of the compliance tool is obligatory in relation to each of the Codes, if the company does not see the legitimacy of its application, it must provide a justification of such position. The German Code states that the CMS is to be developed with the broad application of compliance and constituting an element of the management system. Good Practices of Polish Companies state that each company should distinguish within its structure the units responsible for the performance of tasks in particular systems or functions in the frame of the internal control, risk management, compliance and internal audit systems. Supervision over compliance with regard to both documents is entrusted to the Management Board of the company. On the other hand, the assessment of the effectiveness of the control, risk management and compliance systems within GWP companies is additionally entrusted to the person responsible for the audit, if such person has been appointed. With regard to DAX30 companies, both the compliance system and the management board have been entrusted with tasks related to fraud risk and management, and the audit committee is responsible for supervising the indicated tools and systems, as well as for monitoring accounting and its process. Under the German Code of Conduct, the compliance system has been assigned fraud risk tasks by the possibility to report suspected law infringements in a protected manner. It also directly assumes the obligation to introduce a CMS covering appropriate measures and their characteristics reflecting the situation of broadly understood risk in the company. Additionally, the system includes tools enabling both company employees and third parties to report suspicions of violations of internal and external regulations on the basis of which the company operates. On the other hand, the GWP Code of Best Practice does not refer directly to the risk of fraud, but covers aspects that may result in such a risk and obliges stock exchange entities to introduce regulations preventing their occurrence, without assigning any tasks in this area of compliance. It is worth noting that as of 8 October 2018 The Warsaw Stock Exchange has adopted the "Standards recommended for the compliance management system in the area of anti-corruption and the system for protection of whistleblowers in companies listed on the markets organized by the Warsaw Stock Exchange." (Standards, 2018), which commends the implementation of mechanisms limiting the risk of fraud, including the risk of corruption, relate to undertaking actions and creating anti-corruption policies, as well as combining these issues with the compliance system. This is a very positive accent, which makes it possible to meet the challenge of strengthening the role of compliance and its involvement in limiting the risk of abuse, as well as creating compliance officer positions in Poland. It is worth mentioning that both documents assume the obligation to submit information confirming the application of the rules adopted in them. In the case of DAX30 companies, this is a declaration of compliance under § 161 Aktiengesetz (Stock Corporation Act), covering companies listed on DAX and MDAX and within WIG 20, a statement of best

practice and corporate governance principles (GWP, 2016, pp. 6). Taking into account the provisions of the described codes, as well as previous considerations, 50 companies were analysed for inclusion and application of compliance, of which 30 are included in the DAX30 index and 20 in the WIG20 index. On the basis of non-financial information published by them as a part of annual reports, as well as reports on the activities of the management board, the implementation and application of compliance was analysed. Due to the lack of fully mandatory application of the adopted stock exchange rules, the study focused on possible solutions for implementation and application of compliance proposed in the previous part of the publication, including: compliance implementation as a function, tasks or creation of CMS, establishment of a compliance committee, establishment of a compliance department, possession of compliance policies or lack thereof, as well as taking into account the participation of compliance in fraud risk management. The results of the analysis are presented in Diagram 1.

Chart 1: Application of compliance to companies included in DAX30 and WIG20 Indices

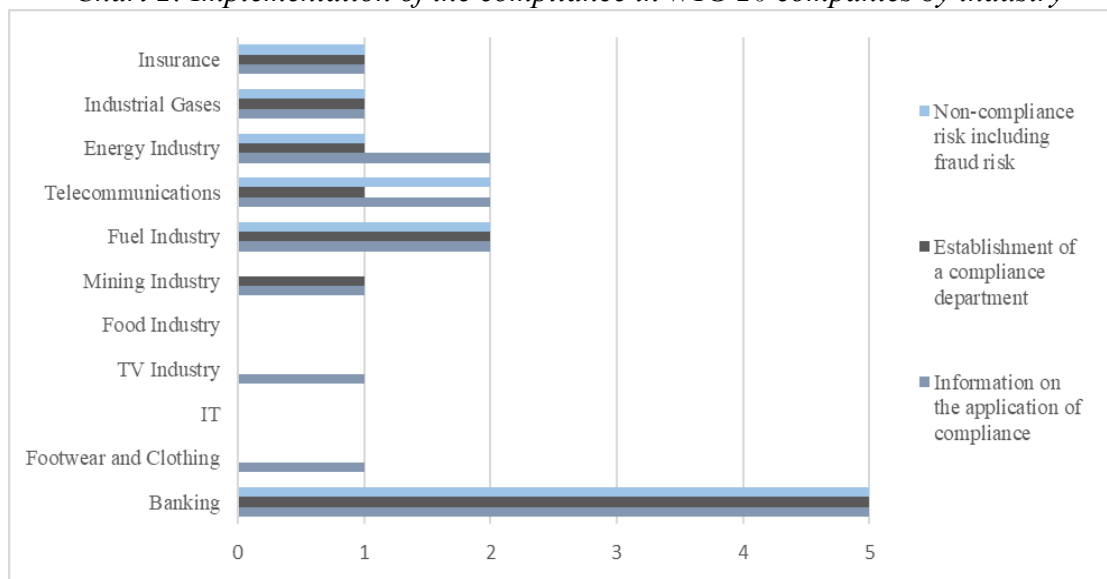


Source: Authors' own analyses based on Consolidated annual reports and reports on the activities of management boards of companies included in the DAX 30 and WIG20 Indices as at 09/07/2019

The data presented on the chart show a significant difference in the implementation and determination of compliance functions and tasks in both groups of companies. With regards to perception and implementation of compliance, the results of the analysis showed that all DAX30 companies created compliance systems in their structures, defined as Compliance Management Systems in accordance with the Stock Exchange Code, and 67% of them developed them using model approaches, such as the Governance Risk Compliance Model (GRC), specifying the scope of their activities in the organization, as well as the functions and tasks entrusted to protect the organization against the risk of non-compliance, including the risk of fraud. In relation to companies included in the WIG20 Index, only 20% of them implied compliance in an organisation as a systemic approach, while the remaining 65% treated compliance as a function or task assigned to a given committee or a separate organisational unit, which is usually an audit. On the other hand, 15% of WIG20 companies do not see any justification for implementing a function or compliance system at all, on the grounds that the

cost of its operation would be disproportionate to the potential benefits resulting from its establishment. It should be noted that within some WIG20 companies, only information on monitoring or functioning of the compliance system was included, and in the case of one of them, information on ongoing work on its implementation appeared in the report. Due to the fact that no other elements or references to compliance were found in the reports of these entities, they were recognized in the research as not having compliance. When analyzing WIG20 companies in more detail, it should be pointed out that the vast majority of those that implemented compliance are those that were legally obliged to do so. As a part of a more detailed analysis of these entities, the implementation of compliance and its application in fraud risk management by industry is presented in Diagram 2.

Chart 2: Implementation of the compliance in WIG 20 companies by industry



Source: Authors' own analyses based on Consolidated annual reports and reports on the activities of management boards of companies included in the WIG20 Indices as at 09/07/2019

The presented data show that among WIG20 companies, the greatest interest in compliance is shown in the banking sector, whose entities hold the dominant position in the index (25% of all companies). This results from the statutory obligation, which under the Banking Law Act requires banking institutions to set up a compliance unit within the functioning of the internal control system, responsible for identifying, assessing, controlling and monitoring the risk of non-compliance of the bank's operations with legal regulations, internal regulations and market standards, and the entity itself to present relevant reports in this respect (the Banking Law Act, Article 9c, paragraph 2, point 2). Similar regulations apply to the insurance industry. They indicate the obligation of insurance institutions to ensure an effective internal control system, which includes, inter alia, the compliance function. They do not define who is responsible for its implementation, but they specify that it includes the compliance of the activity with the law, assessment of the possible impact of any changes in the legal status on the activity of the entity, determination and assessment of risks related to non-compliance with the law, internal regulations and adopted standards of conduct (Insurance Activity Act, 2015, Article 64 (2)). Moreover, the data presented on the diagram show that with respect to WIG20 companies, the implementation of compliance is not the same as the establishment of a compliance department or entrusting the compliance function related to non-compliance risk management, including fraud risk. Diagram 1 shows that with respect to WIG20 companies, only 60% have compliance departments and the compliance committee was appointed by only two of them.

On the other hand, within the companies included in the DAX30 index, almost all have compliance departments and a separate Chief of Compliance position; the vast majority (83%) have also established compliance committees. Compliance policies and programmes were implemented in all the companies of the DAX30 index, with respect to WIG20 companies only half of the surveyed companies did so. Almost all DAX30 entities actively engage compliance in fraud risk management. In the case of WIG20 companies, this involvement is insignificant and covers only 10% of them. As indicated in Diagram 2, in companies of the Polish stock exchange, the implementation of compliance is not synonymous with determining its role and tasks in managing the risk of non-compliance, including the risk of fraud. Although each WIG20 company indicates that it manages risk, including the risk of fraud, only a few companies engage compliance in this respect. The data presented in Diagram 2 also indicate that the interest in compliance within WIG20 companies is not shown at all by industrial and IT entities. In the remaining majority of entities, compliance functions, but it does not constitute, apart from the banking sector entities, a part of the integrated management system. The results of the study show that companies listed on the German Stock Exchange demonstrate much bigger maturity in their implementation and application of compliance making it a part of their corporate governance. In these entities, compliance systems are almost always combined with an anti-corruption system and an anti-corruption hotline, compliance management system is a part of fighting corruption and bribery. German companies build the so-called compliance culture, which includes: code of ethics and business conduct, compliance policies, compliance trainings, compliance controls, M&A compliance, compliance action line, compliance monitoring, audits, investigations, continuous improvement of compliance program, disciplinary actions, follow-up remediation measures, compliance reporting, compliance communication and advise, anti-fraud and theft, antitrust and competition, conflict of interest, non-relation, consequence management, anti-bribery and corruption, gift and entertainment policies. In most of them, there is also a compliance hotline, where all information and observations concerning compliance can be reported. Additionally, some of the DAX30 entities cooperate with compliance institutions, i.e. the German Institute of Compliance (DICO) and the Global Insurance Chief Compliance Officer Forum (CCOF). The analysis of annual reports of German companies showed that they are very similar, almost uniform in the perception, determination of rules and functioning of compliance, it is even difficult to distinguish significant differences in these systems, which unfortunately was not noticed within WIG20 companies. Only the banking sector shows homogeneity in this respect due to the accepted legal obligation to apply compliance within the framework of the aforementioned regulations of the Banking Law Act. It should also be noted that information on compliance in the reports of entities listed under the DAX30 is placed and described in a very transparent and, as a rule, uniform manner. In the WIG20 reports, however, this information did not constitute such a significant part of the report. This may be due to the lack of a compliance culture, which, however, is much more widespread in German countries. The study also showed that DAX30 entities use compliance in their fraud risk management. Its application in this area is very broad and focuses on the inclusion of tools limiting and detecting abuses within the compliance management system. WIG20 companies, on the other hand, treat compliance as a function, usually entrusted to a selected unit or committee, or as an additional tool, not fully integrated into the management system, including fraud risk management.

4. CONCLUSION

Compliance is a group of procedures and tools whose purpose is to prevent the occurrence of non-compliance risks corresponding to operational risks, financial risks, fraud and abuse, and loss of reputation. Compliance tasks are mainly related to minimizing these risks and ensuring compliance of new processes and products, as well as monitoring the compliance of the

organization's operations with applicable regulations. However, no program, solution or tool will be sufficient to reduce the risk of fraud if it does not use a wide range of methods and access to company data and information. Compliance as a function manifests itself in the formulation of compliance policies or lack thereof and is only a support tool which, by including provisions on the regularity and legality of conduct, is not sufficient to assess and prevent potential risks of fraud. Compliance, on the other hand, supported by a team of people with knowledge and access to company information and data, is able to achieve much more in terms of assessing accordance with the applicable compliance procedures and verifying them in terms of potential abuses. Therefore, in order to be effective, compliance should function as a system that includes both the mechanisms limiting and detecting the risk of fraud. The system should be flexible, focused on the diversity of non-compliance risks and methods used to manage them, however, the idea and form of application and its versatility of targeting should be similar (EY, Wolters Kluwer, Instytut Compliance, 2018, pp. 9). Compliance is a relatively new tool, which is associated with the hope of increasing the effectiveness of limiting and detection of fraud risk (EY, 2018). Compliance is an additional form of protection that a company does not have to choose to apply. Legal regulations which oblige selected groups of entities to implement compliance are the exception. Therefore, if it is not a form of obligatory activity, its application must be really effective for companies to strive to establish it within their structures. The results of the study conducted among companies obliged to implement compliance as stock exchange entities included in the DAX30 and WIG20 indices showed that despite the idea behind compliance, the forms of its application in the area of fraud risk management and ensuring broadly understood compliance differ. The entities included in the German stock exchange index have very extensive compliance systems, which apply to all processes and areas of activity of the entity and are equipped with a wide range of policies and codes. Each of the companies in this group has a unit to verify compliance with the adopted compliance rules, as well as to limit and detect the risk of non-compliance, including the risk of fraud. On the other hand, entities included in the WIG20 index show a very diversified approach to compliance. Starting with the implementation of compliance systems in banking and insurance institutions, which were obliged to do so by legal regulations, through companies not legally obliged in this respect, in which the compliance function was entrusted to selected organizational units, compliance policies and procedures were developed, and ending with the lack of compliance in general. In addition, despite the fact that the range of mechanisms for limiting fraud is sometimes very extensive, the WIG20 index entities do not show as much commitment to the use of compliance in fraud risk management as the DAX30 index entities. It is worth noting, however, that this problem must have been noticed, as it was addressed by the institution of the Warsaw Stock Exchange itself, when it published in October 2018 standards focused on the compliance management system in the area of anti-corruption. Hence, it can be assumed that the application of compliance in this area will gain a faster pace of development, and its use will be more focused on reducing and counteracting the risk of fraud. In summary, the solutions adopted for the implementation and application of compliance for the companies included in the DAX30 index are quite identical, focused on compliance as part of a management system and largely involve compliance in the quantification and detection of fraud risks. Within the WIG20 companies, the implementation of compliance in organisational structures is not only differentiated, but in comparison to the DAX30 companies, it does not use compliance to such a large extent. It is worth noting at this point that while the principles of the code for Polish and German stock exchange companies do not differ significantly in their content from the proposed compliance solutions, not all WIG20 companies use them in this respect, which unfortunately results from the adoption of a certain freedom to use the compliance function depending on the size or type of business activity. This means that the compliance potential, even if it is involved in protecting the company against the risk of abuse, is certainly not fully utilised in these

companies. Taking into account the results of the survey and the considerations undertaken in the publication, as well as the growing scale of fraud and abuse, Polish companies should strive for greater involvement of compliance in fraud risk management by creating compliance systems that are an inherent part of the management system, including corporate governance. The compliance function should be present in every area of the organisation's activity. It is also necessary to strive to create compliance departments equipped not only with intellectual potential, but also with appropriate mechanisms limiting the risk of non-compliance, including the risk of abuse, but also detecting it.

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HOW TO STIPULATE LEAN, LEAGILE AND AGILE RESOURCES? MULTI-CRITERIA METHODS IN MANUFACTURING

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ABSTRACT

Globalization and turbulent environment drive companies towards taking advantage of arising opportunities. Innovations, market fragmentation and high customization are accelerating changes which are crucial for producers. There are two major approaches, paradigms that established new ways of managing the manufacturing organization at the end of the 20th century and that are still actual: leanness and agility. They can be formed as the metaconcepts with techniques, tools or be analyzed as managerial fads, fashions, etc. Agility connects leanness and elasticity which can respond to customers' needs according to the rise or fall in their demand. Agile manufacturing integrates technologies, human capital and firm's resources. The connection of lean and agile designates the 'decoupling point' in the supply chain where lean precedes agile. There is an assumption that, extra production is no longer lean and demonstrates the flexibility of the manufacturer. This is the key condition to our resources, particularly when we try to assign them to lean, leagile and agile approach respectively. We propose a pattern that helps to achieve the answer to our research question: How are resources shared among different manufacturing approaches i.e. lean, leagile and agile? What is the relation between that resources and different approaches? The main aim of our study is a framework of multi-criteria decision making methods (AHP, REMBRANDT) that can contribute to a specification of the key resources (criteria) among different manufacturing approaches (lean, leagile, agile - respectively).

Keywords: agile, AHP, lean, MCDM, REMBRANDT

1. INTRODUCTION

Innovations, technological development, market fragmentation and high customization generate changes in the firms' environment (Olak, 2017), however, it's only elasticity that is no longer sufficient (Sajdak, 2013). The balance between chaos in its 'entourage' alongside with stability and survival, is a point of reference and outline strategic planning inside of companies. As a result we have the necessity to deal with the 'jackpot' of incentives which magnifies a turbulence (technological progress, artificial intelligence etc.) but still do not have a well prepared, precise elaboration of how to solve of such mixed, turbulent areas (Room, 2011). Drucker (2008, 2015) wrote that a turbulence expects a managers' reply on foregoing questions:

- what is our mission?
- who is our client?
- what constitutes value for our clients?
- how are results presented?
- what's our company's plan for the future?

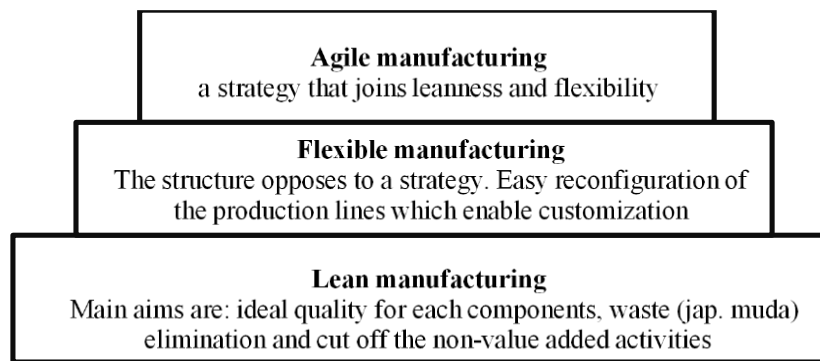
There is no any silver ball but firms try to detect early warning signals and their real content consists of appropriate resources and its excess permits them to grasp a forthcoming occasions (Krupski, 2011). The hyper competitive market expects from entrepreneurs: proactivity, adaptation, elasticity, capability to react quickly, learn, and realize strategic, effective activities (Meredith, Francis, 2000). This article presents a proposition of a framework which consists of the multi-criteria decision making (MCDM) methods i.e. the Analytic Hierarchy Process (AHP), The Ratio Estimation in Magnitudes or deciBells to Rate Alternatives which are Non-

DominaTed (REMBRANDT) to a specification of the key resources among three specified manufacturing approaches: lean, leagile and agile.

2. THE EVOLUTION OF MANUFACTURING APPROACHES; THE AGILITY DIRECTION

Among approaches, paradigms which changed the managing of an organization in the last decade of the twentieth century we can list e.g. leanness (Krafcik, 1988; Womack, Jones & Ross, 1990) and agility (Goldman & Nagel, 1991). They can be defined as metaconcepts with the implementation of different concepts, techniques, tools and management methods (Trzcieliński, 2011). In the Picture 1. we presented the evolution of approaches between lean and agile in the context of manufacturing.

Figure 1: The lean, flexible and agile manufacturing (own graph on the basis: Dahmardeh & Banihashemi, 2010, p. 180)



Agile manufacturing (AM) consists of two excluding approaches – flexible and lean. There is a rule: what is lean cannot be flexible and vice versa (Dudek, 2013). It is crucial for lean manufacturing (LM) to identify and eliminate all types of waste (jap. muda) but some of them can be essential for the AM (Mason Jones, Maylor & Towill, 2000). The connection of two aforementioned approaches (AM and LM) permits to designate order decoupling point (ODP) consists of e.g. final assembly process or manufacturing rationalization etc. (Lee & Sasser, 1995). The compromise between AM and LM, is a leagile (lean-agile) approach with the ODP responsible for integrity of lean (up-stream) and agile (down-stream) processes of the supply chain in logistics. Moreover, lean precedes agile in the geographic and time area (Kawa, 2011; Mason Jones et al., 2000), whereas the flexibility of an organization is determined by two groups of determinants, first of them is among others about decentralization (organizational and decision-making), cooperation and diversification of an activity (Ackoff, 1977; Foss, 2003; Overholt, 1997;). The second group is the consciousness of permanent organizational transition to adapt to change in its environment, join the competences of managers with a company aims, etc. (Bahrami, 1992; Volberda, 1998). The vulnerable aspects are organizational learning, customer surveys, competitiveness, product and organizational innovations. The process of selection for executives should take into account willingness to take risks, ambition, motivation, level of self-control and awareness of market mechanisms (Bahrami, 1992; Buła & Ziębicki, 2011; Volbearda, 1998). In the praxeology (praxiology), agility is referenced to nimbleness, dextrous, capability to move with preconceived intent (Kotarbiński, 1982). First report about agility specified its assumptions as: constant change, high reactivity, quality growth and social responsibility (Goldman&Nagel, 1991). The agility characterizes a way of managing the company in the turbulent reality and has its sources in flexible manufacturing (Bolwijn, Boorsma, Van Breukelen, Brinkman & Kumpe, 1986), time competitiveness (Stalk & Hout, 1990), short innovation cycles (Tidd, Bessant & Pavitt, 1997) and is a response to the need of

competitive manufacturing (Jin-Hai, Anderson & Harrison, 2003). Gunasekaran & Yusuf (2002) defines agility as capability to fulfil the needs of the customers with the maximum level of customer service with the minimum cost of manufacturing. AM can be understood as a contemporary paradigm of production, or a new concept of business and manufacturing (Yusuf, Sarhadi & Gunasekaran, 1999). Vázquez-Bustello, Avella & Fernández (2007) stipulated for the AM to be an integrative of technology, human and organizational resources. The practical aim is to connect lean method with operational flexibility to provide formal solutions upon the mass production cost (mass customization) (Adeleye & Yusuf, 2006). The flexibility in the context of streak resources in the theory of occasions indicates a possibility to turn production from one assortment to another (Bednarz, 2014, p. 464). Yang & Liu (2012) noted that a structure of network is partially responsible for the impact of agility on the results and it can be a repository of its external resources. According to Trzecieliński (2007), a virtual organization has the most developed form of agility. The crucial role in the model of AM is integrity of such elements as: organization, humans and technology with the zero time needed for the adoption to the change of its customers' needs (Bednarek, 2015), but with higher importance of information to reduce waste (McCullen & Towill, 2017). The question of how to measure agility is still open as there is no consensus among scientists and it is worth to keep in mind an article of March & Sutton (1997) titled 'Organizational performance as a dependent variable.'

2.1. Attributes and resources

Key aspects of agility are the two dimensions: operational and strategic. First of them permits: grasp market innovations, process reconfiguration resulting in all changes concentrating on production and process innovation. Strategic level is about activities in the environment of an organization (external view) i.e. monitor of surrounding, extrapolation of trends in the sector, technology (Iacocca, 1991), impact of competitors and the dynamics of changes among market segments (Dahmaradeh & Banihashemi, 2010). According to Ofoegbu, Ayobami & Akanbi (2012, p. 159) strategic agility is a measure of strategic sensitivity, group involvement, unity of leadership and influence of resources and the impact of resources of the company's results. Authors recommended e.g. support for employees in the decision-making process to empower them to feel responsible for the future of their company. The compound between strategic agility and competitive effectiveness is strong and stands as a predictor of the effective competitiveness (Oyedijo, 2012). There is an assumption that various resources have its impact on different models of agility (Griffin, 2017, p. 7; 2004, p. 5; Górka, 2014; Ślusarczyk, 2009, pp. 28-29; Trzecieliński, 2011; Trzecieliński, 2005, pp. 17-22; Włodarkiewicz-Klimek, 2016, pp. 10-11):

- human resources and their reconfiguration shapes social agility,
- financial resources has an impact on financial agility,
- material resources shape technological agility,
- information determines intelligence and acuity,
- natural resources are mainly associated with land,
- non-material resources impact on entrepreneurial agility.

2.2. The ambiguity of the approaches

The general point of view is that the agility associates with flexibility, and the capability to respond, although flexibility takes place before an occasion exists (Bernardes & Hanna, 2009) and permits the growth or downturn in demand. In this context, agility is a wider term than leanness, or flexibility but both are prerequisite to achieve it. According to Huczynski (1993) new techniques of management can help managers create a professional impression, which has an impact on profits of trendsetters, consultancies, business schools, etc. Koźmiński (2004, p. 32) stated that 'metaconcepts e.g. reengineering, outsourcing, benchmarking, empowerment,

customer focus and relations management turn away consciousness and resources from reflexive and empirical diagnoses'. In spite of no relation between dissemination of 'popular methods' [i.e. management by objectives (MBO), reengineering, Total Quality Management (TQM)] and results of the companies the prestige assigned to them (Staw & Epstein, 2000). Abrahamson states (1991, p. 586) that many analyses of innovation diffusion are biased, assumes a positive results of its application, what constitutes a sign of wishful thinking (see: fashion, fad terms in the seminal article of Abrahamson 1991). The structure is heading in the same direction as strategy (Chandler, 1962), but we should also take into consideration the impact of 'fashion' (Rumelt, 1974). Although lean approach has some negative aspects which can be assigned to the level of stress of their staff, which can be a natural result of higher level of supervision (Seppälä & Klemola, 2004). The report of Bain & Company [Big Three of global consulting advisors in management in category: prestige (Vault, 2020a), benefits (Vault, 2020b)] noted down a growth of agile management and recognised it among 25 most popular tools and trends in 2017 (Rigby & Bilodeau, 2018) (compare: Management Gurus and Management Fashions: A Dramatistic Inquiry – Walker, 2001). The tools of lean, TQM and Six Sigma, were disseminated by consultants among managers to win credibility in the eyes of their customers and to achieve legitimization for the concepts without taking into account meritorical aspects (Abrahamson, 1991, 1996; Boje & Winsor, 1993; Klineciewicz, 2006, 2016). Hines, Holweg & Rich (2004) wrote that LM is not treating humans as subjects, but it mainly narrows down the scope of interest to the operations in the company. The inherent element of LM is that the job rotation can be seen as threat for workers in a position of seniority (Howison, 2009). Moreover, type and size of the enterprise has essential impact on effectiveness of lean, what determines a barrier for small and medium enterprises (SMEs) (Doolen & Hacker, 2005). Klimczuk-Kochańska & Marczewska (2016, p. 95) specified lean as a way of production organizing, approach with a practical character with restricted theoretical foundations.

3. MULTI-CRITERIA DECISION MAKING METHODS. APPROACHES AND ITS RESOURCES

The MCDM methods (subdiscipline of the operations research) permit on pros and cons rating of alternatives from the view of various criteria. MCDM enables aim programming for a different problems and evaluation under criteria (Hwang & Yoon, 1981). The decision problem is a situation when decident or decidents (she/he etc.) make a decision upon more than one alternative and the aim is to achieve the 'best' result (Nowak, 2008). Adjective 'best' means 'effective' (Griffin, 2017), enable achievement of preconceived aim (Pszczółowski, 1967). The MCDM have a diverse approaches, protocols with its specific impact on imput resources (Huang, Keisler & Linkov, 2011). The characteristic feature is a complex structure, knowledge source in natural, political, psychological, sociological science and ethics, etc. (Huang et al., 2011, p. 3579). Danielson & Ekenberg (2019) distinguished three classes for MCDM methods (p. 71):

- proportional scoring (i.e. family of SMART methods),
- pair comparisons (i.e. AHP),
- ordinal scales [i.e. MACBETH and Cardinal Ranking (CAR)].

3.1. The AHP

The AHP appeared in the late 1970's (Saaty, 1977, 1980) and its characteristic features are e.g. eigenvalue, eigenvector, maximum eigenvector that permits on share evaluation of individual criteria and its alternatives. The additive model (priority function) utilizes ratio scale, presents decision maker preferences where the decision has the highest importance (Adamus, 2011, p. 25).

Final ranking joins partial comparisons with the expected consistency ratio preference. Experts make comparisons in pairs and express their opinions in a numerical scale with the correspondence to the Saaty's scale (Table 1).

Table 1: Saaty's and MACBETH fundamental scale of comparisons

AHP Intensity of importance a_{ij}	REMBRANDT Intensity of importance δ_{ij}	Definition	Explanation
1	0	Equal Importance	Two activities contribute equally to the objective
3	2	Moderate importance	Experience and judgement slightly favour one activity over another
5	4	Strong importance	Experience and judgement strongly favour one activity over another
7	6	Very strong or demonstrated importance	An activity is favoured very strongly over another; its dominance demonstrated in practice
9	8	Extreme importance	The evidence favouring one activity over another is of the highest possible order of affirmation
2, 4, 6, 8, 1/8, 1/6, 1/4, 1/2	1, 3, 5, 7, -7, -5, -3, -1	The compromise values (between aforementioned)	The result of hesitation when the activities are very close
1/9, 1/7, 1/5, 1/3	-8, -6, -4, -2	Reciprocals of above	If activity i has one of the above non-zero numbers assigned to it when compared with activity j, then j has the reciprocal value when compared with i

Source: Saaty, 2008, p. 86; Lootsma, 1999

Respondent's opinions are put in the matrix ($n \times n$ elements) (Figure 2), where $A=[a_{ij}]$ and we have $n \times (n-1) / 2$ comparisons. On the diagonal we have '1' as a value, and with regard to this, the half of the whole matrix consists of reversals (Saaty & Vargas, 2012).

Figure 2: Square matrix with the pair comparison

$$A_{n \times n} = \begin{bmatrix} 1 & a_{12} & \dots & a_{1n} \\ 1/a_{12} & 1 & \dots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ 1/a_{1n} & 1/a_{2n} & \dots & 1 \end{bmatrix}$$

Source: Saaty, 1980

Saaty & Ozdemir (2003) proposed '7' (look: seminal article of Miller, 1956) +/- 2 as a number of elements for comparisons in the context of limitations of the working memory. Mathy & Feldman (2012, p. 360) noted that Cowan's (2010) number of elements ('4') references to

number of chunks that can maintain, meanwhile Miller's number ('7') is a number of figures that form an uncompressed sequence. After such chunks' compression the number '4' (Cowan number '4') is more relevant (Mathy & Feldman, 2012, p. 360). On the basis of a matrix comparison we calculate priority vectors $w = (w_1, w_2, \dots, w_n)$ with the use of fundamental Saaty's scale (Figure 1). As a result we have a normalized matrix $A = (w_i/w_j)$. The basic matrix operations in AHP are presented below.

Figure 3: The product of matrices and vector of the pair comparisons' priority
 (on the basis of: Saaty, 1980)

$$A_{n \times n} w = \begin{bmatrix} 1 & a_{12} & \dots & a_{1n} \\ 1/a_{12} & 1 & \dots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ 1/a_{1n} & 1/a_{2n} & \dots & 1 \end{bmatrix} \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix} = n w$$

Figure 4: The product of normalized matrices and the priority vector
 (on the basis of: Saaty, 1980)

$$A_{n \times n} w = \begin{bmatrix} w_1/w_1 & w_1/w_2 & \dots & w_1/w_n \\ w_2/w_1 & w_2/w_2 & \dots & w_2/w_n \\ \vdots & \vdots & \ddots & \vdots \\ w_n/w_1 & w_n/w_2 & \dots & w_n/w_n \end{bmatrix} \cdot \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix} = n \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix} = n w$$

The equation $Aw = nw$ has such a solution w , that c permits determination of the highest eigenvalue of matrix A , so called λ_{max} . The value λ_{max} is close to the number of 'n' which means high accuracy of comparisons. The matrix of comparisons allows on calculation of λ_{max} , Consistency Index (C.I.), Consistency Ratio (C.R.) that are described by equations (Saaty, 2012):

$$C.I. = \frac{\lambda_{max} - n}{n - 1} \quad (1.1)$$

$$C.R. = \frac{100C.I.}{R.I.} \quad (1.2)$$

where:

R.I. – random inconsistency index generated in a random way from the matrix (n x n elements). But a value of C.R. ought to be (Saaty, 2004):

- less or equal 5% for a matrix with n=3 elements,
- less or equal 8% for a matrix with n=4 elements,
- less or equal 10% for a matrix with n>5 elements.

When $\lambda_{max} = n$; C.I.= 0; C.R.= 0, we have a fully consistence of opinion, but it remains a silent doubt because human beings achieve new experiences and can change their mind. The MCDM methods which base on the AHP includes e.g. REMBRANDT, Fuzzy - Analytic Hierarchy Process (F-AHP), Analytic Network Process (ANP), Fuzzy Analytic Network Process (F-ANP), MACBETH (Trzaskalik, 2014).

3.2. The Rembrandt Method

REMBRANDT (Lootsma, 1992) enables a pair comparison, which from a point of view preconceived criterium permits on determination of preference with the semantic scale (or numerical scale: -8, -6, -4, -2, 0, 2, 4, 6, 8, compromise values: 1, 3, 5, 7, -7, -6, -3, -1). This method is called as a 'multiplicative AHP', converts a verbal replies spelled in a semantic scale into geometric scale. REMBRANDT uses logarithmic scale (Barzilai, Cook & Golany, 1987; Lootsma, 1988), geometric mean (Barzilai et al., 1987; Lootsma, 1988) and a product of relative weights (Olson, 1996). The eigenvalue method of Perron-Frobenius (Frobenius, 1912; Perron, 1907) for determination of vectors 'scale was substituted by logarithmic method, which constitutes a reply on remarks in the direction of AHP e.g. deficiency of rank scale, additional alternative that breaks down the previous structure (Barfod & Leleur, 2013; Olson, Flidner & Currie, 1995). The overall evaluation of alternatives uses aggregation associated with a geometric mean. Pair of comparisons (among others sub-criteria/criteria/alternatives), relies on the ranking scale (δ_{ij}) which are assigned according to column for the REMBRAND method (Table 1). Afterwards the values δ_{ij} are transformed into geometric scale, the numerical relations of the preferences d_i/d_j are assign to a subjective values as in the line below:

$$d_i/d_j \cong r_{ij} = \exp(\gamma\delta_{ij}) \text{ for } i, j = 1, \dots, z, \quad (1.3)$$

where:

$\gamma = \ln 2$, for the comparison of alternatives (variants of the decision), or $\gamma = \ln\sqrt{2}$, for criteria, z – number of pair comparisons for alternatives, or criteria. To calculate vector $d = [d_1, \dots, d_z]$ we use the logarithmic least squares method. The components of the vector $v = [v_1, \dots, v_z]$ are close to the components of the vector as per below:

$$\min \sum_{i=1}^z \sum_{j>1}^z (\ln r_{ij} - (\ln v_i - \ln v_j))^2 \quad (1.4)$$

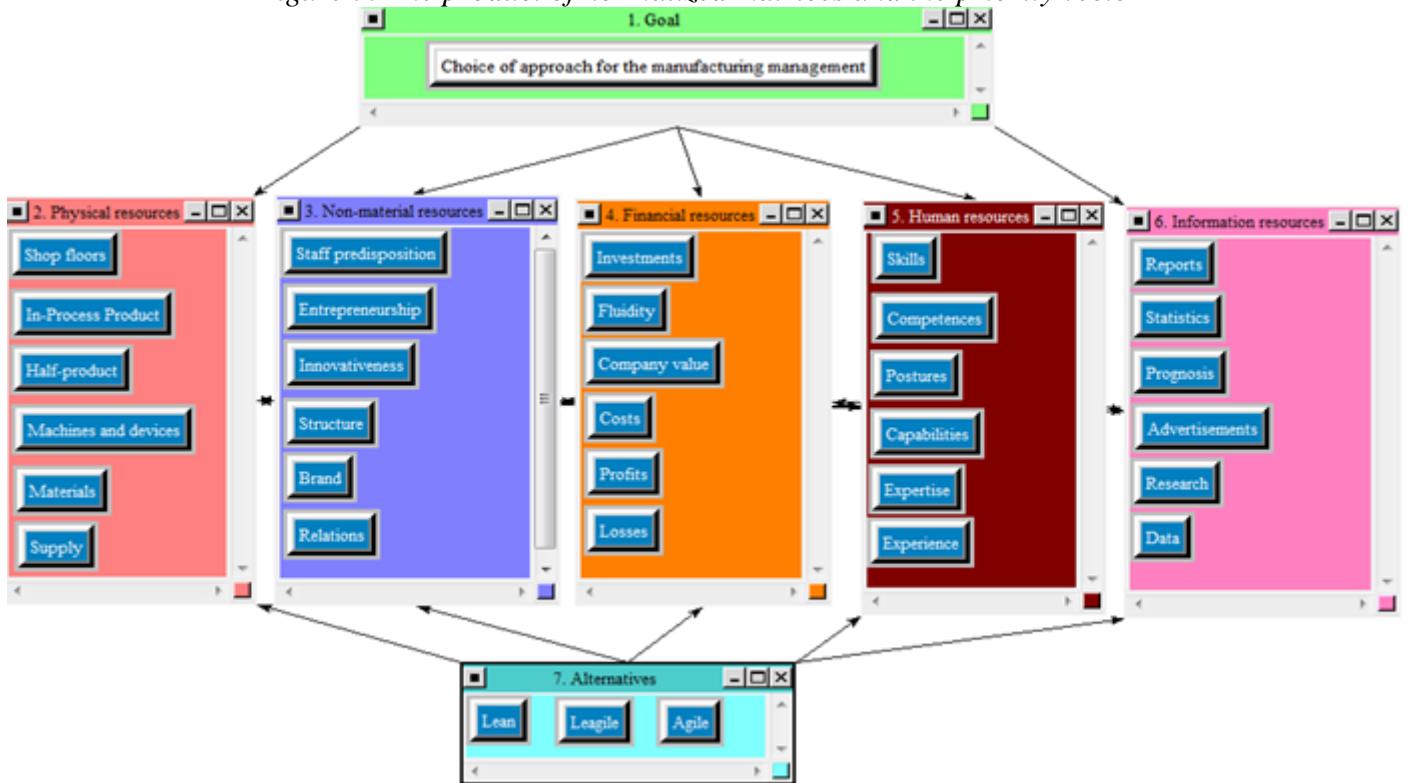
Afterwards for $\prod_{i=1}^z v_i = 1$, we have a solution:

$$v_i = \exp\left(\frac{1}{z} \cdot \gamma \sum_{j=1}^z \delta_{ij}\right) = \prod_{j=1}^z r_{ij}^{1/z}, i = 1, \dots, z. \quad (1.5)$$

4. CONSLUSION

The graph below presents a MCDM model for the choice of the proper approach (lean, leagile, agile) in relation to the necessary resources (look: Griffin, 2017) which are essential elements of every company's business line and their mix can be stipulated individually by managers, board of directors, board of supervisors and business owners. These two methods (AHP and REMBRANDT) are supplemented by each other and complement one another in spite of their imperfection. They belong to the same family of the analytic hierarchy and their inter-related methods (Trzaskalik, 2014). The consistency of the results can indicate the convenient resources that are fundament for entrepreneurial activity, particularly for manufacturing companies. We postulate the necessity to check assumption of Vázquez-Bustello et al. (2007) who stipulated that AM is associated with integration of technology, human and organizational resources. The pending question regarding the key criteria (resources) and its alternatives (approaches) call for our attention because the invisible thread between them is variable for both researchers as well as entrepreneurs. We propose MACBETH and AHP for the evaluation of imponderables among resources and modern approaches.

Figure 5: The product of normalized matrices and the priority vector



Own work on the basis of: Arteta & Giachetti, 2004; Dubey & Gunasekaran, 2015; Griffin, 2014, p. 5, 2017; Oyedijo, 2012; Ślusarczyk, 2009; Trzciliński, 2011; Włodarkiewicz-Klimek, 2016; Yusuf et al., 1999; Vázquez-Bustello et al., 2007; Vinodh & Aravindraj, 2013. Prepared in Super Decisions software program

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MANAGING INTERNAL AND EXTERNAL STAKEHOLDERS IN STARTUP PROJECTS

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ABSTRACT

Startup projects are nowadays recognized to be crucial for economic growth of many countries, generation of new knowledge, as well as creation and commercialization of innovative ideas. However, due to the fact that a modern business environment is characterized by high level of uncertainty, starting such a project is a risky endeavor which requires balance between a competent project team and a spectrum of external partners. With the aim of exploring and better understanding stakeholder management practices in startup projects, a qualitative empirical research was conducted in 128 startup projects implemented in Moscow in the last five years. The collected data were analyzed by a grounded theory approach and presented in three main areas: specifics of gathering and managing an internal project team, specifics of gathering and managing an external business community and the role of trust between stakeholders in startup projects.

Keywords: *external stakeholders, internal stakeholders, stakeholder management, startup projects*

1. INTRODUCTION

In the contemporary business environment characterized by high uncertainty, complexity and volatility, innovative development of the global socioeconomic environment becomes impossible without startup projects (Labunska et al., 2018). Between 2016 and 2018 alone, the global startup economy created 2.8 trillion USD in value, which presents 20.6% increase since the previous period and more than 40% increase in the period of the last five years (Startup Genome, 2019). Following the global trends, startup projects also gained popularity in Russia in different spheres of business (Korzyuk and Tekucheva/Корзюк и Текучёва, 2019) with the aim not only to create new and unique, but also analog projects of successful ones from the Western countries (Bondarenko and Isaeva/Бондаренко и Исаева, 2015). According to the Startup Ranking, Russia is currently on the 19th place out of 191 countries, with 581 registered startups, including Telegram, TradingView, Coub, Wavesplatform and Ecwid among the top 100 most popular ones in the world (Startup Ranking, 2019). However, due to the fact that different researchers define startups in a different way, some of them even equating startups with any small, newly created innovative business or entrepreneurial venture, statistics regarding their number and dynamics shown in different sources may vary significantly. The authors of this paper approach startup projects as temporary ventures in different sectors of business (Salamzadeh and Kesim, 2017), searching for iterative business models (Blank and Dorf/Бланк и Дорф, 2013; Tupek Ćorić, 2018), that is, projects implemented in the conditions of uncertainty with the aim to create and offer completely new products/services, introduce new technologies or channels for product promotion (Labunska et al., 2018), while being at a very early stage of business activity and searching for appropriate ways of funding (Kulynych/Кулинич, 2015). These kinds of projects are, from one side, usually characterized by flexibility, fast response to the market needs and potential of rapid growth (Veretennikova

and Vaskiv, 2018), but from the other, have very high risk of failure (Bondarenko and Isaeva/Бондаренко и Исаева, 2015). For that reason, it is not only important to understand and carefully structure a startup project (Reis, 2013), but also to have strong and competent people implementing it using modern approaches to project management (Korzyuk and Tekucheva/Корзюк и Текучёва, 2019; Reis, 2013). Furthermore, a wide range of stakeholders has to be included in different stages of the implementation process with the purpose of providing limited resources, such as finance, technology, knowledge and network (Pollack et al., 2017; Santoro et al., 2018; Vershinina et al., 2018).

2. STAKEHOLDER MANAGEMENT IN STARTUP PROJECTS

Recent stakeholder management research related to the implementation of startup projects show that startup projects are embedded in numerous formal and informal types of social, professional and knowledge-based interactions (Coleman and Robb, 2015; Freeman et al., 2010; Huggins and Thompson, 2015; Pinho and de Sa, 2013; Smith and Lohrke, 2008). In order for the startup project to have a chance to succeed and survive in the market, a strong and diverse network of stakeholders is needed. Furthermore, all stakeholders are categorized according to their role in a particular startup project and are typically divided into two main groups – internal and external (Aaltonen et al., 2008). Internal stakeholders of startup projects are represented by the founders and the members of the project team (Davis, 2008, Unterkalmsteiner, 2016). Their main role is to spot new opportunities and make key decisions that affect the persistence, as well as performance of the venture over time (Chandler, 2005). Nonetheless, although heterogeneous resources provided by the internal team and their experience on previous ventures (ability to more effectively leverage those resources) might increase the possibility of launching a profitable business, only rarely will this be done without a wider community in which startup projects take place (Muñoz-Bullon, 2015). Therefore, customers, suppliers, competitors, universities, governments, public research institutions and consultants appear as a group of external stakeholders (Santoro et al., 2018). It is of the utmost interest for the startup project founders and members of the project team to create an environment with external stakeholders in which they can share ideas, access resources, receive encouragement and advice, overcome barriers and learn about new opportunities (Stam, 2015). Even though relationships might appear at an individual level, startup ecosystems as a shared pool of resources can further facilitate formalizing, expanding and maintaining ongoing engagement among key stakeholders (Markley et al., 2015), which in the end might lower the level of risk to which startup projects are exposed to in an attempt to create and market their products/services (Salamzadeh and Kesim, 2017). According to the Global Startup Ecosystem report (2019), the top five startup ecosystems in the world, and therefore best locations to engage in startup projects, are Silicon Valley, New York City, London, Beijing and Boston. Although Moscow is currently outside the top 30 global startup ecosystems, it is placed in the category of challengers, that is, fast growing ecosystems, together with cities like Lagos, Jakarta and Melbourne (Global Startup Ecosystem, 2019).

3. EMPIRICAL ANALYSIS

3.1. Research methodology

With the aim of exploring stakeholder management practices in startup projects, between 2018 and 2019, a qualitative empirical research was conducted in 128 startup projects implemented in Moscow in the last five years. Founders of startup projects were participating in one-hour in-depth interviews and the collected data were analyzed using a grounded theory method. As a result, three major codes were identified: specifics of gathering and managing an internal project team, specifics of gathering and managing an external business community and the role of trust between stakeholders in startup projects.

3.2. Research results and discussion

In this section, all results will be organized around constructed major codes with the quotes adequately depicting them.

3.2.1. Specifics of gathering and managing an internal project team

There are numerous ideas behind launching startup projects included in this research, e.g. breaking down barriers between people and technology, facilitating business operations for both physical and online companies or bringing revolutionary and unprecedented products and services to the market. However, they all share the fact that they were initiated either by a passionate individual or a group of acquaintances/colleagues/friends who had attended school, college or previously worked together on another project, and successfully collaborated. During the preparation for the startup project and its implementation, several challenges come into focus with regard to internal stakeholders:

a) choosing the right project team members

In order to achieve the goal of the startup project, to ensure further transformation into the startup company and achieve a long-term and sustainable business, an efficient and most often multidisciplinary team is needed. Therefore, the first step is to select the right team members. Respondents mention the inclusion of individuals they know from private or business spheres of their lives as a basic way of forming teams, because they have the most confidence such collaboration would succeed: *It was necessary for us to include people we were very familiar with, who would not leave us halfway, would not be indifferent to the project, but would consider it to be their own, invest energy and always be ready to go one step further in addressing the business challenges we face. Our team is made up of my close friends and acquaintances I can rely on at any time.*

In the situation where they did not have an adequate base of people with the right competencies they knew and were able to include into the team, respondents have reached out to external sources of human potential:

Initially, of course, we wanted to create a team consisting of only our friends, because we thought it would work better for us. However, we abandoned this idea because we couldn't find enough professionals in the fields we needed, so we asked for recommendations from the people we knew, and it worked well. We sought for specialists in the labor market, people we didn't know before. For that reason, during the selection process, we paid a lot of attention to whether the way they think and do business fits the way we promoted ourselves, as well as how newcomers get along with people already employed on the project. Although most of our team was formed on the basis of prior acquaintance, we looked for several members on "profil.ru" since we were not able to cover all the required areas for our project to be successful. Together we interviewed the candidates to choose which ones are the best for us.

b) requirements from project team members

While choosing the right people for the project team, project founders were not only focused on the formal education and right set of knowledge, skills, abilities and experience in the field of project management and fields related to specific jobs within the team, but also:

- passion for the project idea and working on a project in a dynamic environment
I was searching for people with desire, nothing more. Because people with education were part of the team, but the result was not good. And when a person with a passion comes, everything is possible. Professionalism, desire and ability to work in a changing environment, that is, a startup, and, probably, a desire to achieve something regardless of corporate support of large companies.

- creativity and high energy level
The team was selected according to their energy level and creativity. We are interested in lions, and not fishes nor frogs.
- initiative
The main requirement was that people are smart, organized and ready to take an active part in the development of the project. There were no additional requirements for knowledge or skills. I realized that I do not really like people who are constantly waiting for me to tell them what and how to do it, and who do not invent or offer anything by themselves. I consider such people would not fit the culture we want to promote.
- attitude and compatibility with existing team members
The first criteria, the main one actually, is getting along with people who already work on the project and creating some kind of synergy. If the person doesn't fit well into the team, there is practically no chance good results will be produced, no matter how smart or talented he/she is. I pay the most attention to the attitude towards business, other people and life in general. Disrespectful people will certainly not work in my team.

c) distribution of roles within the project team

Once the individuals are selected into the project team, it is necessary to put the right people in the right positions within the team. In some startup projects, at the beginning, the team did everything together due to the fact that they did not know how the market works and how they should work. Over time, they distributed the roles by trial and error, based on the intuition and sometimes even spontaneously. In other projects, the roles were distributed according to the areas for which the individuals showed the most interest and in which they could contribute the most. However, in the most structured ones, there was a clearly prescribed way of assigning the roles within the team:

Initially, we divided roles into three global areas – administration and finances, creative work and customer relations. People were distributed within defined areas according to their competencies and the founders supervised all processes. The work on the implementation of our project was distributed with exact compliance to the methods prescribed by the APMA international organization.

d) collaboration and decision-making process

Only few respondents consider that founders of the startup project should be in control of everything and make decisions regarding matters that are not at the operational level alone. Others agree that in order for the team cooperation to be at the satisfactory level and startup project to be on the right track, team members need to: regularly communicate either face to face or, when not possible, via different online communication tools; state their own opinion to give different points of view and a broader perspective to a challenge or an opportunity; discuss and then individually/collectively make a decision that could potentially bring the most success or help to achieve the best result, and take responsibility for the decision made.

e) managing difficult situations and motivating team members

While working on a project, it is normal for disagreements, misunderstandings and difficult situations to occur:

Problems return periodically. Mostly, it is because of the very fast pace in which changes come from the market. We are often worried and work under a lot of pressure, not only during "office hours", but sometimes several days in a row with very little sleep. And yes, we often quarrel at the time. But the bad period passes, and everything goes back to normal.

Since these kinds of situations can lead to a decline in team members' motivation, it is very important to restore a positive atmosphere, communicate problems and find a way out of the situation together. Also, it is important to understand what motivates team members and how to keep the project implementation on a good track. Respondents recognize people taking part in startup projects as young, ambitious, preferring self-employment over corporate life and with high level of inner motivation. Therefore, in the environment where the focus is on creativity, cooperation, exchange of ideas and good relationships, they should be less motivated by financial benefits and more by the focus on achieving global scale results that will significantly change the specific area in which they are operating:

The motivation of the team members in the project is mostly intangible, but, of course, with successful implementation, a percentage of the income from this project is an essential part of our motivation. Naturally, we make money from this, and we live from it, but if we worked in a large company, we would earn more. You know, we chose this path because someday we will change the world.

3.2.2. Specifics of gathering and managing an external business community

In this part, the focus will primarily be on the client/customer of the product/services created by the startup project and then shifted towards the broader business community beneficial to the startup project in general.

a) developing and maintaining a customer base

The client bases of the startup projects in this research are very diverse and include from just a few to several thousand, both individuals and Russian/international, private/public, physical/online companies. On one side of the spectrum are startup teams working together with big corporate clients producing innovative technological solutions to facilitate their current business processes or the operations in general. They most often signed contracts in advance, aligned their idea completely with the clients' expectations and delivered the final result at a satisfactory level, providing space for further cooperation:

We have only one, big corporate client for whom we develop all of our tech solutions. And our cooperation is good, since we discuss the expectations, produce exactly what the client wants, and they pay us significant amounts of money for that.

Interestingly, no matter of the importance put on the market research and the fact that most of the startup projects fail because they are not solving market problems, their products/services appear at the wrong time or don't satisfy the customer needs, more startup teams appear to be on the other side of the spectrum. The teams immediately start working on the idea they consider to be good and which they are passionate about, produce the product or a service and then start actively searching for the customers in the existing market, either through acquaintances, sales representatives, or social networks. Very few respondents mentioned doing market research in advance and understanding the needs before starting the project:

Getting feedback from customers is the main thing. First you write out an idea and you ask the opinion of potential buyers, because they may not need this product or maybe the timing isn't right to place it. You should immediately adapt to the market needs, and not the other way around.

With the aim to keep existing clients and enlarge the customer base, several approaches to managing customer relations have been implemented, e.g. personalized customer care, customer satisfaction reviews, keeping customers informed and/or offering various payment methods, and at the same time searching for new ones on a daily basis.

b) cooperation with the right external partners

In case there are no pre-existing contracts with powerful clients, having a good idea and a competent project team will often not be enough. Therefore, a sustainable network of external partners with the goal of ensuring the stability of the project throughout the whole life cycle is needed:

In any business, partnerships play a very important role, especially since we work with people. People create business networks and it plays a huge role in any project - without the network, it would be impossible to create a business at the level at which we are currently operating.

External business partners may include but are not limited to suppliers; consulting companies and experts in the respective field; Russian and international investors, accelerators and venture funds; PR and marketing agencies and media representatives (influencers, bloggers). Respondents state that the key external business partners were found through acquaintances, at the expert conferences/exhibitions/technology parks, and internet (websites and social networks). Usually they appeared to be beneficial in the areas of product development and testing, understanding market opportunities and distribution channels, finding customers or selling the product/services through their own networks. In order to establish a long-term, quality relationship, all respondents agree that frequent meetings and open communication played the most significant part.

3.2.3. *The role of trust among stakeholders of the startup project*

In order to face all the risks and uncertainty related to startup projects, respondents emphasize „*supporting an environment built on trust and inspiring others to feel safe and confident*“ because „*personal integrity gives security to the project and honesty to acknowledge the error and correct it.*“ Therefore, trust appears to be the base for a synergy cooperation and creating a successful business:

In Russia this aspect is even more important since we start from a position of not trusting anyone. I believe that in order to succeed and lead successful startups, we need to overcome this, because nothing really happens without trust. It is impossible to keep everything under control by yourself. Everything is absolutely built on trust in my type of business – you have to dedicate yourself in this because it includes many years of working together...daily. And I will tell you, it is worth it, every moment of it. Trust is a kind of an energy channel through which mental energy is pumped. You can open up, share fears and weaknesses, and over time, this is what will make you strong.

Further, the importance of trust between team members becomes even more evident when facing difficult situations:

When I can't do something or I encounter problems, I know that my partners are there for me, and we keep each other's back. That is, there is always someone to watch over me. This is very important, it psychologically gives great confidence even in difficult moments. There are two types of people. When deciding with whom to start a business, you need to be smart. There are the ones who are 100% with you when everything is good, but at the first sight of difficulty, are nowhere to be found. You need to start a business with the other kind, reliable people who will stand by you no matter what. If people are engaged in the project, they should trust each other, and help each other if one of them fails. Mistrust inside the team results with inadequate allocation of tasks and if one person leaves the team, there will be nobody to fill in the hole. This will be reflected in the overall result for sure.

Finally, trust is equally important for building relationships among project team members, as it is with the external partners:

Firstly, it gives people a greater sense of responsibility. They understand that they are trusted, which means they must do something well. Secondly, this also frees the leader from other thoughts, because if you don't have trust and you keep everyone in control all the time, you don't have time and resources to do your work. If there is no trust - it is pointless to set up partnerships. For example, with suppliers: if I have no confidence that they will send quality goods to us, in a timely manner and are ready to promptly repair the damage if necessary, we have no reason to work with them. Trust is the most important thing in establishing partnerships with different stakeholders, because not everything can be written on paper. We openly talk about our intentions and plans with our investors, our suppliers and our customers. If any issues appear, all that are involved sit together and resolve them. Otherwise, it would be impossible to do it.

4. CONCLUSION

Given the importance of startup projects in today's business dynamics, and the level of uncertainty and risk associated with their implementation, effective stakeholder management is recognized as one of the fundamental requirements for them not to fail. Results of the research conducted among founders of startup projects in Russia identify several areas of stakeholder management that have to be taken into account in further research. Firstly, the focus is placed on creation of a strong internal project team, i.e. choosing the right team members with adequate competencies, but also other features suitable for this type of business; distributing roles within the project; collaborating and dealing with difficult situations. Secondly, while the key external stakeholder is always the customer, a lot of attention should also be dedicated to finding beneficial external partners for the project, like suppliers, media, investors, accelerators, venture funds and consultants. Finally, trust is recognized as a prerequisite for creating strong relationships between both internal and external stakeholders and their synergic cooperation for creating a successful business.

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DEVELOPMENT OF METHODS FOR PROFESSIONAL COMPETENCE ASSESSMENT OF IT PROFESSIONALS USING SIMULATION GAMES

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ABSTRACT

The paper presents the statement and analysis of the problem of professional competence assessment of IT professionals by employers and universities. Various definitions of the term competence used in Russia and other countries are considered. The features of development and application of competence approach in the field of information technologies are described. The sources of information about the IT professionals competencies in the three enlarged groups are analysed: requirements of federal higher education standards; requirements of professional standards (Information & Computer Technologies Industry Association, the European-Competence Framework, International Project Management Association, Framework, Babok, etc.); requirements of modern employers (proposals of the IT community, analysis of job sites vacancies, The atlas of new professions, etc.). A competency model for an IT project Manager is presented. The solution for this problem through the development of new methods of professional competence assessment of candidates for the post or future professionals (students) in the field of information technologies based on testing and the development of professional skills and competencies through the application of simulation games is justified. The procedure for competence assessment based on this methodology consists of seven stages: self-discovery, approbation, reflection, development, immersion, support, being on your own. The article describes the experience of testing the methodology in Novosibirsk State University of Economics and Management. An information system supporting the implementation of the methodology has been developed. The main research methods used in the development of the methodology were: observation, questioning and interviewing, system and structural analysis. Implementation of the developed methodology in educational institutions contributes to the quality of the education and employment of young specialists in the field of information technology, employers and recruitment agencies will improve the efficiency of selection process of IT staff.

Keywords: *competence, IT specialist, simulation game, methods of competence assessment, gamification, IT specialists' selection*

1. INTRODUCTION

One of the distinctive features of the modern society development is its widespread digitalization. The efficiency of people and businesses depends on the use of information systems, the Internet, smart and digital devices. As a result, specialists in the field of information technology (hereinafter IT) have become employable by enterprises of almost any industry. Research conducted by the Foundation for the Development of Internet Initiatives at the end of 2018 showed that the share of IT professionals in the Russian market is 2.4% of the total employed population, while in the digital economy leading countries, such as the US, Germany, UK, and this figure is 4.3% [1]. It is natural that one of the priorities of the Federal project Personnel for the digital economy of the national program Digital economy of the Russian Federation is to increase the number of graduates of higher and secondary vocational educational institutions with competencies in the field of IT to 800,000 people per year [2]. To date, about 100 000 people graduate from universities and colleges in Russia per year. Also in the report of Foundation for the Development of Internet initiatives, it is noted that the

phenomenon of globalization has not only changed the structure of production and markets in the world, but also increased the competition of enterprises and countries for qualified personnel in this area. On the one hand, due to the existing personnel shortage in the IT sector, the cost of recruiting IT personnel is constantly growing, as well as the replacement cost of such specialists. On the other hand, universities without effective tools for professional competence assessment are experiencing difficulties in assessing the quality of their training of IT professionals. As a result, graduates who enter the job market do not meet its requirements [3]. In particular, specialists who are ready for continuous professional growth and self-development and have social and professional mobility are in demand. To solve this problem, universities and employers are invited to use the method of professional competence assessment of IT professionals using simulation game. In this paper, the simulation game is understood as a dynamic model of simplified reality, which is based on specific situations taken from real life. Participants take certain roles, begin to interact with each other within the game scenario and try to achieve their role-playing goals. This model is used to determine leadership qualities, assess skills and competencies, as well as their development, simplifies the process of potential employees training. The implementation of the developed method on the one hand will reduce the costs of enterprises in the process of IT personnel recruitment, and on the other hand, will allow universities to improve the quality of education in the field of IT and to solve breakthrough problems in the market of the national technological initiative. The method can also be widely used in the work of recruitment agencies. In the development of this assessment method, the following research methods were used: observation, questioning and interviewing, system and structural analysis.

2. THE CONCEPT OF COMPETENCE

Competence is usually understood as a number of spheres in which a person has a certain level of knowledge, experience. It is believed that this concept was first used in the United States in the 60s of the XX century to represent the concept of education and training of specialists who can successfully compete in the labour market [4]. After that, the competence-based approach has become widespread in other countries, including Russia. Currently, there are different approaches to understanding the term "competence". Table 1 describes the approaches to the definition of this term by foreign authors.

Table 1: Definitions of the term "competence" by foreign authors

No.	Definition	Author
1.	Ability to perform specific operation according to prescribed standard	T. Hyland
2.	The ability to apply existing knowledge and skills in new situations of professional life, demonstrated in the organization and planning of work in unusual situations and innovations	R. Boyatzis; Standard Methodology
3.	Ability and willingness to perform a task	J. Burgoyne
4.	Capability of a person to succeed in making progress	M. Mulder
5.	Behavioural indicators that affect performance	C. Woodruffe
6.	Any individual characteristics that can be reliably measured and that can demonstrate the difference between effective and ineffective performance	Spencer L., McClelland D., Spencer S.
7.	Fundamental abilities and skills necessary for successful work	A. Furnham
8.	Ability to effectively perform specific actions in the subject area, including narrow subject knowledge, special kind of subject skills, ways of thinking, understanding of responsibility for their actions	J. Raven

In Russian science, the scope of the concept "competence" is still to be determined. In literature there is a wide range of definitions of this concept (table 2).

Table 2: Definitions of the term "competence" by Russian authors

No.	Definition	Author
1.	The combination of mental qualities that allow you to act independently and responsibly; competence characterizes the individual (or his actions) and is demonstrated in the results of his activities	A. Markova
2.	The total of available professional knowledge, skills and experience, as well as ways to perform professional activities	E. Zeer, E. Cimanuk, V. Shepel
3.	Disposition of the person, their abilities, character, as well as a certain attitude to the subject of activity	G. Selevko
4.	Presence of knowledge, skills, education, contributing to personal self-realization; it is a complex synthesis of cognitive, subject-practical and personal experience	V. Bolotov, V. Serikov
5.	Characteristics of the capabilities and readiness of the labour market actor to work	O. Noskova
6.	Newly formed labour market actor' features, gained in the process of training, which is a systematic demonstration of knowledge, abilities and personal qualities, allowing to successfully solve the functional problems that make up the essence of professional activity	V. Shadrikov
7.	Total of personal characteristics, properties, abilities, skills and motivational features that a person must possess for successful work within the specified competencies (types of tasks) of a particular position or organization as a whole	T. Bazarov
8.	Integral personal characteristic	L. Stepashkina
9.	General qualitative characteristics of professional level	E. Ermolaeva
10.	The level of successful interaction with the social environment	M. Dmitriev, S. Druzilov

Based on the above definitions, it can be concluded that the main characteristics of competence are: level of assimilation of knowledge and skills (quality of assimilation of knowledge and skills); the range and breadth of knowledge and skills; the ability to perform special tasks; the ability to rationally organize and plan their professional activities; the ability to apply the knowledge in non-standard situations (quickly adapt to changes in technology, organization and working conditions).

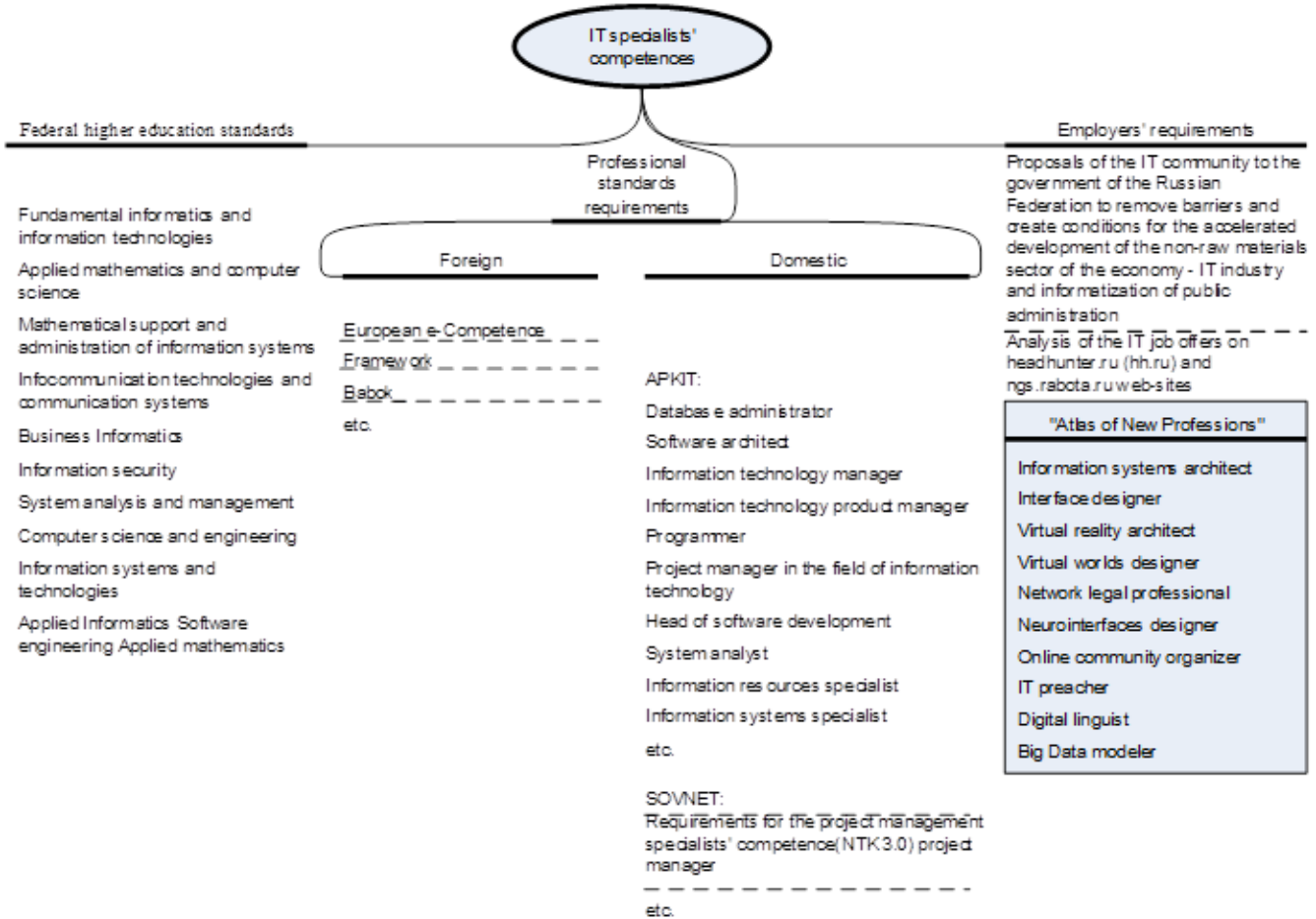
3. COMPETENCE APPROACH AND ITS APPLICATION IN THE FIELD OF IT

In Russia the term "competence approach", which is considered as a tool to strengthen the social dialogue of higher education with the world of work, a means of deepening their cooperation and interaction, has ingrained in use during the process of modernization of the higher education system [5]. This system of training requires a clear focus on the needs of the labour market. Graduates of Russian Federation universities should possess competencies that will allow them to be successful in their respective professional fields. Information sources about IT specialists professional competencies can be divided into three groups: requirements of higher education federal standards for; professional standards requirements; modern employers requirements (figure 1). The lists of sources of information about the competencies of IT professionals presented in figure 1 are not complete and can be both changed and supplemented with new ones. In Russia, until September 1, 2011 federal higher professional education standards were based on specialist qualifications (knowledge of the subject was assessed). The new federal higher education standards are based on the competence approach for the assessment of the quality of training, which is supposed to assess, first of all, not the knowledge, but the willingness to apply this knowledge in practice in a non-standard situation, the ability to act productively in a situation of the lack of specific skills, the ability to develop the required mode of action.

Despite the fact that the federal standards for higher education are important regulatory and methodological recommendations and allow to prepare sufficiently qualified personnel, the standards have a big drawback – the change takes a long time, as a result, in the conditions of global digitalization, the federal standards do not keep up with the changing requirements of the field of information technology. For example, the programming paradigm changes every four years, and updated federal standards for higher education are issued on average every five years. There is quite a large number of professional IT standards, both Russian and foreign. The most common and recognizable foreign professional standard is European e-competence framework (hereinafter e-CF) [6,7]. Some foreign standards describe only one qualification, for example, "Babok" for business analysts, "IPMA" for project managers, etc. In addition to the federal educational standards, the introduction of the competence approach required the development of professional standards, which has been widely used in recent years. The organization which is mainly engaged in the development of professional standards in the field of IT is Information & Computer Technologies Industry Association, which includes ninety-two Russian IT companies. To date, the organization has developed twenty-seven professional standards in the IT field. It is important to note that professional standards are mainly based on the so-called "work functions", which are characterized by relevant knowledge and skills, but not by competencies. One of the sources of information on employers' requirements for it training is the document "Proposals of the IT community to the Government of the Russian Federation to remove barriers and create conditions for the accelerated development of the non - raw materials sector of the economy - the IT industry and informatization of public administration". The proposals were developed by APKIT (Information & Computer Technologies Industry Association) in collaboration with the interested IT companies, CIO and individual experts in accordance with the wishes of the President of the Russian Federation. As a source of information on IT competencies, we can single out "Atlas of New Professions", an almanac of promising industries and professions for the 15-20 years. This Atlas was developed by the Agency for the Strategic Initiatives following a Fore-sight competencies 2030 large scale study, covering more than 2,500 Russian and international experts. The document defines the following professional competences for the IT specialist: systemic thinking; communication skills; ability to manage projects and processes; programming/working with artificial intelligence; customer focus, ability to work with customers' requests; multilingual and multicultural; ability to work with teams, groups and individuals; work under the conditions of uncertainty.

Figure following on the next page

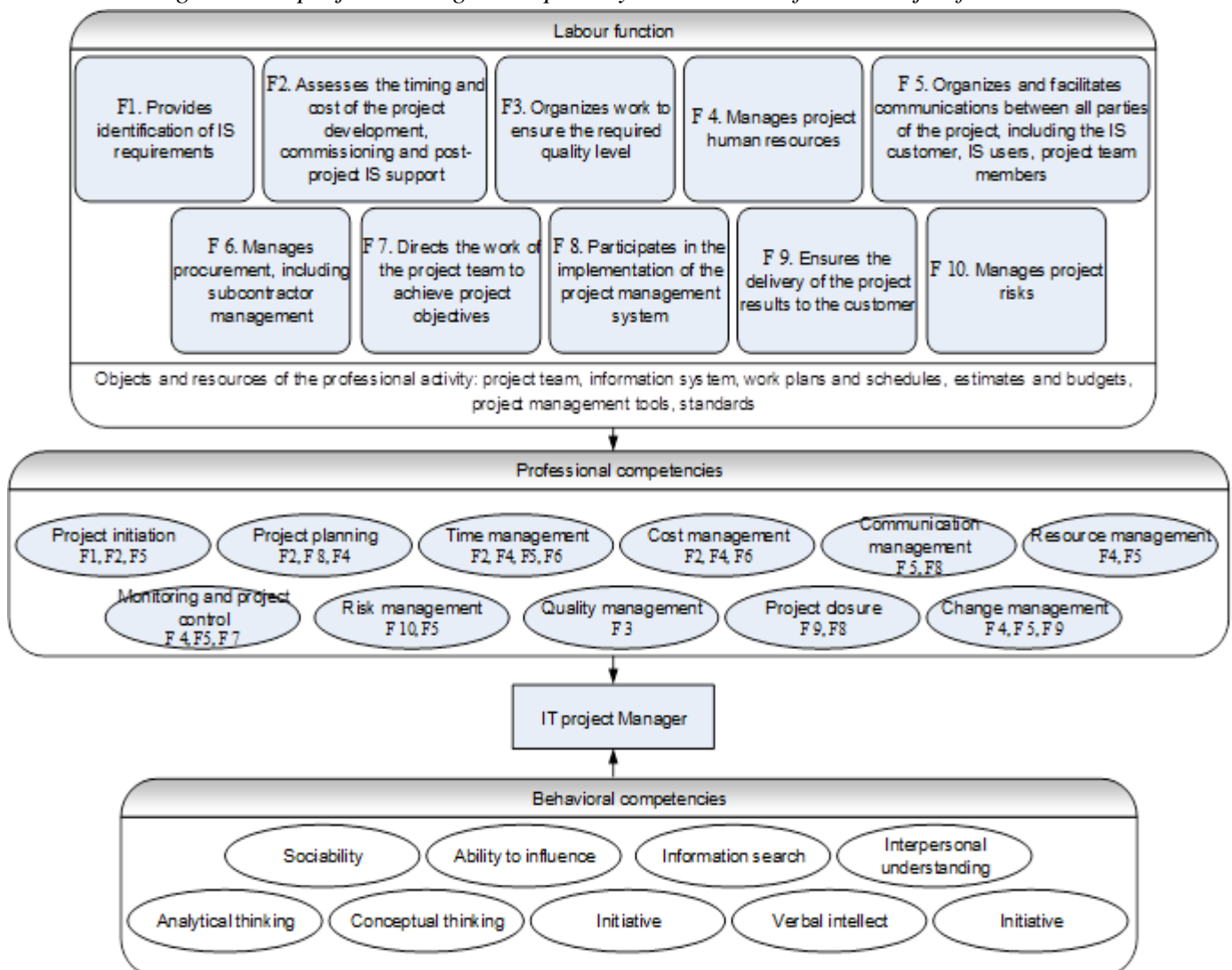
Figure 1: Sources of information on the IT professionals competences



Resulting from the analysis of the given information the IT competences can be roughly divided into two groups: core (universal, key, soft) and specialized (professional). Core competences can be classified as follows: competence of social interaction, system-activity competence, competence of self-organization and self-management, value-semantic and political and legal competence, competence of independent cognitive activity. Professional competencies which constitute a kind of professional standards should be adopted in the classification, prescribed in draft standards for bachelor and master degrees in engineering and technology: organization and management; economic; scientific; professional; special competencies. Therefore, we can conclude that professional competence is an individual's complex of characteristics, which include knowledge, skills and abilities, experience, motivation and personal features. It is manifested in specific activities; willingness and ability of a person to use professional experience in handling the assigned tasks. The analysis of the information regarding the IT professionals' competencies showed that as a rule, the employer evaluates the candidate for the position in terms of the job functions, while the educational standards operate with the concept of competence. It seems expedient to provide an HR specialist recruiting IT personnel with an algorithm that allows to define a set of certain competencies necessary to perform job functions specified by the job description [8]. Figure 2 shows the competence model of an IT project manager with the reference to job functions. The given model is based on the information on competences described in the following sources: state standards for higher education ("Information technology", "Applied mathematics and Informatics", "Business-Informatics", "Applied Informatics", "Information system"); professional standards (Information & Computer Technologies Industry Association (APKIT) "Project Manager in the field of information technologies," e-CF "Project Manager", SOVNET "National requirements for the

competence of specialists", ISO 21500); employers' requirements (hh.ru, rabota.ru). To date, the Russian Federation has developed a negligible number of competence models for IT professionals. As a rule, in recruitment the following tools are used to assess professional competence: testing; problem solving; structured interviews; business simulation games. Testing allows to identify the psychological features. Structured interviews give an idea of the real experience and allow to assess the candidate's motivation. Business simulation games allow to test both, when conducting a simulation in a group, the team working potential can be identified and tested. The relevance of the simulation game has increased in the recent years, due to the fact that generations Y and Z, characterized by a strong engagement into digital technology and unwillingness to grow up, have reached the working age [9]. Let us consider some successful examples of using business simulation games when hiring employees [10]. The Marriott hotel chain uses a web-game called My Marriott Hotel, enabling the candidate to run their own virtual hotel restaurant and other operations. The described service is available at Facebook my Marriott Hotel. Citerius software company uses the competition on the virtual the Hackers' Night Crazy Snake Edition arena to select artificial intelligence specialists. Sberbank of Russia identifies promising University graduates at the Banks Battle student baking management competition [11]. Thus, the simulation game tool is the most promising, but it requires adaptation to IT competencies assessment with reference to the job functions.

Figure 2: IT project Manager competency model with reference to job functions



4. METHODOLOGY OF ASSESSING THE IT SPECIALISTS PROFESSIONAL COMPETENCE LEVEL THROUGH SIMULATION GAMES

The assessment of the IT specialists professional competence level implies close cooperation with the enterprises, interested in attracting a sustainable flow of personnel, and is based on the use of game techniques for the personnel recruitment and training. Equipping the students with core competences still remains the university objective. The purpose of the developed methodology is to determine the current level of competence and to build a sufficient competence level required in handling business tasks. The initial provisions of the methodology presented were developed by a team of authors: Z. Rodionova, E. Korotchenko, I. Heine [3, 12]. The information system, automating the methodology, was implemented and registered in ROSPATENT by Z. Rodionova, Yu. Samoilova, A. Chetverikova [8]. This information system sets the competence model of an IT specialist, as well as to keep records of simulation games, checking the availability of the candidate's required competencies. The methodological procedure of the IT specialist professional competence level assessment through the simulation game comprises seven successive stages. At the first stage called Diagnosis, the person's dispositions and talents are being determined. The work at this stage can be done in the classic format of psychological testing, and in the form of a simulation game aimed to identify the behavioural characteristics. The highest efficiency can be achieved through mixed diagnostics. The following second stage of the methodology is Approbation (testing). Within the second stage, skills and competencies are being tested through simulation games. A combination of techniques/methods - the examining the portfolio, case studies, testing, Live-Doing (Coding) solving a simple real-time puzzle with a shared screen - can be applied at this stage. It is imperative to understand that all the testing methods are to be in line with the competence profile for the job. At the Reflection stage the results are being analyzed, feedback is received and personal development and/or training plan is formulated. If the methodology is used by a recruitment agency or an HR manager in case of the negative result, the candidate does not undergo the next stages of the procedure. Following the personal plan received at the previous stage, the candidate/ future specialist in the field of information technology participates in a series of training events, targeted at the development of the competencies, works with specialists in the subject area, performs practical tasks. Immersion, the fifth stage of the procedure, is divided into several sub-stages. Some can be skipped depending on the purpose of the methodology application (improving the quality of education or recruitment): basic training for the selected jobs (familiarity with the company corporate culture, peculiarities of the development process and methodologies used in the company, software products); familiarity with the division manager and the staff; the final event in the company - finding a solution to a actual problem. At the sixth stage, Support, the candidate is provided with support and assistance in adaptation during the trial period, based on the results of the trial period, a self-development plan is formulated. As a rule, at the being-on-your-own stage the person is a full-fledged employee of the company, but they still can seek advice and undergo training, as well as participate in meetings to share their experiences. The presented methodology was tested at Novosibirsk State University of Economics and Management (NSUEM) and the ten Novosibirsk largest IT companies in 2014 - 2018. Within the piloting phase the training programmes and competence model for IT specialists, game scenarios, and tasks for the competitive selection to popular IT jobs (IT project manager; software engineer; QA engineer; it products sales manager) were developed. The developed programmes have the following structure: the identification of the required competencies as a result of a comprehensive analysis of the sources (Figure 1); the development of competencies model; the design of training programmes developing skills and competencies; the knowledge of the profession functional map, business games to gain work experience in a project team; conducting a series

of training workshops for candidates/future specialist in the field (Writing a resume", Job interview, Working with Scrum); development of the final tasks for the competitive selection. Within the piloting stage, gamification of the professional competencies testing, including simulation games is of particular interest. According to the one game scenario for the IT project manager programme the participants were to divide into project teams, plan a perfect bank robbery and persuade a prospect customer that the solution presented is the best on the market, guided by job descriptions and conditions of the task. In the process of the game, the participants went through the following stages. Planning is the stage when one of the participants demonstrates leadership and organizational skills, creates a project plan (all participants created a project plan in Microsoft Office Project management system), decomposes tasks and delegates the responsibilities to all the members of the project team. This stage helps identify the students who after their graduation are able to become project managers. The Development stage is the completion of the game task. It helps identify one or more participants who are able to find the most rational and simple solution and give it a rationale. The participants, possessing basic programming skills, can apply for the position of a programmer. Testing is checking the correctness of the solution. Project completion is the presentation and justification of the correctness of the decision, dealing with the objections. It helps identify one or more participants with the developed communication skills, able to make decisions quickly and to present the product most advantageously to the customer. It helps identify professionals who can become successful IT products sales managers. During the simulation game, the participants gained experience of working in project teams and obtained a clear idea of the product development process in IT companies. The game made it possible to identify the professional skills and competencies of each participant, since clear distribution of roles and responsibilities was its mandatory rule.

5. CONCLUSION

The presented methodology received positive feedback from all the participants of its testing. The game techniques allow one to create a favourable emotional background for the development of cognitive interest. The failure is perceived by the participant not as a personal defeat, but a defeat in the game and gives rise to the desire to correct the situation (rematch). Competitiveness - an integral part of the game - is quite attractive to young people. The positive effect of the methodology implementation is that young professionals can determine their level of skills and competencies, and develop them in a game, enjoying the learning process.

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MANAGEMENT AS THE BASIS FOR EDUCATION QUALITY AT UNIVERSITY IN TERMS OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT

The article gives some insights into management that assists university teaching staff in administering their integrated activities based on the ideas of sustainable development. Directions for such activities are proposed and basic definitions are given to clarify the article content.

Keywords: *Academic disciplines, development, education, global goals, integration, interests, instructor, management, student, sustainable, University*

1. INTRODUCTION

The need to build an integrated process in university which will meet the global goals revealing the ideas of sustainable development through the education quality management makes the chosen topic relevant. This conditionality is caused by external and internal reasons closely tied in with the management of the university and its transition to a third-generation university model. The external causes of this study relate to the practical needs of a post-industrial society to develop its major actor, an educated person and his or her “knowledge in action” capital. Society is interested in a higher stage of its evolution that is founded on knowledge-intensive and resource-saving technologies called high-tech and the use of greening socio-economic development. The tasks of accelerating the transition to an innovative path of development are to be solved in the context of increasing external and internal challenges that Russia faces and which require even greater efforts to resolve the problems accumulated in the Russian economy and innovation system. The key external challenge in terms of innovative development according to the general provisions of "Innovative Russia 2020" is accelerating technological progress of the world economy. This will allow a university to commercialize know-how as its third goal in addition to the goals of developing research and education when moving to a third-generation university. As a result of such development, a person should become a part of nature, an integral element of the "Man-Nature-Society" system [6,1,4]. The internal reasons include the inadequate elaboration of university education based on the ideas of sustainable development due to its novelty. This area can be integrated into the curriculum through implementing the seventeen world sustainable development goals when studying the content of academic disciplines. That will motivate students to open a technology company in future to meet the world goals through education and scientific research to be organized within the university. The educator’s integrated activity focused on adapting these ideas to the university management-based educational system will contribute to improving its quality and

accumulating experience for the transition to a third-generation university. With education being modernized, greater importance is increasingly attached to the verification of teaching forms, methods, and techniques, the formulation of alternative solutions, the desire for understanding, education monitoring and other managerial components that are necessary for an educational institution. However, the managerial activity at university is aimed at assessing the results of all participants involved in education or at analyzing them but without measures to improve and enhance the entire learning process, including through designing the future while solving global sustainable development (SD) challenges as a part of scientific and educational activities within the academic disciplines. In this regard, developing areas of integrated teacher activity based on the ideas of sustainable development grows in importance. That will help in improving science and education, teaching and learning at university using management to develop university programs with an emphasis in entrepreneurship. However, it should be preceded by examining some areas of this activity that can be aimed at adapting the ideas of sustainable development to the educational process through the study of university course content. The purpose of the article is to consider the integrated process potential at university while disseminating the ideas of sustainable development and the best educational practices for adapting them to the program content of the subject studied.

2. DISCUSSION AND RESULTS

The challenges set by the 2009 crisis add complexities to promising Russian sectors in terms of innovative development and increasing the share of high-tech production, which were among the most affected by the crisis. In such conditions, for Russia it means a growing outflow of competitive personnel, technologies, ideas, capital from the country, and other problems that arise not only in Russia, but are faced by humanity as a whole. These challenges dictate the need for the advanced growth in certain specific areas of research and technological development, including clean energy, genomic medicine, new technologies in agriculture, many of which have no significant groundwork in Russia [4]. In the modern world, universities are undergoing a fundamental transformation from the university model that originated in the post-Napoleonic period and was subordinated to the interests of science to the so-called “third generation university” model. This transformation is due to several factors:

- The first one is that leading universities interested in promoting advanced scientific research are forced to look for alternative sources of funding [6] and seize greater opportunities either to receive additional funding through grant activities or to cooperate with high ranking universities.
- The second factor is globalization which does not stop at the gates of the university and increases competition for the best students, instructors and the most attractive research contracts. It results in the growing gap between leading universities and the so-called "second tier" universities [6]. In such a competitive environment, the issues of education for sustainable development can play a primary role if the fundamentals of management are applied and the study of sustainable development ideas is integrated into to the study of all disciplines at the university.
- The third factor of a profound transformation is the development of the commercial component of universities due to the changed tertiary education policy of state in many countries of the world. Today, universities are viewed as incubators of new types of commercial activities related to science, advanced technologies and carried out on the basis of well-established companies, or old-timers [6]. Therefore, now it is already possible to propose some areas of such activities using management for sustainable development in the context of globalization.

- The fourth factor has a completely different nature and is associated with a change in the organization of science. Research in the era of second-generation universities was largely mono-disciplinary. Currently, most academics work in multidisciplinary teams focusing on specific areas of research. These changes also apply to modern university authorities which should create new positions to manage the processes of deriving benefits from know-how and adapt to effective performance given increasing scale and complexity of the tasks facing the university [6]. Addressing the issues related to changes in the organization forms of science, great importance is attached to the adaptation of the sustainable development ideas to the disciplines studied at a university. It is done to obtain an integrated process in which not only different aspects of one issue will be considered within an academic discipline, but different branches of science will be involved to focus on a specific area of study.
- The fifth driving force behind change was the reaction to the massive difference in student numbers that began in the 1960s and led to an increase in government expenditures and state control over the results of their use. In this regard, it became necessary to conduct experiments to overcome the situation through the development and implementation of specialized programs for strong students.
- The sixth driving force of change is precisely the return to science-oriented education, to the ideals of the Renaissance and Enlightenment, which was made possible by the development and implementation of programs tailored for strong students [6].

All this requires additional research on the possibility of using the content of the academic disciplines studied at university to improve the education quality at present and in the transition period to the third-generation university. However, now it is already possible to offer some areas of such activities with the use of management in the interests of:

- the formation of "green" consumption skills and sustainable lifestyle of the population;
- the promotion of a safety and health culture vital for the citizens of the 21st century global world;
- labor and vocational guidance of youth to their inclusion in the green economy of the country [1, 5].

A correct understanding of the specific ways to integrate the ideas of sustainable development through the solution of seventeen world goals based on the economic, social and environmental aspects of society and its ethnocultural background into academic discipline programs will contribute to the formation of the younger generation moral core, the objectification of their attitude to the present through the past experience and long-term prospects. Obviously, Russian education policy should be built to reflect its ecosystem functions and the tasks of sustainable development. The transition from "economic centrism" to "social centrism", from a linear model of economic development to a cyclic one involves changing direction of the education for sustainable development (ESD) basics in general education from eco-centrism to culture-centrism, from linear to systemic thinking, from determinism to probabilistic thinking, from "hard" design and organization to reengineering and redesigning the relationship of man with nature on the basis of "soft management" [1, 5]. Education for sustainable development (ESD) is not a separate subject, but the focus of all education. In promoting these ideas, the major role is played by the education in which the recent priority has been progress in the human community. Education for sustainable development pictures the design of future that begins today. The transition to reengineering and redesigning the relationship of man with nature on the basis of "soft management" is carried out through interaction that is organized both within the university and when organizing classes to study a specific discipline content, so this can already be attributed to management. Such a polysemic word as "management" implies too numerous interpretations.

Management deals with the joint human activity and not the operation of machines, therefore, to succeed in teaching within the framework of integrated education based on the ideas of sustainable development a university instructor needs to manage this process. Management provides some simple rules for leadership, and they will apply to the educator involved in the integrated activities. Being not universal, these rules give greater effect when applied to a given situation. Management is a complicated word, both for translation and use, however, all organizations need it. "Management serves as an entrepreneur that according to the great French economist J.B. Say directs thinking and resources to where they will produce the greatest results, the greatest contribution to the public good" (Drucker P.). In performing this function, management everywhere faces the same challenges of making the work productive, leading the employee to productivity and personal achievements, being responsible for the impact of the organization on the social and natural environment. But primarily, it is responsible for the institution performance that is vital to its operation either in commerce, education or healthcare [7]. Therefore, it is important to deal with management issues in any context, including integrated education based on the ideas of sustainable development. Management begins with the organization of interacting people who want to engage in productive management. The time and effort required to introduce new ideas and ways of training into the educational process largely depends on the willingness and ability of instructors to change their activities through mastering innovations and becoming an innovative educator. Therefore, the first step in the development of integrated education based on the ideas of sustainable development is motivation, the second is self-determination, the third is design, associated with the development of an activity program, the fourth is an analytical one, involving reflection on the integration that has already been implemented, and the fifth is the introduction of the results into the teacher's practice on the basis of management. Modernization of higher education cannot occur if instructors do not strive to improve their professional activities. The educator lacks an understanding of education management. A growing awareness of this fact fuels interest in management, that is, in managing the integration process and leadership. According to the psychological dictionary, integration means the creation of internal unity which is expressed in the collective identity and the group cohesion as its value-oriented unity, objectivity in assigning and accepting responsibility for success and failure in joint activities [2]. In pedagogy, this is both a process and the result of the interaction of various elements. Integration as a pedagogical principle can be considered in two aspects. Firstly, it is a state characterized by coherence, orderliness and stability of relations between various elements. Secondly, it implies the process that results in this state. In addition, integration is very important in pedagogy since it indicates the effectiveness of the entire education system and serves as a criterion for its integrity [2]. In modern pedagogy (V.I. Andreev, B.S. Gershunsky, etc.), integration is understood primarily as multidimensionality and unity of education, simultaneous and equilibrium functioning of its three elements: upbringing, education, creative development and self-development in their interconnection and interdependence [3]. From this point of view, integration suggests an evident focus on the transformation of cultural values into personal semantic attitudes of the subjects involved in the educational process. Integration in education is based on internal motivation, stimulation of self-development, subject-subject relations. It is an educator who can encourage students' ecological thinking based on the ecosystem cognitive model and consciousness derived from personal and joint experience of reflective, evaluative activities and environmental design with the emphasis on the values of sustainable development (SD). The teacher has always been and remains a central figure in education. Carrying out an integrated process based on adapting the ideas of sustainable development to their subject through learning management, educators will be able to combine different aspects of studying the same issue into one whole.

Particularly, they may review their discipline content within the conceptual framework of the education for sustainable development to teach their students identifying the connections of the global world, namely:

1. social, economic, environmental aspects in any activity (the formation of "three-dimensional" thinking);
2. past, present and future;
3. global, regional, local and personal;
4. citizenship, human rights and responsibilities;
5. needs (spiritual and material ...) and opportunities for their satisfaction;
6. cultural, social and biological diversity;
7. the quality of life, equality and social justice [1].

Thus, the results of theoretical and methodological analysis made it possible to outline the paths of an integrated educational process at a university. It is aimed at pedagogical activity that is based on the ideas of sustainable development, which provides a solid foundation for technological and activity approaches for implementing universal educational actions and competencies. The instructor's integrated activity driven by the management-based adaptation of these ideas to the educational system in the university will contribute to improving its education quality and the accumulation of experience when moving to a third-generation university if such activity is totally regulated by management rules.

3. CONCLUSION

It is axiomatic that information on sustainable development should occupy one of the leading places in the educational work of a university, school and preschool institutions. However, the ideas of sustainable development are generally included in the educational content only at the level of information and remain obscure even for educators. One of the reasons for this is the language of this new field of education that currently lacks pedagogical sophistication, which significantly slows down its practical implementation. The main task of the UN Decade on Education for Sustainable Development (ESD) aimed at adapting its ideas to the national education system has not been solved yet.

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TAX CRIMES AS THREAT TO ECONOMIC SECURITY OF THE STATE

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ABSTRACT

The article provides analysis of various approaches to the definition of economic security. The scientists view it as a set of conditions that protect the country's economy from external and internal threats; as the state of the country's economy that allows to protect its vital interests; and as the ability of economy to provide effective satisfaction of social needs at interethnic and international levels. The authors discuss the structure of the category and focus on the financial state of economic security and tax crimes that adversely affect its condition. A significant space is allotted to data interpretation based on the Financial Secrecy Index, which has been used by the British non-governmental organization Tax Justice Network since 2011. The index is calculated on the basis of 20 indicators and allows to compile the ranking of countries and territories that are the most closed in terms of tax cooperation and information disclosure. The highest positions in this ranking in 2018 were occupied by Switzerland, the USA, Cayman Islands, Hong Kong and Singapore. The Russian Federation took the 29th place among 112 countries in terms of illegal financial transactions, tax evasion and capital outflows. The article also provides data on the number of registered economic crimes in Russia, including tax crimes, in dynamics over the past five years. The reasons for the growth of tax crimes before 2017 and the reasons for the reduction of their number among other types of economic crimes in 2018 in the Russian Federation are examined. Moreover, the authors consider the most common ways of tax evasion and reasons why taxpayers practice it. The authors conclude that, according to various experts, as a result of tax evasion the state annually loses up to 30% of tax payments. The authors give some recommendations to reduce the level of tax crimes and, consequently, increase the level of economic security of the state. In conclusion, the authors emphasize the importance of detailed elaboration of issues connected with responsibility for tax crimes and the need to develop legal measures to prevent and combat them.

Keywords: *economic security, financial security, tax crimes*

1. INTRODUCTION

In current conditions of the tough foreign policy situation, the state has to face an extremely acute problem of ensuring economic security, which is affected by both external and internal threats. Their list is presented in the Strategy for Economic Security of Russia for the period until 2030. Among other threats a special attention should be paid to a significant share of shadow economy and imbalance of the Russian budget system. To overcome these threats and form relevant indicators of economic security, the state should, first of all, take into consideration domestic sources. Thus, a key factor in the increase of the economic security level in Russia can be the decrease in the number of tax crimes.

2. ECONOMIC SECURITY AND TAX CRIMES

The problem of economic security has been studied for a long period of time and different sources offer various views on this phenomenon. These views can be divided into several

groups depending on scientists' approach to understanding the term of economic security. The first group, presented by L.I. Abalkin, S.A. Afontsev, S.Yu. Glazyev, V.G. Medvedev, V.S. Pankov, M.A. Diamescu, V. Ioan-Franc, views economic security as a set of conditions that protect the country's economy from external and internal threats (Ioan-Franc, 2010, p. 129-159). S. A. Afontsev defines economic security as "resistance of the national economic system to endogenous and exogenous shocks of economic and political origin, manifested in its ability to neutralize potential sources of shocks and to minimize the damage associated with real shocks" (Afontsev, 2001, p. 60-66). The second group defines economic security as the state of the country's economy that allows to protect its vital interests. This view is shared by G.V. Gutman, A.A. Prokhovsky, V.K. Senchagov, A.S. Tatarkin and others. According to V.K. Senchagov, economic security is "such a state of economy and institutions of power in which it is possible to ensure guaranteed protection of national interests, social development of the country as a whole, sufficient defense potential even under the most unfavorable conditions for the development of internal and external processes" (Senchagov, 2007, p. 36-37). In V.A. Savin's opinion, economic security is the system of protection of Russia's vital interests. The objects of such protection can be national economy of the country, certain regions of the country, certain spheres and sectors of economy, legal entities and individuals as subjects of economic activity. From B.A. Reisberg's point of view, economic security is the state of security of vital interests of people, communities and state institutions from internal and external threats and dangers. The third group views economic security as the ability of economy to provide effective satisfaction of social needs at interethnic and international levels. It includes such authors as A.I. Arkhipov, A.E. Gorodetsky, A.N. Illarionov and others. Outside Russia, economic security is sometimes understood as increase of significance of national economy in external environment and increase of its impact on other countries' economies (Kober, 1995). The study of the role and place of economic security theory in the system of economic sciences was carried out by such foreign scientists as B. Fischhoff, S. Watson (Fischhoff, 1984, p. 123-139), W. Hudson, H. Willett, L. von Bertalanffy, F. Andrew and Jr. Krepinevich (Krepinevich, 2010), C. Murdoch (Murdoch, 1977, p. 67-98), W. Hager (Hager, 1980, p. 168-172) and others. Economic security can be viewed as a complex multilevel structure with its own elements. According to one of approaches, such elements are presented by information security, technical security, legal security, personnel security and financial security. This article is devoted to the study of financial security as an essential component of economic security of the state. The level of financial security of the state is largely connected with the functioning of its budget system, the key element of which is tax revenue (Anofrikov, 2018, p. 219-229). Currently, budget revenues at all levels of the budget system are declining due to the existing threat of the development of shadow economy in Russia, which is associated, inter alia, with tax evasion. The public danger of this process lies in the fact that it is an intentional failure to fulfill the constitutional obligation of each citizen to pay legitimately established tax payments and fees, which as a consequence, leads to shortfalls of financial contributions to the budget system of the Russian Federation. In addition, statistical distortion of economic processes as a result of tax crimes, unreliable analysis of the data and, thereby, incorrect planning, development of ineffective policy and wrong management decisions in various government bodies cause inefficient spending of already limited enough budget funds.

3. FINANCIAL SECURITY INDEX

It is important to understand that development of shadow economy and increase in tax evasion are possible, among other things, due to insufficient transparency and openness of financial statements by legal entities both to domestic users and to the interested foreign actors. Thus, the data presented in the ranking of countries by the level of the Financial Secrecy Index (FSI) show that more than half (64%) of the information related to taxpayers' activities in the Russian

Federation is of limited access. The Financial Secrecy Index has been calculated by the British non-governmental organization Tax Justice Network since 2011. Based on this index, the ranking of countries and territories that are the most closed in terms of tax cooperation and information disclosure is compiled. Index calculation is based on 20 indicators that are the key indicators of financial secrecy and can be divided into four groups: Ownership registration, Legal entity transparency, Integration of tax and financial regulation, International standards and cooperation. The group of indicators called Integration of tax and financial regulation, in its turn, is comprised of the following indicators: Tax administration capacity, Consistent personal income tax, Avoids promoting tax evasion, Tax court secrecy, Harmful structures and Public statistics. Each of the 20 key indicators is evaluated in percentage from 0 to 100. The Secrecy Score (SS) is the arithmetic mean of these indicators. Its maximum value is 0%, which is equivalent to 100% transparency. In addition to the above mentioned, there is a quantitative component in the FSI – the global scale weight (GSW). It assesses the size of each jurisdiction's share of the global market for financial services provided to non-residents. The more cross-border financial services are offered by a jurisdiction that is not completely transparent, the greater the potential threat is (Tax Justice Network, 2018). The following formula is used to calculate the FSI:

$$FSI = SS^3 \times \sqrt[3]{GSW}$$

In 2018, 112 countries were included in the ranking. The highest ranking positions were taken by such countries as Switzerland, which is known for its offshore and illegal financial transactions (Shuvalova, 2016, p. 39-42), the United States, as the country with the highest share in the world export of financial services, Cayman Islands, Hong Kong and Singapore. It is these countries that have become the first global intermediaries that contribute to illicit financial flows. In 2018, the Russian Federation took the 29th place in the ranking among 112 countries. The neighboring countries of the Russian Federation in the ranking are China (the 28th place) and Turkey (the 30th place). The detailed ranking data are given in table 1.

Table 1: Ranking of countries based on the FSI in 2018 (Tax Justice Network, 2018)

Country	Ranking Position	Financial Security Index	Secrecy Score	Global Scale Weight, %
Switzerland	1	1589,57	76	4,50
USA	2	1298,47	60	22,30
Cayman Islands	3	1267,68	72	3,79
Hong Kong	4	1243,68	71	4,17
China	28	372,58	60	0,51
Russia	29	361,16	64	0,26
Turkey	30	353,89	68	0,14

It should be noted that among all the indicators in the Integration of tax and financial regulation group, the Russian Federation received assessment of demonstrating 100% non-transparency for Tax court secrecy indicator and 80% for Avoids promoting tax evasion indicator. It is also worth paying attention to the fact that for another group of indicators – Legal entity transparency, the Russian Federation received assessment of demonstrating 100% non-transparency for all five indicators, including Corporate tax disclosure. Previously, the Financial Secrecy Index was calculated in 2015. At that time the Russian Federation was in the 30th place, surrounded by Canada and France, which in 2018 were ranked 21 and 25 correspondingly.

This testifies to the decrease in transparency of the financial systems of these countries. The dynamics of the indicators of the Russian Federation also points to the decrease in transparency as secrecy has increased. Meanwhile, the share of our country in the global export of financial services has decreased from 0.397% to 0.25%, which, as a result, allowed Russia to maintain its position in the ranking. In general, researchers noted progressive changes in legislation aimed at combating corruption and money laundering as well as tax evasion, but a rather high position in the ranking underlines the need for changes that would reduce threats to financial security.

4. TAX CRIMES IN CONTEMPORARY RUSSIA

Crimes committed in the budgeting process can be divided into tax crimes and non-tax crimes, and those committed in the process of budget execution – committed by officials or by other persons. According to the Office of the Prosecutor General of the Russian Federation, the share of tax crimes in the total number of economic crimes over the past five years ranges from 5.78% to 8.54%. The detailed information on the dynamics of economic crimes is presented in table 2.

*Table 2: Registered crimes of economic nature in Russia
 (Portal pravovoy statistiki [Legal statistics portal], 2019)*

Crimes	2014		2015		2016		2017		2018	
	Total	Dynamics, %	Total	Dynamics, %	Total	Dynamics, %	Total	Dynamics, %	Total	Dynamics, %
Economic crimes of all types	107314	-24,0	112445	4,3	108754	-3,3	105087	-3,4	109463	4,2
Tax crimes	6205	-10,0	9 041	45,6	9283	2,7	8654	-6,8	7630	-11,8
Share of tax crimes in economic crimes of all types, %	5,78		8,04		8,54		8,24		6,97	

As can be seen from the data presented in table 2, there was the increase in economic crimes of all types in 2015, with tax crimes demonstrating a particularly rapid jump. This process can be explained by the deterioration of the economic situation in the country in the indicated period due to political factors and introduction of economic sanctions against Russia. Entrepreneurs who were affected by this unfavorable situation started to actively evade taxes. Besides, in accordance with the amendments to the Criminal Code of the Russian Federation, which came into force in October 2014, the criminal case under article 198 of the Criminal Code could be initiated without the participation of tax authorities, which also contributed to the increase in the number of registered tax crimes. In 2018, we again observe the increase in economic crimes of all types, but this time the total number of tax crimes significantly fell. This occurred as a consequence of improved tax administration. Today, the use of information technology by regulatory authorities drastically reduces opportunities for tax evasion. Legislators are also considering additional measures to replenish the budget by strengthening tax control. One of these measures is administration of taxes on the income of self-employed citizens. The project was launched on January 1, 2019 in four territories of the Russian Federation: Moscow City, the Republic of Tatarstan, Moscow Region and Kaluga Region (Federal Law No. 422 dated November 27, 2018).

Self-employed citizens with annual income of less than 2.4 million rubles were suggested to pay taxes independently in the amount of 4% of the income (when selling goods or providing services to individuals) and 6% of the income (when selling goods or providing services to legal entities). The tax should be calculated by tax authorities on the basis of the data provided by the citizens involved in the project. In case of violations of the procedure or timing of data submission to tax authorities, the penalty of 20% of the computation is envisaged. In case of repeated violations within six months the penalty constitutes 100% of the computation (Nyankin, 2018). Still, currently the most common form of tax evasion is failure to submit tax returns and other documents listed in the legislation on taxes and fees within the deadlines that are set in tax regulatory acts. Another widely-spread form of tax evasion is intentional statement of deliberately incorrect information about taxable items, calculation of tax bases, tax benefits or deductions and any other information that is directly related to the calculation of tax payment. Most often, taxpayers act this way because of the high level of tax rates, which does not allow entrepreneurs to function efficiently if paying all taxes. As a result of such forms of tax evasion, according to various experts, the state annually loses up to 30% of tax payments. In this regard, from the economic point of view it would be efficient to optimize tax rates. To replenish the budget, the state should not increase the existing high tax rates, but rather make efforts to reduce the complexity of entrepreneurs' activities without tax evasion under the existing rates. It is essential to constantly improve the tax system to strengthen economic security of the state. It should be also noted that control and penalties should not be the only methods aimed at increase of tax collection. It is necessary to form tax culture among citizens through financial literacy of the population: taxpayers must be sure that the state spends tax revenues optimally through the implementation of budget transparency at all levels.

5. CONCLUSION

Tax crimes are among the most dangerous criminal acts as they pose threat to economic security of the state through its financial component, and, consequently, to the whole society, worsening, first of all, the financial situation of citizens who are on budget financing or receive social benefits from state extrabudgetary funds. Therefore, it is important to elaborate in detail the issues of responsibility for these crimes and develop effective measures to prevent and combat them. In addition, it seems to be a priority to continuously increase financial literacy of the population in order to prevent tax violations and strengthen economic security of the Russian Federation.

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HARMONIZATION OF THE EMPLOYEE'S CAREER BASED ON THE CONCEPT OF TIME MANAGEMENT

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ABSTRACT

Radical transformation of the sphere of work contributes to the fact that the employee competitiveness depends on the use of scarce time resources. The achievement of economic and social goals in the employee's life, their future, place in the complex hierarchy of human relations depends on the size and structure of time for the career. In Russian and foreign theoretical and practical works there is a high theoretical-methodological and methodological uncertainty of the career time concept. In this context, the need to identify the general nature of the temporary contribution of the employee to the processes of harmonization of the dual nature of a career increases. The objective of the article is to substantiate the strategic imperatives of the harmonization of the career dual nature on the basis of the concept of time management. Such harmonization of career creates conditions for the improvement of working life quality, formation of competitive advantage of the employee in the labour market. The research methodology is based on the theoretical analysis of the results of scientific works, which presents the main provisions on the career dual nature, the employee's work time and rest. The article analyses the empirical data characterizing the size and structure of the employees' career time at commercial banks in Novosibirsk during six years. The scientific novelty of the article lies in the formation of the author's conceptual approach to the harmonization of an employee's career: the author's interpretation of the career time concepts and career harmony, the interpretation of their socio-economic content, the essence of the architectonics of career time, also a system of indicators for assessing career harmony, justified methodological approach to career harmonization has been proposed and tested. The study theoretical provisions and conclusions allow us to understand the general nature and underlying causes, sources, driving forces of the processes of the organization, development and destruction of the career. The applied results allow us to identify areas and directions of the improvement of personnel policy at commercial banks targeted at the increasing of the employees' competitiveness, improving the quality of their life, boosting the image of the employer organization.

Keywords: *career harmony, harmonization of a career, a business career, the duality of career, employee's career, personality career, time management*

1. INTRODUCTION

Under contemporary conditions of VUCA economy, one of the cost effective and long term solutions to the problem of overcoming the staff alienation from the process and results of work, stimulating the sense of responsibility and professional pride in their competitiveness in the labour market, is implementation of a professional approach to a career that allows employees to be more productive, free and economically independent personalities. At present, in Russian and foreign works an employee's career is no longer defined as an informed subjective judgment of the employee about their future employment, but as an awareness of it as a common system development and human movement in various fields [Belyatsky, 2001, p.9], the process of

formation of an individual in social life, the progress in discovering their potential, carried out time-sequentially, stage by stage [Romanov, 2003, p. 66], the way of life, providing stability in the flow of social life [Buravcova, 2014, p.39; Sotnikova, 2014, p.143], etc. In other words, nowadays the career is regarded as a way of self-actualization of the employee, defining it in a complex hierarchy of human relationships and social roles in work, home, family, leisure. In this context, an employee's career is defined as an integrated formation of a business career [Zaitsev, 2007, p.15; Kibanov, 2015, p. 315] (or a career in working life, in the market system of division of labor) and personality career [Zaitsev, 2007, p.14; Sotnikova, 2014, p. 143] (or off-duty [Kozlova, 2010, p.31; Orel], derivative [Kozlova, 2010, p.31], household [Kibanov, 2015, p.14], supporting [kotomanova, 2013, p.102], "career in a personal life" [Sotnikova, 2014, p.143]). The interaction of business career and personality in the "work-family-leisure" system is associated with the desire of the employee to achieve, on the one hand, material well-being and competitiveness in the labour market; on the other hand, social welfare, spiritual well-being in the personal life. Both business and personality careers are important for the employee, which they wants to enjoy, control and manage to achieve personal goals. In ideal world, equality is needed between these careers: a person strives for harmony and prosperity in the present and future in both personal and work life. However, in real life, such equality is difficult to achieve. It is possible to develop a situation in which the business career does not correspond, but contradicts the personality one, as a result, hidden conflicts and imbalances appear, unpredictable situations and problems arise. In this regard, the focus of the research is to identify the imperatives of achieving the harmony in business and personality career, allowing to improve the quality of working life of the employee, increase their competitive advantage in the labour market. To achieve this objective, the following research tasks were solved: career time architectonics that allows us to understand its duality has been justified, a methodological approach to evaluating the harmony of a employee's career based on the concept of time management has been proposed and tested; strategic alternatives to the harmonization of careers based on individual employee choices of an occupation, education, life partner, friends, children, etc. have been systematized. The scientific novelty of the study is the development of theoretical and applied bases of achievement of harmony of business and personality careers based on the concept of time management in the conditions of informatization and digitalization of national economy. The subject of the study is the time for an individual career of an employee taking into account the prospects (strategy) of the organization's development. The object is commercial banks in the city of Novosibirsk in 2013-2018. The study was conducted on a random quota multistage sample, which was used as a micromodel of the survey object, formed on the basis of statistical data (quota parameters).

2. LITERATURE REVIEW

The reference to the concept of "harmony of the employee's career" is not limited to the terminological makeover of the existing concepts (work life balance [Clark, 2000, pp. 747-770; Greenhaus, 2003, pp. 510-531; Grzywacz, 2007, pp. 455-471], work and leisure (rest) [Demina, 2018, pp. 13-20], "satisfaction with their functioning at work and at home" [Baslevant, 2014, pp. 33-43; Smotrova, 2017, pp. 53-59], and suggests a methodological reorientation to its socio-economic value. This reorientation is in the fact that the harmony of the employee's career is such an interaction of opposite, mutually exclusive types of it, which allows the employee to receive personally significant benefits in various life and work situations. It is an expression of will, conscious personal activity of the employee, their vision of socio-economic value of business and personality career and to achieve social sustainability in work and personal (private) life through investments (direct and indirect) into the career. In other words, the achievement of career harmony involves not only "adjustment" (adaptation) of the needs and resources of the employee to the market (current and strategic) goals, but also the formation of

a full-fledged career, desirable, bringing satisfaction and joy to work and into personal (private) life. Considering that business and personality careers are carried out in time, measured in terms of days, weeks, months, years, etc., the harmony of career can be understood in the temporal dimension of achieving social (personal and labour) stability. In this context, the understanding of career harmony is associated with an objective assessment of the employee's temporary contribution to the management of their career. To date, there are debatable provisions, important from the theoretical and methodological points of view, related to the content and structure of time for the employee's career. The existing studies do not consider the concept of "career time", its content and structure.

3. TIME OF BUSINESS AND PERSONALITY CAREERS: THE CONCEPT, STRUCTURE

Career time should be understood as the time spent at the employee's discretion on the development and self-design of life activities, self-actualization of professional and personal potentials, as well as self-destruction of the career. From this point of view it is necessary, first of all, to allocate time of business career and time of personality career related to the development and use of physical and mental abilities of the worker respectively in working hours, out-of-work and free time (table 1). Time of business career is working (both fixed and overtime) and out-of-work time associated with the preservation or acquisition of some desired "personal success in terms of clearly defined positions, posts, statuses, roles, perceived as a result of achieving the demanded quality of working life" [Sotnikov, 2017, pp.86]. An employee, organizing and developing a business career, acts not only as a performer of a socially prescribed professional role, but also as an autonomous, creative, responsible person capable of self-regulation, self-determination and self-development [Sotnikova, 2019, pp. 1302-1315]. In this regard, it is necessary to distinguish the time of work career and professional career. The time of personality career is an out-of-work time connected with implementation by the person of productive (efficient) and service work in a household, and with satisfaction of physical, intellectual and social needs during free time. An employee, managing a personal career, achieves stability in the flow of personal (private) life through the formation, firstly, of a certain system of principles of socialization and self-realization associated with their life experience and activities in the household, i.e. mundane career; secondly, personal, physical, spiritual development in their free time, i.e. leisure career. Given the proliferation of artificial intelligence, virtualization of work processes, self-organization of labour, distribution of electronic documents, replacing the leadership types of controls by a calculated and reasoned solutions based on computer processing of information, BigData, etc., the boundaries of classification time for career groups does not have clearly defined contours, but rather the area of growth and enrichment of one group characteristics at the expense of the other groups. Ultimately, the range of types of business career and personality time is expanding. For example, as the market for digital solutions and digital management services expands, "the creative work of most modern employees extends beyond the normal working day and working week" [Demina, 2011, p. 30]. This is the performance of official functions by an employee during out of work time: completion of reports, urgent execution of tasks on weekends and holidays, discussion of work issues on the phone with colleagues, etc.

Table following on the next page

Table 1: The career time of an employee: types of time for the employee's business and personality career

Type of career	Kind of career	Sphere of career manifestation	Form of career manifestation	Kind of time for career	Economic content of career time	Examples of career time
Business career	Professional	Working life	Productive (efficient) work in the organizational structure	Working hours	Time of the professional abilities development	Time of study and professional development. Self-education time Time of volunteer (social) work
	Working				Time of spending of physical and mental forces	Fixed time. Overtime. Performance of official functions outside the workplace in the household: consultations on working issues by the phone with colleagues, revision of reports, consideration of projects, etc.
Personality career		Mundane	Personal (private) life	Out of work time	Time to meet physical, intellectual and social needs	Time to make household items. Time of work on a personal subsidiary farm
	Domestic service					Time for cooking, cleaning rooms and furniture, clothes and shoes, laundry, children, etc.
	Leisure	Leisure activities		Free time	Time of study and professional development. Self-education time Time of volunteer (social) work. Time of entertainment (including visits to cultural institutions, communication with family, friends, etc.). Time for physical education and sports. Time for hobby (amateur labour)	

Compiled by the authors

4. CAREER HARMONY: METHODOICAL APPROACH TO ITS ASSESSMENT (ON THE EXAMPLE OF BANK EMPLOYEES)¹

The achievement of a full-fledged career, desirable, bringing satisfaction and joy in work and in personal (private) life, ultimately depends on the use of scarce resources – time. The amount of time for business and personality careers are not arbitrary. In spite of the fact that each employee defines them according to the abilities, motives, quality of life, but in general they depend on needs and opportunities of society and the market, approach to the person, work and property.

¹ The main research methods are photography and self photography of work, out of work and free time, questionnaire survey. The object are 15 federal and regional banks in 2013-2018, operating in Novosibirsk. The study was conducted on a random quota multistage sample, which was used as a micromodel of the survey object, formed on the basis of statistical data (quota parameters). Fairly stable characteristics of respondents, according to which quotas were set were used as the main parameters of the sample population, namely: employment in the conditions of a certain organizational strategy, functional duties of the employee (back or front office), work experience in the banking sector (up to 1 year, 1-3, more than 3). Based on the theory of the question, the accuracy of the results of the quota sample can not be determined. According to scientific criteria, it is inferior to random sample, which is considered to be the benchmark. A follow up panel study was conducted: in 2013-2015; 2016-2018

In other words, business and personality careers have necessary market value. In terms of time management concept, career is presented as a fusion of different types of career into a unified whole, allowing a person to achieve the desired quality of life under the changing conditions inside and outside organization realities so that the time for working career decreases, and the time for personality career increases, but does so in such a way that the time for mundane career is reduced more than increased time for professional and leisure career. Since the harmony of the employee's career has a versatile nature, it is difficult to name a single indicator characterizing its measure. As its indicators, it is advisable to use indicators of balance, independence, proactivity and career success (table 2).

Table 2: Indicators of harmony of business and personality careers depending on the strategy of the banking organization (based on the results of the working day photographs), ratio

Indicators for assessing employee's career development	Banks with strategies					
	entrepreneurial		dynamic growth		profitability	
	Back office	Front office	Back office	Front office	Back office	Front office
The ratio of the employee's career balance $C_{individual} = \frac{T_{personality}}{T_{business}}$	0.50	0.68	0.55	0.86	0.53	0.95
Private business career independence ratio $I_{business} = \frac{T_{business}}{T_{business} + T_{personality}}$	0.67	0.59	0.64	0.54	0.65	0.51
Private personality career independence ratio $I_{personality} = \frac{T_{personality}}{T_{business} + T_{personality}}$	0.33	0.41	0.36	0.46	0.35	0.49
Integral individual's career independence ratio ($I = I_{business} \times I_{personality}$)	0.223	0.241	0.229	0.249	0.226	0.250
Career proactiveness ratio $P = \frac{T_{leisure} + T_{prof}}{T_{working} + T_{mundane}}$	0.22	0.21	0.29	0.19	0.25	0.22
Career success ratio $S = \frac{T_{personality}^{successful} + T_{business}^{successful}}{T_{personality} + T_{business}}$	0.67	0.41	0.43	0.56	0.71	0.87

Compiled by the authors

The obvious indicator characterizing the quantitative agreement between the time for business $T_{business}$ and personality $T_{personality}$ careers is the indicator of balance. Ideally, this figure should tend towards 1: ($C_{individual} \rightarrow 1$). This means that the employee pays equal attention to achieving both business career goals and personality career ones. This career situation (table 2) is more or less typical for front office workers in organizations with a strategy aimed at profitability ($C_{individual} = 0,95 \rightarrow 1$). Under other organizational development strategies, there is a situation when business career is in conflict with personality career ($C_{individual} < 1$), resulting in the hidden contradictions and disparities of career, problems and barriers to socialization and self-realization. In case of "business career is above all" ($C_{individual} < 1$) an employee considers business career as a key factor of social well-being and financial independence, sets strict restrictions in private life, consciously chooses the infringement of personality career,

primarily, leisure career, which is perceived by them as a lack of freedom and discomfort resulting from this dependence. As can be seen from Table 2, this is a typical career situation in banking organizations: ($0,5 \leq C_{individual} \leq 0,86$). To characterize the quantitative side of an employee's career harmony, a career independence ratio can be used, characterizing the involvement of an employee in a particular type of career relative to different periods of working life. The involvement of an employee in the business and personality career depends on the obvious existing options to achieve their personally significant benefits through either their professional development, positioning their influence, power, authority, status, competencies in the professional environment in a specific inside and outside organizational realities $I_{business}$, or meeting physical, intellectual and social needs during working hours and free time in organizational structures. $I_{personality}$. Under the law of equilibrium, to ensure career harmony, time resources must be equally invested into business and personality careers, i.e. ($I_{business} \geq 0,5$), ($I_{personality} \geq 0,5$) and ($I \rightarrow 0,25$). In principle, the career situation in terms of independence was favourable, allowing employees to solve the dual task of material and social well-being: ($0,223 \leq I \leq 0,25$). The relationship between business and personality career is much more complex and contradictory than the quantitative proportionality of time for a business career and time for a personality one. "Career allows a person to achieve recognition of his uniqueness, significance for other people, for society as a whole" [Karpov, 2012, p. 77]. In this regard, it is advisable to use the P proactivity ration as an indicator of career harmony, reflecting the degree of employee responsibility for personal development, competitiveness and quality of life. It is obvious that the reactive career is the most common type of career among bank employees, regardless of the organization strategy: ($0,19 < P < 0,29$) (Table 2). It is associated with an employee's preferential perception of their business career as the only existing way of socialization and self-realization. Business career, being the most significant, overshadows not only leisure, but also often mundane career. Consequently, there is a narrowing of the circle of communication, restriction of personal relationships and friendly contacts, lack of hobbies and entertainment, as well as an increased likelihood of forming a dysfunctional climate in the family, the inability to arrange a personal life and other social problems. The indicator of career success is an important subjective characteristic of career harmony. This ratio reflects the subjective assessment of satisfaction with the time spent on career achievements at work $T_{business}^{successful}$ and in life $T_{personality}^{successful}$. Front office employees at banks with a profitability strategy consider their career to be the most successful (table 2) ($S = 0,87$) and back office employees of banks with an entrepreneurial strategy ($S = 0,41$) think of their career as the least successful.

5. THE STRATEGY OF CAREER HARMONIZING: CONCEPT, TYPES

Career harmonization strategy is a long-term course of employee's impact on the amount and structure of time spent on career in order to achieve the desired quality of life in the changing conditions of modern reality. This is a set of premeditated principles of behaviour, covering 4Ps of career marketing complex: jobs (product), time investment (price), resources (place), brand (promotion). The following strategies can be applied: strategy of personal strategy balance, double employment, double career of the family, resource saving and career (business and/or personality) downshifting (Table 3).

Table following on the next page

Table 3: Strategies to achieve harmony between business and personality careers (% of respondents)

Time spent on a business career	Time spent on a personality career		
	low	average	high
high	Strategy of a personality career downshifting (23%)	Strategy of a double career of the family (10%)	Double employment strategy (9%)
average	Career resource saving strategy (7%)	Double employment strategy (11%)	Strategy of a double career of the family (12%)
low	Double employment strategy (6%)	Career resource saving strategy (5%)	Business career downshifting strategy (17%)

Compiled by the author

The strategy of double employment (typical for 15 % of the respondents) is based on the fact that business and personality careers are designed to mutually balance each other: the employee is forced to give their best both at work and in the household ("the employee is both the breadwinner, and the householder"). In this context, "an employee chooses from a certain number of more or less acceptable jobs and personal positions the one that allows him to obtain personally significant benefits in life and at work" [Sotnikova, 2014, pp.46-52]. The strategy of career resource saving (typical for 12% of the respondents) assumes that the employee, assessing the available resources (abilities, motives, time, money) and career opportunities (market system of division of labour, competition), seeks to achieve a certain prolonged personal benefit in their working or personal life depending on the stage of the life cycle. The strategy of a double career of the family (typical for 22% of the respondents) involves strengthening the autonomy of spouses and children, the importance of self-realization for each member and building on this basis complementary relationships in the social cultural environment of the family, facilitating self-development and certain personally significant benefits in various aspects of life to each family member, without losing family integrity. The strategy of career downshifting (typical for 40% of the respondents) assumes achievement of career harmony by means of voluntary abandonment of self-realization in different socially significant spheres of life. Thus, the theoretical significance of the study lies in the further development of the theory of duality of an employee's career on the basis of time management, namely: conceptual approach to career time architectonics, reflecting its duality, is formed; socio-economic essence and concepts of "an employee time for career", "career harmony" are defined; system of indicators to measure career harmony is proposed and approved; methodical approach to formation of harmony strategy within the concept of time management is justified. The theoretical provisions and conclusions of the study of career duality allow us to understand the general nature and underlying causes, sources, driving forces of the processes of its organization, development and destruction, alternatives to synchronization of the interests of labour market participants. The practical significance of the study is determined by the possibility of using the results of the study for the formation of personnel policy in organizations with a focus on increasing personnel competitiveness, improving the quality of life, boosting the employer's image. Applied aspects of the research are universal, i.e. they can be taken as a basis by any organization regardless of field of activities and territorial affiliation, organizational and legal form, etc.

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MANAGING DEVELOPMENT OF CREATIVE CITY SYSTEM: COWORKING

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ABSTRACT

The advancements in new technologies during the last decades and the change in the nature of work, which has become more dependent on knowledge and creativity, have reshaped the world of work and led to the decline of classical employment relation. Creative city system understood as the practice of working individually and independently but in the presence of others in a shared environment, became a solution in managing development of urban areas, when more and more people tend to work from remote locations. The aim of this paper is to present a concept of creative city system, to examine the current state of coworking spaces, and to discuss the role of managing its further development.

Keywords: *city development, coworking, creative city, knowledge economy*

1. INTRODUCTION

Global economy is facing the tendency toward outsourcing and subcontracting, associated with distributed data processing, favoring the growth of micro-enterprises, self-employment and freelance knowledge workers. Being an urban phenomenon, coworking spaces - a new type of collaboratively oriented workplace - have emerged and have been developed mainly in cities. Coworking results from a global process of blurring of the lines between old, well-defined categories, practices and concepts in the economic, social, and technological realms and typically refers to the new alternative workspace of the "freelance economy" (Fuzi, 2015). Coworking spaces constitute flexible shared office spaces for creative professionals "working alone together" (Spinuzzi, 2012). Therefore, they can be described as a new form of urban social infrastructure enabling contacts and collaborations between people (Merkel, 2019). According to Moriset, coworking spaces can be seen as "third places" next to home and work (Moriset, 2014). These spaces and the associated practice of coworking encourage collaboration, creativity, idea sharing, networking, socializing and generating new business opportunities for small firms, start-up companies and freelancers embedded in a creative city system. The paper is organized as follows. Section 2 presents a concept of creative city system that emerged from knowledge-based economy. Section 3 analyzes coworking phenomenon and describes its functioning. Section 4 addresses management of further development of coworking within creative city system. Finally, Section 5 presents our conclusions.

2. CREATIVITY IN THE KNOWLEDGE-BASED ECONOMY

Creativity became increasingly important in the globalized knowledge-based economy, with research suggesting that creativity by individuals, and particularly teams, is the starting point for innovation (Clifton, Crick, Fuzi, 2016). Florida in 2002 claimed the "rise of the creative class", whom he forecasted to be the driver of economic growth in the early 2000s (Florida, 2002). Not surprisingly then, since the beginning of the 21st century, creative individuals and

innovative industries became key drivers of sustainable economic growth and prosperity, as well as culture and creativity have been considered as key economic resources in urban development (Merkel, 2015). Hence the training, attraction, and retention of creative people and industries have become a key issue for policy makers and planners. The creative city is now seen as a place where creative industries are concentrated and supported. The academic concept of creative city represents a shift towards the production of culture and creative products, and the presence of skilled labour driving the new knowledge-based economy. This transition is linked first to the emergence of the term “creative industries” and secondly to the development of the previously mentioned “creative class” theory (Florida, 2002). The core principle of the creative city became the maximization of opportunities for face-to-face meetings, which make possible the exchange of tacit knowledge. These trust-based relationships lower the transaction costs related to the search, validation and transfer of information and new knowledge (Moriset, 2014). The shift to knowledge-based economy with its emphasis on creativity and innovation has caused significant changes on individual and organizational levels. On an organizational level, the rise of new organizational forms can be observed, that respond to the new reality of knowledge-based economy by favouring collaboration over competition, in open networks of individuals, small firms, and big corporations. On individual level, work is becoming multi-layered and the space and time frontiers between private and professional life become indistinct. Self-employed individuals are pursuing the goal of achieving work-life balance between formal commitments and private life. They are attempting to work in flexible ways and avoid working in isolation. These individuals are looking for workplaces that are used by other creative self-employed people, as they understand and appreciate the value of forming social networks and the advantages that derives from collaboration (Davies, Tollervey, 2013). One of the aspects which characterizes the creative city, is the emergence of specific structures that regulate and inform the environment. These can be identified with the development of organic and institutional networks that provide support for creative practitioners, even if this may be only moral and psychological. Creative industries tend to rely on different types of network. Specific formal organizations form one level of networks, which are considered useful but sometimes impersonal and too structured; they are more like professional development organizations than actual networks. Coworking practices efficiently respond to the necessities of the contemporary creative city worker: a knowledge worker, for whom, networking is central. Coworking is not only an “open source approach to work” (Lange, 2011), but also a manifestation of a broader transformation in the employment and organizational regimes in the knowledge-based economy, based on the socialisation of value production as well (Gandini, 2015). Coworking spaces encourage collaboration, foster the exchange of knowledge, increase productivity and favor creativity (Stumpf, 2013). Knowledge sharing is one of the greatest benefits for coworking members (Parrino, 2013), who can access other professionals involved in related or complementary work, thereby lowering barriers to trying out new ideas, and reducing transaction and information costs. This makes coworking spaces hubs of knowledge dissemination, providing situations of knowledge exchange along with professional project contexts what is a crucial way to provide the diversification and collaboration required for innovation (Grabher, 2004). Nonstandard forms of employment have become a commonplace within a highly individualized labour market in which urban professionals work as a casualised, project-based and freelance workforce (Cappelli, Keller, 2013; Osnowitz, 2010). This raises the question of the extent to which knowledge workers are encouraged in finding new ways to live a nomadic work life in such a fragmented professional context. Researching one of the most interesting phenomena that recently emerged we traced the process of diffusion of coworking spaces within creative city system.

3. CREATIVE CITY SYSTEM: COWORKING

The coworking phenomenon has spread all over the world, becoming a “third way” of working, halfway between a “standard” worklife within a traditional workplace in a community-like environment, and an independent worklife as a freelancer, where the worker is based at home in isolation. The primary rationale of coworking is not, in principle, business-oriented, but on the contrary, coworking practices can be characterized as an “open source community approach” to work (Leforestier, 2009). Many of the community founders were advocates of the open source movement, a rebellion among programmers against big corporations that constrained the flow of information, innovation and learning, relying instead on intellectual property rights to make profits (Rus, Orel, 2015). The ethos of open source movement and values of collaboration, openness, community, sustainability and accessibility were transplanted into the coworking movement. Currently, various professionals, predominantly independent ones such as freelancers or remote workers, join coworking spaces (Pohler, 2012). As a freelancer or a mobile worker, you can either rent your own office, what is quite expensive, or you can work at home – with the various distractions and disadvantages that implies. Another option might be to use local coffee shop or library. Although often convenient these locations will inevitably reveal drawbacks of their own (Clifton, Crick, Fuzi, 2016). Coworking spaces were intended to become “third places”, an alternative to working in a classic office or in private home, a solution for growing ranks of independent creative workers who were escaping isolation of their homes by working and meeting in cafés (Rus, Orel, 2015). New employment trends and progress in mobile technology have tended to encourage more work from remote locations. On the one hand, more people can work anywhere – telecommuting, collaborating electronically, running their own businesses with laptops and mobile phones. On the other hand, their freedom to work anywhere often means isolation, sharply restricted opportunities for collaboration and networking, and problems with separating work and home lives. Coworking solves one of the central tensions of the working at home versus working in an office dichotomy, as Neuberg sums up: “Traditionally, society forces us to choose between working at home for ourselves or working at an office for a company. If we work at a traditional nine-to-five company job, we get community and structure, but lose freedom and the ability to control our own lives. If we work for ourselves at home, we gain independence but suffer loneliness and bad habits from not being surrounded by a work community” (Jones, Sundsted, Bacigalupo, 2009). Therefore, coworking spaces enable their members to maximize their productivity by “combining the best elements of a coffee shop (social, energetic, creative) and the best elements of a workspace (productive, functional)” (Botsman, Rogers, 2011). These new forms of workplaces host ambitious, successful, intellectual people with common interests in an environment that provides a level of comfort and services that each member could not afford separately. Coworking spaces are also collaborative as value is created collectively by their users and where people “meet, interact, experiment, ideate and prototype new solutions” (Bason, 2010). Coworkers may define themselves as part of the global coworking community and of their specific workspace group. In reference to the social identity approach, members of a group tend to support the other members of this group (Gerdenitsch, Scheel, Andorfer, Korunka, 2016). The emergence of coworking spaces is admittedly connected with the digitization of the economy, as new information and communication technologies has tremendously changed the way and the geography of doing knowledge-based jobs. A growing number of remote workers and employees work from home in mobile, project-based, freelance and self-employed jobs, working on notebook computers and tablets with a near ubiquitous access to information and data carried by wireless and mobile telecommunications (Moriset, 2014; Spinuzzi, 2012). Development of information and communications technology have tended to encourage more work from remote locations such as independent contracting, nomadic work, distance work and telework (Clifton, Crick, Fuzi, 2016).

People are no longer bound to a single desk to operate the technology: they can create, analyze and transform data from their own homes or other remote “third place” locations. Key to this evolution of creative city system is the continued growth of coworking understood as a knowledge working, both as a percentage of the economy and of the labour force (Fuji, 2015).

4. MANAGING FURTHER DEVELOPMENT OF COWORKING

Coworking spaces began popping up around the world and their number increased rapidly. In 2013 over 3000 coworking spaces existed worldwide gathering more than 100.000 users (The History Of Coworking In A Timeline). Two years later, in 2015 there were over 7800 coworking spaces running around the world and this number is expected to rise to 12000 in 2018 (King, Ockels, 2011). Moreover, about 60% of coworking spaces needed to acquire additional space for their expansion. King and Ockels predicted that the number of individual professionals who are using coworking spaces as their daily work environment will reach one million worldwide by the year 2018 (Rus, Orel, 2015). It is not surprising, that coworking initiatives have spread across the world, because global workforce is marching towards mobility. According to global mobile workforce reports and forecasts, world’s mobile worker population reached the number 1.32 billion in 2014, accounting for 37.4% of the global workforce. The number of mobile workers on the planet is set to increase to 1.75 billion in 2020, accounting for 42.0% of the global workforce (Crook, Jaffe, Boggs, Drake, 2011; Luk, 2015). The rising number of mobile workers, freelancers, and micro businesses implies the need of spaces of work that facilitate formal productive activity alongside informal social interactions. Coworking is spreading around the world at an impressive pace. The global number of coworking spaces operating in 2005-2016 has increased rapidly over time in an exponential manner. In 2007, the global number of coworking spaces was less than 100, while in 2012 it exceeded 2000, and in 2016 the number reached the level of 11,300. Coworking cooperation takes place mainly in creative cities, such as London, Paris, Berlin, Tokyo, Sydney and New York. In these cities, there are dozens of coworking spaces. As for the countries, the leader in the number of coworking is the United States, in which this phenomenon was first born. Among the countries with the biggest number of coworking spaces in 2013, Poland is also located within first 15 countries (Moriset, 2014). According to the global report of Global Coworking Survey 2017, 41% of all coworking users are freelancers, 36% are remote employees, 16% are self-employed entrepreneurs, and 7% of users are people who do not work professionally (e.g. students) (Global Coworking Survey 2017). When it comes to the professional structure of co-working space users, people from the IT industry (programmers, software engineers, web developers) constitute the largest group (22%). Another large group are people working in PR, marketing, advertising and sales (14%). The third largest group are journalists, copywriters and writers (9%). The share of consulting employees is definitely smaller (6%), similarly to the group of people developing their own business (6%). The group of designers (games, graphics, products) ranks at a similar level (5%), as well as a group of scientists, researchers and analysts (5%). Other groups (in total 33%) include the following professions: project managers, personal trainers, coaches, translators, accountants, filmmakers, photographers, musicians and others.

5. CONSLUSION

Coworking spaces are places for individual and independent work performed in the presence of other people in the shared space. The development of coworking, possible due to advances in the field of new technologies, is also associated with the dynamic development of outsourcing and an increase in the number of people working remotely. Coworking is not only an “open approach to work”, but also a manifestation of a broader transformation in the way of organization and management of work in a knowledge-based economy, in which the production

of added value is associated with cultural diffusion and a sense of community. It can be clearly seen that the attractiveness of coworking spaces and the associated coworking concept support cooperation, stimulate the exchange of knowledge, increase productivity and encourage the development of creative city system. Diffusion of innovation in the knowledge-based economy and the change both in the nature of work and urban areas indicate the direction of managing development of creative city system, that should answer to the structural changes in the labour market, where more and more people tend to work from remote locations including coworking spaces.

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EUROPEAN DEPOSIT INSURANCE SYSTEMS IN THE TIME OF CRISIS

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ABSTRACT

Deposit insurance system was primarily created to protect depositors and their deposits. It creates depositors' confidence in the banking system, thus preventing depositor panic and bank run of bank deposits especially in the time of crisis. Since most depositors do not possess adequate knowledge and professional experience, which is necessary to assess bank risks, the operation of deposit insurance system is justified in order to create trust in the banking system. It is believed that the depositor's trust in the banking system and the deposit insurance system ultimately contribute to the maintenance of banking stability. Despite these significant positive effects of deposit insurance system there are also some negative aspects that have to be taken into account effects on bank stability. They refer to risky bank operations, reduced market discipline, moral hazard, negative selection and the principal-agent problem. Financial crisis in Europe started in 2008, points on the risk operations of banks in certain eurozone countries, which is often associated with high level protection of the deposit insurance system. To prevent depositor panic and further systemic banking crisis, in this period, national deposit insurance systems became more generous by introducing additional forms of protection (paybox plus protection, foreign currency deposits insurance, interbank deposits insurance and government support in raising funds regardless of the management of the system), increasing the amount of protection and leaving co-insurance. Therefore, the aim of this paper is to discuss about changes in the implementation of the deposit insurance systems in European Union (EU) countries and selected Southeastern (SE) European countries in the time of financial crisis as well as changes resulting from the requirements of the banking union.

Keywords: *deposit insurance system, bank stability, financial crisis, EU countries, Southeastern European countries*

1. INTRODUCTION

Deposit insurance system is a measure of protection depositors and banking system and its importance comes from the fact that depositors' trust in the banking system is important for achieving banking stability. Because most depositors do not have sufficient experience and knowledge to assess bank risk, the operation of deposit insurance system is important to create confidence in the banking system. According to Kundid (2013, p. 39) deposit insurance system is part of a "safety net" as well the lender of last resort and the regulation and supervision of banks. Historically, the first formal deposit insurance system in the world was established in 1829 in the State of New York. Because it was not established at national level, the first national deposit insurance system is considered to be the system established in 1924 in former Czechoslovakia.

However, most authors point out US deposit insurance system, established in 1930 as the first national system in the world. Federal Deposit Insurance Corporation was founded to restore depositors' confidence in the US banking system and to protect payment system due to the negative effects of the Great Depression (1929-1933). Since then, deposit insurance systems have become the standard form of depositors and banking protection, especially in times of financial crisis when they prevent depositors' panic, bank run and systemic bank failures. It is important to prevent that because in case of bank run, which results in a withdrawal of liquid monetary assets and deposits, banking liquidity will be threatened as well (Pečarić, Visković, 2013, p. 19). Despite the positive effects of deposit insurance for banking system, there are also some negative effects on bank stability. It is considered that existence of a deposit insurance system encourages banks to risk operations. The negative consequences of the deposit insurance system, Garcia (1996, p. 20) points out as three pitfalls of the deposit insurance system: 1) moral hazard, 2) adverse selection, 3) agency problem or principal-agent problem. Moral hazard occurs on, both the depositors' and on the banks side. It arises from a combination of the lack of depositors' incentives to constantly monitor the operation of banks or the riskiness of their operations as banks take on riskier projects driven by the security provided by deposit insurance system. Adverse selection arises between small and large banks where deposit insurance premiums are not differentiated with regard to the risk of a particular bank. If smaller banks are riskier in their business, deposit insurance system is necessary for them. Since large banks pay the same premium as small banks, on that way, large banks subsidize smaller and riskier banks, which can be justified by the fact that large banks also benefit from greater stability of the banking system (Garcia, 1999, p. 7). The principal-agent problem refers to the situation in which the agent or employee represents his interests, not the interests of the principal or employer. Based on the above "this problem can be multiple due to the greater number of stakeholders involved in the deposit insurance system, such as depositors, banks and regulators" (Faulend, 2002, p. 25). Despite negative consequence of the deposit insurance system, its effect on bank stability depends of deposit insurance system features/characteristics. Forming the deposit insurance system or its features should be determined in accordance with national legislation and regulatory framework as well as the development of the banking system. The features of the deposit insurance system are divided into basic and additional.

Table 1: Features of deposit insurance system (Suljić Nikolaj, Olgic Draženović, Drezgić, 2019, p. 70)

Basic	Additional
the manner of establishing the system (explicit/implicit)	<i>paybox plus</i> form of protection
the manner of participate within the system (compulsory/voluntary)	coverage of deposits in foreign currency
the manner of managing the system (privat/state/mix)	coverage of interbank deposits
the manner of collecting the funds (ex-ante/ex-post)	<i>backstop</i> protection
the deposit insurance premium (equal for all institutions/ aligned with the institution's risk – »fair premium«)	
the existence of co-insurance	
amount or limit of insured deposits (protection)	

In the next chapter, follows an explanation of deposit insurance characteristics through the review of scientific research.

2. LITERATURE REVIEW

According to Talley and Mas (1990, p. 14) an explicit deposit insurance system implies the existence of rules and procedures in managing deposit protection, i.e. a legal obligation to protect depositors up to the secured limit, while the insurer may have an arbitrary right to protect uninsured depositors. Under the implicit deposit insurance system, there is no legal obligation in managing deposit protection, so depositor protection is an arbitrary decision by the state. Although explicit deposit insurance systems are more represented in the world than implicit ones, most scientific researches (Cull, Senbet, Sorge, 2002; Demirgüç-Kunt, Detragiache, 2002; Laeven, 2002; McCoy, 2007; Davis, Obasi, 2009; Khan, Dewan, 2011, Lé, 2013; Ngalawa, 2016) prove they negative effects such as banking system instability and/or crises and increasing banks' moral hazard. Participation of banks or all credit institutions within the deposit insurance system may be compulsory or voluntary (Bernet, Walter, 2009, p. 30). According to Wheelock, Kumbhaker (1995), Garcia (2000) and Blair, Carns, Kushmeider (2006) voluntary membership, creates negative selection and increases moral hazard. The management of a deposit insurance system, is divided into: private, state or mixed management. Most scientific researches indicate the advantage of private deposit insurance systems over state systems. Accordingly, Demirgüç-Kunt, Kane, Laeven (2007) argue that private actors are more objective in supervising than civil servants, and that through banks they are more proficient in selecting information needed to manage the system. Garcia (1996, 1999), Demirgüç-Kunt, Detragiache (2002) point out the connection between the private deposit insurance system and a higher level of government development. Respectively, Calomiris (1990), Demirgüç-Kunt, Detragiache (2002), Laeven (2002) and Brandao-Marques, Correa, Sapriza (2013) found that the state deposit insurance system creates moral hazard and has an adverse effect on bank stability. In contrast, Diamond, Dybvig (1983) and Pennacchi (2006) consider that the state deposit insurance systems are more efficient than private, because private systems have limited fund's assets, especially in times of crisis. Fund of deposit insurance system which is required for payments if a bank breaks down, may be established in advance - ex-ante fund or ex-post fund - during bank disruptions. Some countries have so-called mixed fund due to the presence of both ex-ante and ex-post funds, but according the classification of the World Bank, mixed fund is also ex-ante because of its dominance. (Demirgüç-Kunt, Kane, Laeven, 2014, p. 4). The disadvantage of the ex-ante system is that becomes an expensive way of financing (because banks continually pay premiums) unless there is a high degree of transparency and analytical control of the amount of funds raised in the fund. The ex-post system does not become too expensive for the members because the fund is formed at the moment of problems in the banking system, but on the other hand, precisely because the funds accumulate at the time of need for payment, the end result may be the problem of late payment. The lack of ex-post systems also includes pro-cyclicality, which means that commitments made in bad economic situations can lead to a domino effect of bank failure (HUB, 2007). Most scientific researches point to the advantage of differentiated, i.e. fair premium, because it reduces risk taking (especially adverse selection) by secured credit institutions (Merton, 1977; Kareken, Wallace, 1978; Sharp, 1978; Flannery, 1982; Faulend, Kraft, 2004; Galac, 2004; Acharya, Santos, Yorulmazer, 2010; Markovinović, 2011...). Also, it encourages credit institutions to operate more conservatively, thereby reducing the cost of deposit insurance, which also contributes to the stability of banking system. Contrary the last, Pennacchi (2006) found that, in times of crisis, fair premiums lead to longer instability. Chiang, Wu, Yu (2007) have found that a voluntary deposit insurance system can provide social welfare if the premiums are low enough to encourage all banks to join the system and vice versa. The authors also point out that risk premiums can mitigate but not completely eliminate the problem of moral hazard and that the mandatory deposit insurance system contributes more to social well-being. Ho, Lai, Lee (2011) concluded from the Taiwanese experience of the deposit insurance system that a fixed premium

rate (non-differentiated by risk) was inefficient. In order for the deposit insurance system to reduce the possibility of moral hazard, the system may include co-insurance, which implies that part of the deposit amount is unsecured in order to encourage depositors to monitor the banks' operations. The amount of insured deposits is one of the main features in the formation of an adequate deposit insurance system. The most commonly suggested conclusion is that the amount to which deposits are secured should be sufficient to prevent the destabilizing effect of withdrawing deposits from banks (bank run), but not so high as to eliminate the effectiveness of market discipline in monitoring risk-taking banks (Blair, Carns, Kushmeider, 2006, p. 9). Paybox¹ plus as an additional feature of deposit insurance presents a payout function guarantees payment to depositors in the event of a bank failure. The state can decide whether to attach to this basic protection model (paybox) the function of a bank supervisor or macroprudential regulator, which is a paybox plus form of protection that includes a higher level of protection for depositors (Suljić Nikolaj, 2018, p. 22). The coverage of foreign currency deposits depends on the use (representation) of foreign currencies in a particular country, that is, the specific of each country. If there is a large proportion of foreign currency denominated deposits in total deposits then it is important to incorporate this form of protection within the deposit insurance system, but foreign currency risk protection is required. The coverage of interbank deposits is much less represented than the coverage of deposits of natural persons, therefore it represents an additional function of the deposit insurance system. Although the deposit insurance system does not primarily need to be state-owned, if the system lacks funds, the state can guarantee it. For some systems, this works on the basis of previously approved credit lines by the ministry, and for other one it is a way of issuing bonds or taking out government-guaranteed loans. According Prohaska, Suljić, Olgic Draženović (2015, p. 45) the form of such support to the deposit insurance scheme is guaranteed by the government, not the central bank. These characteristics of a "generous" deposit insurance system are understandable measures of protection in times of crisis, but they are an additional incentive to create moral hazard (Cull, Senbet, Sorge, 2005; Önder, Özyildirim, 2008; Anginer, Demirgüç-Kunt, Zhu, 2014).

3. FEATURES OF DEPOSIT INSURANCE SYSTEMS IN EUROPEAN UNION COUNTRIES AND SOUTHEAST EUROPEAN COUNTRIES

3.1. Deposit insurance in EU countries

The operation of the deposit insurance systems in the EU States (also known as deposit guarantee schemes) is based on the Directive of the European Parliament and of the Council of the European Union (Directive 94/19/EC)². According to that basic Directive a minimum amount of protection was EUR 20 000 with the possibility of unlimited protection for EU members. Although, the amount of protection of the members were not harmonized and the maximum payout period in the event of a bank breakdown was 3 months. With the onset of the crisis in 2008, governments of the European countries had to introduce additional measures that include liquidity injection and fiscal incentives to restore confidence in the banking system. This indicates an inefficacy of the existing deposit insurance systems and of Directive (94/19/EC) which presented the basis of the minimum harmonization of the EU members' deposit insurance systems, since each member had enough freedom to adjust the Directive to the features of their own banking and financial system. Therefore, it was necessary to create additional forms of banking system protection implemented by Directive 2009/14 / EC (Ayadi, Lastra, 2010, p. 211). In response to the financial crisis, Directive from march 2009 has been increased amount of protection from EUR 20 000 to EUR 50 000 until June 2010 and it was

¹ All explicit deposit insurance systems contain the so-called paybox or payback option which guarantees the payment to depositors in the event of a bank failure. Countries may decide whether to add a bank supervisor or macro-prudential regulator function to this basic security model known as the paybox plus model which evidently offers a stronger form of protection.

² It was supplemented and amended by Directives 2000/12/EC, 2004/39/EC, 2005/60/EC, 2009/14/EC, 2013/36/EU and 2014/49/EU.

determined that the amount of protection in the EU countries will be EUR 100 000 until the end of 2010, while Austria, Denmark, Ireland, Germany, Hungary, Slovenia and Slovakia had unlimited amount of protection in the period from 2008 to 2013 (table 3). By the end of 2010, protection amounts became universal and the differences in the specifics of individual EU deposit insurance systems were in the process of being harmonized with the Directive (2014/49/EU) aiming to preserve EU banking stability. Except for the increase of protection amounts, in time of crisis, deposit insurance systems in EU become “generous” because of leaving co-insurance and introduction of additional forms of protection (paybox plus, foreign currency and interbank deposits, backstop) (table 4). That represents understandable measures in times of crisis in order to prevent depositors' panic and protect the banking system but also promotes moral hazard.

Table 2: Basic and additional features of deposit insurance systems in EU countries, in period 2008-2014 (Suljić Nikolaj, 2018, p. 29,38)

EU states	BASIC										ADDITIONAL			
	Participation		Fund			Management			Co-insurance (2003-2008)	Fer premium	Paybox	Foreign currency	Interbank	Backstop
	Banks	All credit institutions	Ex-ante	Ex-post	Mix	Privat	State	Mix						
Austria	X			X		X						X		X
Belgium		X	X					X			X	X		X
Bulgaria	X		X					X			X		X	X
Croatia		X	X				X				X	X		X
Cyprus		X			X			X	X		X	X		X
Czech Rep.		X	X					X	X			X		X
Denmark		X			X			X				X		X
Estonia		X	X					X				X		X
Finland	X		X			X				X		X		
France		X			X			X		X	X	X		
Germany		X	X					X	X		X	X		
Greece	X				X			X		X		X		
Hungary		X	X					X	X	X		X		X
Ireland		X	X				X		X			X		X
Italy	X			X		X				X	X	X		
Latvia	X		X				X				X	X		X
Lithuania		X	X				X		X		X	X		
Luxembourg		X			X	X			X		X	X		
Malta	X				X		X		X			X		X
Netherlands		X		X			X					X		
Poland		X			X		X		X		X	X		
Portugal	X		X				X			X	X	X		X
Romania	X		X					X		X	X	X		X
Slovakia	X		X					X	X			X		X
Slovenia	X			X		X						X		X
Spain		X	X			X					X	X		
Sweeden	X		X				X					X		
United kingdom		X		X			X		X		X	X		X

Table following on the next page

Table 3: Limit of deposit insurance systems in EU countries, in period 2007- 2014 (Suljić Nikolaj, 2018, p. 33)

EU states	2007	11/2008	12/2008	2009	2010	2011	2012	2013	2014
Austria	20 000 €	20 000 €	no limit	no limit	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Belgium	20 000 €	20 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Bulgaria	20 446 €	na	40 000 BGN (20 452 €)	100 000 BGN (51 129 €)	196 000 BGN (100 213 €)	196 000 BGN (100 213 €)	196 000 BGN (100 213 €)	196 000 BGN (100 213 €)	196 000 BGN (100 213 €)
Croatia	100 000 HRK (13 652 €)	400 000 HRK (55 376 €)	400 000 HRK (55 376 €)	400 000 HRK (54 500 €)	400 000 HRK (54 890 €)	400 000 HRK (53 773 €)	400 000 HRK (53 181 €)	100 000 €	100 000 €
Cyprus	22 222 €; 20 000 €* ³	20 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Czech Rep.	27 778 €; 25 000 €* ³	25 000 €	50 000 €	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Denmark	40 265 €	300 000 DKR (40 233 €)	no limit	no limit	no limit	750 000 DKR (100 000 €)	100 000 €	100 000 €	100 000 €
Estonia	12 782 €	20 000 €	50 000 €	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Finland	25 000 €	25 000 €	50 000 €	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
France	70 000 €	70 000 €	70 000 €	70 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Germany	22 222 €; 20 000 €* ³	20 000 €	no limit	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Greece	20 000 €	20 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Hungary	25 924 €; 23 728 €* ³	13 000 000 HUF (49 580 €)	no limit	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Ireland	22 222 €; 20 000 €* ³	22 222 €; 20 000 €* ³	no limit	no limit	no limit	no limit	no limit	no limit	100 000 €
Italy	103 291 €	103 291 €	103 291 €	103 291 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Latvia	15 000 €	18 492 €	50 000 €	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Lithuania	17 377 €; 15 929 €* ³	22 000 €; 20 000 €* ³	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Luxembourg	22 222 €; 20 000 €* ³	22 222 €; 20 000 €* ³	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Malta	22 222 €; 20 000 €* ³	22 222 €; 20 000 €* ³	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Netherlands	40 000 €	20 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Poland	22 500 €; 20 350 €* ³	22 500 €	50 000 €	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Portugal	25 000 €	25 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Romania	20 000 €	na	50 000 €	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Slovakia	22 000 €; 20 000 €* ³	20 000 €	no limit	no limit	no limit	100 000 €	100 000 €	100 000 €	100 000 €
Slovenia	21 294 €	22 000 €	no limit	no limit	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Spain	20 000 €	20 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
Sweeden	27 030 €	26 296 €	500 000 SEK (52 093 €)	50 000 €	100 000 €	100 000 €	100 000 €	100 000 €	100 000 €
United Kingdom	2 727 €; 51 072 €; 46 257 €* ³	35 000 £ (44 533 €)	50 000 £ (62 945 €)	50 000 £ (56 164 €)	85 000 £ (99 170 €)	85 000 £ (97 974 €)	85 000 £ (104 871 €)	85 000 £ (100 108 €)	85 000 £ (105 490 €)

* *co-insurance represented*

Financial crisis was result from years of inefficient regulation and supervision (Tirole, 2010, p. 12-13) and it was further strengthened by the fact that excess liquidity encouraged credit institutions to take risks. Because of that, in addition to the financial crisis, there were banking crises in some EU states³, most part of eurozone states. The business riskiness of EU banks stems from the fact that their growth was mostly recorded on secondary securities – derivatives (Grgić, Kordić, 2011, p. 214). All of the above indicated the need for a new form of regulation, therefore the creation of a banking union began. The banking union would weaken the link between national governments and national banking systems because in the crisis periods, national control, harmonization of regulatory rules which sought to the minimum and compliant prudential regulation with the aim of achieving the competitiveness of domestic institutions, resulted in the breakdown of the financial system and poor preparedness for the occurrence of the financial shock which followed. It is based on three pillars: 1) joint bank supervision, 2) a unique mechanism for resolving bank issues and 3) a joint deposit insurance. The main changes, introduced by the amended Directive (2014/49 / EU) of deposit insurance systems, which form the basis of the third pillar of the banking union, are:

- every credit institution should be part of a deposit insurance system,
- reduced deadline for deposit payment to seven working days, which should be implemented by 2024,

³ Systemic banking crises in period 2007-2011 were in: Austria, Belgium, Denmark, Germany, Greece, Ireland, Latvia, Luxembourg, Netherlands, Spain, United Kingdom. In France, Hungary, Italy, Portugal, Slovenia, Sweeden were border cases of systemic banking crisis (Laeven, Valencia, 2012, p. 6).

- introduction of a fair premium, credit institutions' risk assessments will be able to be based on balance sheet assets and risk indicators: capital adequacy, quality and liquidity of assets)
- better information for depositors about
- only 0.8% of secured deposits will be collected by ex-ante until 2025, and the rest of the funds will be collected ex-post.

3.2. Deposit insurance in SE European countries

The banking systems of the SE European countries were stable at the time of the financial crisis (2008-2012) because they based their business on traditional products therefore they didn't have bank crisis. Nevertheless, under the influence of the financial crisis, SE European deposit insurance systems (just like EU deposit insurance systems) have increased the amount of protection to prevent depositors' panic and bank run. However, according to other features, the deposit insurance systems of SE European countries are different, as can be seen from the following tables. It is evident that only in Macedonia, all credit institutions are included in the deposit insurance scheme. With regard to the method of fundraising, all above countries have an ex-ante system, while with regard to the criterion for managing the system, the state system prevails, except for Bosnia and Herzegovina which has a private deposit insurance system. The risk-based premium of institutions within the deposit insurance system is only present in Kosovo. In observed period, paybox plus is present in Bosnia and Herzegovina and Serbia. Prior financial crisis, coverage of foreign currency deposits was present in Albania, Bosnia and Herzegovina, Macedonia and Serbia, but since 2008, these feature is no longer present in Montenegro and Serbia. Coverage of interbank deposits is present in Montenegro and Serbia. Before crisis, it was only in Bosnian deposit insurance system. Among observed SE European countries, Bosnia and Herzegovina and Kosovo don't have government support in case of a shortfall of funds (backstop).

Table 4: Basic and additional features of deposit insurance systems in SE European countries, in period 2008-2014 (Suljić Nikolaj, 2018, p. 53, 57)

	BASIC						ADDITIONAL			
	Participation		Fund	Management		Premium	Paybox	Foreign currency	Interbank	Backstop
South European countries	Banks	All credit institutions	Ex-ante	Privat	Satate	Fer premium				
Albania	X		X		X			X		X
Bosnia and Herzegovina	X		X	X			X	X		
Kosovo	X		X		X	X		X		
Macedonia		X	X		X			X		X
Montenegro	X		X		X				X	X
Serbia	X		X		X		X		X	X

Table following on the next page

Table 5: Limit of deposit insurance systems in SE European countries, in period 2007- 2014
 (Suljić Nikolaj, 2018, p. 54)

South European countries	2007	2008	2009	2010	2011	2012	2013	2014
Albania	2 827 €; 3 325 €; 5 653 €*	2 500 000 LEK (20 254 €)	2 500 000 LEK (18 035 €)	2 500 000 LEK (18 145 €)	2 500 000 LEK (17 817 €)	2 500 000 LEK (17 991 €)	2 500 000 LEK (17 820 €)	2 500 000 LEK (17 863 €)
Bosnia and Herzegovina	7 500 KM 3 828 €	20 000 KM (10 226 €)	20 000 KM (10 226 €)	35 000 KM (17 895 €)	35 000 KM (17 895 €)	35 000 KM (17 895 €)	35 000 KM (17 895 €)	50 000 KM (25 517 €)
Kosovo	na	na	na	na	na	3 000 €	3 000 €	3 000 €
Macedonia	20 000 €	30 000 €	30 000 €	30 000 €	30 000 €	30 000 €	30 000 €	30 000 €
Montenegro	5 000 €	no limit	no limit	50 000 €	50 000 €	50 000 €	50 000 €	50 000 €
Serbia	3 000 €	50 000 €	50 000 €	50 000 €	50 000 €	50 000 €	50 000 €	50 000 €

* co-insurance represented

Before crisis, among selected countries of SE Europe, only Albania (2003-2007) and Macedonia (only in 2003) had co-insurance. In 2008 and 2009, Montenegro introduced an unlimited amount of protection, which in 2010 was limited to EUR 50 000. From 2010 to 2014, amounts of deposit protection in SE European countries have remained unchanged.

4. CONSLUSION

Deposit insurance system is a common form of depositor protection, which additionally ensures the stability of the banking system, as it prevents the possibility of a depositors panic and consequently bank run. Its importance is especially pronounced in times of crisis when it is necessary to maintain confidence in the banking system. Despite these positive characteristics, the effects of the deposit insurance system are not straightforward, so there is a lot of theoretical and empirical evidence pointing to the negative consequences that the deposit insurance system may imply on bank stability due to moral hazard, adverse selection, and principal and agent problem. The effects of a deposit insurance system on bank stability depend on the formation of the system with respect to its features, which should be determined in accordance with national characteristics, characteristics of the banking system and supervision in order to create the most appropriate model of the deposit insurance system. In time of financial crisis, deposit insurance systems increase the amount of protection and introduce additional forms of protection what was case in crisis (2008-2012) in EU members and SE European countries. The reason for the financial crisis which occurred in 2008 and which was followed by systemic bank crises in some EU member countries is considered to be the insufficient supervision and regulation or liberalization (deregulation). Inefficiency of the basic directive of the EU members' deposit insurance systems (Directive 94/19/EC) and consequences of the financial and banking crisis of individual EU countries, resulted with creation of banking union.

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IMPORTANCE OF NEUROMARKETING IN COMPANY'S MARKETING CAMPAIGN

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ABSTRACT

Current market situation is characterized by dynamicity, growing strength of consumer behaviour and by intense business competition. It is up to enterprises which marketing tools they use to strengthen their competitive positions. One of such tools is communication policy which has significant position not only for companies but also for consumers. International markets are supersaturated with different products and every producer permanently seeks new ways how to get attention and consumers' preferences. It is also very important to differentiate from competitors and therefore the companies try to use many different attitudes to influence consumers' behaviour. The result of using those tools is product or service sale. One of the tools of communication policy with enormous impact on consumer behaviour is advertisement. We can see a boom of advertising in both range and numbers of used communication policy tools. The importance of advertisement is currently orientated on emotional consumers' behaviour too. That is also the reason why we can see that through advertising many companies try to manipulate the public in their favour. Some elements of advertisement can indirectly effect consumers' emotions and many companies use different neuromarketing techniques and tools to reach that goal. The aim of the article is to emphasize the importance of neuromarketing in marketing campaign of chosen company. The first part of paper consists of elementary theoretical background of neuromarketing. The second part is about the company's introduction and it's marketing campaign which was measured the eye-tracking tool. Discussion part also consists of neuromarketing future predictions and finding new opportunities of neuromarketing analysis. It also consists of evaluation of the chosen company's communication policy and its effect on company's overall marketing strategy.

Keywords: *neuromarketing, communication policy, advertisement, eye tracking*

1. INTRODUCTION

One of the most important elements of the marketing mix is marketing communication. It includes a number of activities and tools that need to be aligned to achieve predetermined marketing goals. Strengthening the brand and increasing customer satisfaction can be one of them.

Kliestikova and Janoskova argue that these factors are relevant to current trends (Kliestikova, Janoskova, 2017, p. 149-157). Nadanyiova et. al. (Nadanyiova, Kliestikova, Kolencik, 2018, p. 96-104). At present, however, manufacturers are constantly trying to find new possibilities and trends to influence irrational purchasing behavior. Kotler argues that incentives are important to the customer's purchasing behavior model (Kotler, 2007). These can be triggered by various emotional appeals. However, the company can control and measure them through a new branch of science - neuromarketing. It currently plays an important role in the process of analyzing brain activity in monitoring various marketing stimuli. Nadanyiova shares this view, which compares neuromarketing to the opportunities that businesses in a market environment can take advantage of. (Nadanyiova, 2017, p. 90-94). The author's view can be accepted and argued that traditional methods of determining consumer attitudes and behavior are limited. The issue of the article will be to point out the importance of neuromarketing using eye - tracking in the Christmas campaign of the Slovak Telekom brand.

2. NEUROMARKETING

As mentioned in the introduction to the article, neuromarketing is a great opportunity for global businesses to influence buying behavior. Tahal claims that neuromarketing refers to a methodological approach to detecting emotional reactions to stimuli. (Tahal, et al., 2017) Based on the author's statement, it can be argued that neuromarketing is a limited combination of methodologies. The primary objective of neuromarketing is to determine consumer decisions about what part of the brain is at the moment of the purchasing behavior of an asset and how it affects that behavior. Neuromarketing, as science, assumes that buying behavior is largely influenced by emotions. We will try to point out this fact in the article. Part of the article will be the examination of emotions through the physiological reaction of eye movements. Nowadays businesses can use a number of methods that are offered by neo-marketing. Through them, they can analyze how emotions arise, how they are connected and managed. What is important, however, is the level of functional systems that tracks the activity of individual brain regions in three-dimensional maps. Instruments such as function magnetic resonance imaging (fMRI), positron emission tomography (PET), electroencephalography (EEG), magneto electroencephalography (MEG) are the main contributors to these observations. These methods differ in their ability to investigate brain activities. EEG and MEG machines distinguish changes in brain activity well over time. PET and fMRI distinguish them well spatially. Vysekalova states that in order to effectively analyze brain activities, companies should use a combination of these methods (Vysekalova et al., 2014). In addition to the methods mentioned above, there are others in neuromarketing that are used extensively. For example, NIRS - Near Infrared Spectroscopy, eye tracking, face coding, face electromyopathy, or measuring physiological responses. Measured procedures are performed in such a way that the respondent is shown images, listens to sounds, receives information to solve tasks and so on. The respondent is exposed to various external stimuli, and then brain activity scans are measured using brain scanners. In particular, the two most important aspects are analyzed, such as where something happens in the brain and when something happens in the brain. Syaglova also shares the importance of using methodological tools in the corporate environment. The author claims that the tools are able to identify the prognosis of marketing paradigms some time in advance. (Syaglova, 2017, p. 48-61).

3. ANALYSIS OF CHRISTMAS CAMPAIGN OF SLOVAK TELEKOM BRAND THROUGH SELECTED NEUROMARKETING METHOD EYE TRACKING

3.1. Introduction of Slovak Telekom company

The subject of the article processing and analysis of the selected advertising campaign is the Slovak Telekom, a. s., which is a member of the multinational group of companies Deutsche

Telekom Group and provides complex telecommunication services in the Slovak Republic. The Slovak Telekom Group consists of the parent company Slovak Telekom, a. with. and its other subsidiaries such as. r. o., List of Mobile p. r. o., Telekom Sec, p. r. about. PosAm, spol. s r. about. and DIGI SLOVAKIA p. r. about. In the Slovak Republic, the company currently employs approximately 3,000 employees and operates more than 17 Telekom centers. The main line of business is the provision of telecommunications services for a fee (transmission, processing, creation and transmission of information) for the needs of natural and legal persons, namely voice, graphic, image, data, information, multimedia telecommunications services and their individual combinations. Among other things, the subject of activity is the establishment, operation, exhibition, maintenance and servicing of telecommunications equipment, networks and information technologies, creation and updating of an information database for the needs of information systems of the telecommunications sector (Annual Report of Slovak Telekom, 2011, p. 50). The mission of the company is to be personally responsible for every customer requirement, to understand their needs, to fulfill promises and to continually improve services in order to be perceived as an affordable, reliable and innovative partner. Furthermore, the company presents its mission as a co-responsible for the economic growth of the country. The company has a mission oriented not only towards customers but also to the internal environment. There, the company presents that its mission is to motivate, develop and offer attractive opportunities for capable and interested workers and to reward performance workers (Annual Report of Slovak Telekom, 2007, p. 42). It is necessary to analyze the strengths and weaknesses of the company. Long-term experience and market presence in the Slovak Republic can be considered as the strength of the company. With many years of experience, the company has built a strong brand and can meet the needs and requirements of customers in the most efficient way. The wide range of products and services is also one of the strengths of the company, which again meets the needs more efficiently. The third strength of the company may be strong marketing, in the case of the publication of Christmas campaigns, when Slovak Telekom tries to respond to the emotional behavior of customers. This issue is then discussed in the next subchapter and in the discussion section of the article. The weaknesses of the company include high employee turnover, costs of individual operations and high prices of some services. Despite its weaknesses, Slovak Telekom can be considered a leading provider of telecommunications services in the Slovak Republic.

3.2. Analysis of selected marketing campaign

As the trend of evolving technologies is currently being recorded, innovative progress is also needed to respond effectively to changing customer requirements. Slovak Telekom provides this through its communication policy. Already in the previous section of the article it was stated that the strength of the company is marketing. It consists in intensive use of communication policy and its individual tools in order to approximate the current product offerings. Currently, the company uses a number of communication policy tools. However, the most widely used television advertising is used by Slovak Telekom in various forms. The most common are advertising spots, which are part of the entire marketing campaign and are created for the current offer of telecommunications services. The most memorable was the 2013 campaign launched by Slovak Telekom in the pre-Christmas period. The name of the campaign was "True Gifts for Everyone" and was created by the external agency MUW Saatchi & Saatchi. The campaign focused on the promotion of a new product - the Happy tariff. The published campaign used several out-of-home media tools such as billboards that were spread throughout the Slovak Republic, but also indoor media in the form of articles or advertisements published in newspapers and magazines. The campaign also included advertising banners placed on various websites with high traffic. The culmination of the whole marketing campaign was an advertising spot, which was published on the most watched television stations in Slovakia.

The success of the campaign is also evidenced by the number of hits that reached 144,089 on the YouTube social network. Another proof of success is the international award of the Telekom Media and Communication Awards 2014 as the “Best Creative Campaign”. 124 campaigns from 13 countries belonging to the multinational Deutsche Telekom Group applied for the 7th edition. With this campaign, Slovak Telekom became the winner in the category. At the beginning of the article it was mentioned that emotions are a major factor in purchasing behavior. Marketers use five advertising emotional appeals - humor, sincerity, story, fear and eroticism. We chose to analyze the campaign because it used the emotion of sincerity in the form of child actors. Sincerity as an emotional appeal also had an intensive impact on the irrationality of people and was supposed to support the purchase of telecommunication services. In this context, one can see the link between the use of emotions and the promotion of irrational buying behavior among customers. In the campaign, Slovak Telekom offered a higher flat fee for a lower price and a flat fee for a loved one at a discount. It was the emotion of sincerity (using child actors) that was supposed to act emotionally and thus support the purchasing decision of regular or potential customers. When analyzing the campaign, we decided to examine the advertising spot, which had an emotion of sincerity. For the analysis we decided to use the neuromarketing device eye tracking, through which we had the opportunity to monitor the eye movements of respondents while watching the advertising spot. The scanning device was attached directly to the monitor of the device on which the subject of the research was displayed (advertising spot of the Slovak Telekom's Christmas campaign). The research was divided into two parts. In the first part, respondents watched the “Real Gifts for Everyone” advertising spot, during which we recorded eye movements, allowing us to monitor their objective perception of the reaction to the given advertising spot. The second part of the research was to complete the prepared questionnaire immediately after the end of the survey. The questions in the questionnaire concerned subjective perception. A total of 11 respondents participated in the research, of which seven were women and four were men of different ages and educational attainment. After the first part of the research, the software provided us with several types of outputs, of which we mainly used Heat Maps. Heat Maps show the overall visualization through the so-called. thermal maps, where the volume of view of each part of the scene is expressed by changing the color of the image based on the amount of attention received. Heat Maps was used in the overall expression of output for all respondents. The result can be seen in Figure 1.

Figure 1: Visualization using Heat Maps for all respondents



Source: custom processing

The above figure shows that respondents' views were mainly focused on similar areas of people's faces and eyes, especially in children who aroused emotions of sincerity. On the basis of the result, it is possible to say that the faces of children were positive for the respondents and were the most interesting for them throughout the campaign.

Furthermore, in the first part we also focused on the conclusion of the advertising spot, where we wanted to find out what respondents notice most. At the end of the advertising spot there was a specific offer of telecommunication products. Visualization using Heat Maps can be seen in the following figure.

Figure 2: Visualization using Heat Maps for all respondents



Source: custom processing

The picture shows that the view of respondents was considerably different from that of the first picture. Individual views focused on different areas, depending on what was most interesting for the respondents. Most of the respondents' views were focused on the description of the offered product, logo, slogan and website address of the company. As mentioned above, the second part of the research consisted in completing a short questionnaire. Altogether 11 respondents participated in the research, of which 55% with secondary school leaving examination, 27% of university education and 18% of secondary education without GCSE. The questionnaire contained seven questions. The first question asked whether respondents saw the analyzed advertising spot on television. Everybody answered yes. The second question was aimed at finding out how advertising affects respondents. In this case it was an expression of a subjective opinion on the campaign. Three respondents expressed the answer "rather positive", the other eight marked "very positive". In the third question, we investigated how the emotions of the respondents were evoked by the ad while watching it. The most intense of the respondents was the emotion of joy and surprise. The respondents did not feel any negative emotions while watching the campaign. In the fourth question, respondents were to assess the extent to which they perceived children's behavior in advertising. Four respondents marked "rather positive", the other seven marked "very positive". None of the respondents said they perceived the negative impact of children in advertising. In the fifth question, we investigated whether the advertising spot would support the purchase decision of respondents and whether they would buy a product based on advertising. Eight respondents marked yes and the remaining three marked no. The last closed question was to find out whether the respondents had ever bought a product or service solely on the basis of advertising. Eight respondents answered yes and the remaining three expressed no. In the last seventh question, respondents expressed their own subjective opinion on the advertisement, its influence and the power of emotional influence. In their response, respondents focused mainly on positive statements and argued that the emotional appeal in advertising was used correctly and factually.

4. DISCUSSION

Based on the data obtained on the communication policy of Slovak Telekom, it can be stated that the company effectively uses all available tools in its market operation and marketing communication. Owing to many years of experience, the company is also able to take advantage of opportunities to create new consumer markets. In the previous chapter, it was stated that the most prominent tool of Slovak Telekom's communication policy is television advertising. This communication policy instrument is considered to be most effective because of its impact.

In 2013, the company launched a marketing campaign called "True Gifts for Everyone", which is considered to be the most successful campaign because of its high viewership and the number of looks on social networks. The campaign also made positive use of the emotional appeal of sincerity, which was mainly portrayed as two small children appearing in the campaign. In order to use sincerity as an emotional appeal, the campaign was analyzed by a neuromarketing eye tracking device. The research consisted of two parts. In the first part, respondents watched the advertising spot. The conclusion was that all respondents focused mainly on the faces of children appearing in advertising. On the basis of the above, it can be concluded that the use of children in advertising space and their connection with the emotional appeal of sincerity can lead to a positive perception of advertising by customers. This statement was substantiated in the second part of the research, in which respondents responded to pre-prepared questions based on subjective feelings. We found that the selected ad was very memorable and successful for Slovak Telekom in terms of influencing customers, because it was very positive and could recognize it even after several years of its broadcasting on television. In the second part of the survey, respondents stated that advertising of a similar type could persuade them to purchase the product or service presented. The positive perception of advertising was also supported by the use of children's actors and the overall pleasant Christmas atmosphere. In the second part, we also found that the majority of respondents would have the impression of buying the product. Respondents also said that while watching their ads, they had a strong emotion of joy, which is considered a positive emotion. In this sense we can see the link between shopping behavior and the effect of the emotional advertising appeal of sincerity. Eight respondents said they would be willing to buy a given product only by watching the advertising spot, which is a positive result in applying the emotion of sincerity. Based on the results of the research, it can be argued that the use of emotional appeals in advertising space can support purchasing decisions. By supporting the purchasing decision-making process of customers, the company will also strengthen its competitive position in the market environment. Shpak et al. The authors add that a number of factors affect competitiveness, but can be a full indicator of business performance. (Shpak, et al., 2019, p. 107-129). A similar view is expressed by Gottwald et al., Who argue that the competitiveness of a business should help to sustainable development. (Gottwald, et al., 2018, p. 623-633). However, brand building in connection with neuromarketing is also an important factor. Majerova and Kliestik point to the importance of this, arguing that brand building is an essential process for building competitiveness. (Majerova, 2014, p. 3-8).

5. CONCLUSION

If a company decides to apply neuromarketing methods and principles to the analysis of purchasing behavior, it is essential that it becomes part of each business area. All mentioned methods and principles of neuromarketing are irreplaceable. They can greatly help the company to build and strengthen strategic management. Rajnoha and Lorinc, who argue that managing and measuring business performance, is a relatively complex and demanding process, also points out the importance of this form of management. They add that this process is currently undergoing many changes that businesses should adapt effectively. (Rajnoha, Lorincová, 2015, p. 3-21) The effectiveness of strategic management is also essential for the financial analysis of the company, which is necessary for financial planning. However, this is emphasized by Bartosova and Kral. (Bartosova, Kral, 2016, p. 189-197). On the basis of the above, it can be argued that neuromarketing should not only be part of the marketing field, but above all it should be included in individual business areas. The purchasing behavior of customers is very differentiated and can vary based on several factors (economic, political, religious situation, etc.). Hawkins also agrees with this statement. (Hawkins, Malcolm, 2018, p. 64-69).

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THE FUTURE OF MANAGERIAL RESEARCH

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ABSTRACT

The text presents five theses:

- 1. Management practitioners need scientific research results, but although the number of studies increases exponentially, the popularization of their research results in the »information smog« leads to harmful for practice misinterpretations.*
- 2. The cliché activated automatically in the minds of consumers of research »these are the results of scientific research« causes the exclusion of criticism, which causes that the results of scientific research are treated identically regardless of their internal and external validity.*
- 3. Consumers of scientific research results should remember that: (1) correlation studies, regardless of how large the sample was tested, cannot have high internal validity; (2) the results of experimental studies, whose external validity is increased not by testing representative samples, but by replication on often small groups are much more valuable.*
- 4. The main difficulty in applying the research results is the fact that both experimental and correlation studies are conducted in the »ceteris paribus« paradigm (with the determined influence of other variables - other things being equal), and in a specific situation in which we want this knowledge to be used, other variables are not fixed (ceteris is never a paribus) and thus may distort the relationships established previously in the research.*
- 5. The future of research are quantitative case studies - possible thanks to the introduction of new technologies such as bands, eye trackers and other wearables and programs that are tracking employee computer activity during working hours.*

Keywords: *experimental research, external validity, internal validity, wearable technologies*

1. INTRODUCTION

Practice of management needs scientific research and the number of management research is growing. What about absorption of the results of scientific research? The number of websites and books devoted to management is growing rapidly, which does not translate into better use in practice. We live in an era of excess of information with MORE and FASTER as drivers of our behavior. We love shortcuts and are eager to learn easily applicable models and methods. Such a path of shallow thinking cannot, however, provide a good basis for professional success in long-term. The permanent state of distributed attention and shallow thinking (Carr, 2013) manifests itself in excessive submission to influences of eye catching stimuli, categorical opinions, excessive generalizations, shortening the time of the focusing on the stimulus. Instead of reading (not even mentioning thinking through) we scan the text (unfortunately, we are convinced that some of the readers do exactly the same with this text) and we draw some cursory conclusions. Easy access to information generated illusion that everyone knows and understands everything (Strzelczyk, 2018). Due to the decrease in the level of criticism resulting from cognitive overload, we are »buying« false interpretations of scientific research results. For example, the results of the study (Mehrabian, 1971) are commonly known in the form of rule 55-38-7, which assumes that non-verbal body messages are the basic channel for transmitting

messages: 55% of the content the recipient reads from the body language of the sender, 38% from the way of speaking (voice, tone, intonation) and only 7% from the content of the words. When students find out that 55-38-7 rule based on Mehrabian's research is false (which we will explain later) they immediately question the reliability of research conducted at Stanford University. It is difficult for them to understand that the research was conducted thoroughly, but the way it was popularized distorted the interpretation of the results. The recipients living in the information smog are dominated by dichotomous thinking: if they are the results of properly conducted scientific research, the conclusions must be considered correct or the reliability of the research must be questioned. If consumers of scientific results want to question them - they question most frequently the size or composition of the sample. In the text we will show that thoroughly conducted scientific research differ in terms of internal and external validity and that when we hear about the results of scientific research, we should always first of all consider the internal validity of research and only then ask about external validity (the possibility of generalizing research on the population).

2. EXPERIMENTAL VS CORRELATIONAL RESEARCH

If we want to examine the impact of the type of job (e.g. related or not to continuous exposure to other people's assessment: X - independent variable) on the level of employee stress (Y – dependent variable/explained), we can compare what is often done - medium level stress of employees in various professions. If it turns out that for example the actors are not more stressed than theatrical light operators, we can not conclude that exposure to continuous work's assessments does not increase at the level of stress, because other variables may have affected the lack of relationship. For actors this stressor may be compensated by bonuses related to popularity. In correlational studies we always face the problem of self-selection bias arises: the actor profession is more often chosen by extroverts, and the profession of light operator by introverts). In correlation studies we can NEVER rule out the impact of »third« variables and therefore the inherent feature of these studies is their low internal validity. You can find many spurious significant correlations, one of them is the correlation that could be found between the number of firefighters extinguishing a conflagration and the size of losses after such event. In fact, the third variable is responsible for this relationship - the size of the fire. In experiments we create the conditions required for observation (more: Aronson and Wieczorkowska, 2001) instead of waiting for the natural occurrence of events of interest as they happen. This was the case in Mehrabian's studies cited earlier, who created the profiles of the people assessed by manipulating 3 independent variables: facial expression (happy, neutral, sad), the meaning of words spoken (positive, neutral, negative), voice tone (positive, neutral, negative). The participants task was to assess how friendly X seems to them, when X e.g. spoke a positive word (e.g. great) with a contorted face expression and in a negative tone. It is hardly surprising that in the situation of contradictory messages, the assessment of sympathy was more influenced by elements that were more difficult to manipulate (expression, tone) than words. Rule 55-38-7 applies ONLY to inconsistent messages but has started to be popularized as universal. The fact that so many people (unfortunately even the authors of books glorifying the importance of non-verbal communication) believe in its universality proves the decrease in the level of reflectiveness of readers living in a state of permanent flood of information (Wieczorkowska, 2017). The response to continuous assessment of work performed may depend on many variables - self-assessment, level of aspiration, extraversion, past experiences, etc. People differ from each other on many dimensions that may affect our dependent variable (stress level), regardless of the value of the independent variable (degree of exposure to continuous assessment), but if we randomly divide the sample into 2 groups, then the average level of self-esteem, extraversion etc. will be the same in both groups. Experiments allowing random assignment to experimental conditions create »collective clones« that protects research from

the distorting influences of other, confounding variables. We manipulate social exposure (we introduce it in strictly defined conditions, in a different way in two groups emerged as a result of RANDOM division of those willing to participate in the study) that's why the internal validity of an experimental study can be very high. In colloquial language, the concept of manipulation has a negative connotation because it involves a hidden way of influencing us - against our will and/or interest. In methodology, the ability to manipulate the values of an independent variable is a very positive feature of the study. If we can manipulate a given variable, we do not have to wait for the given value of the variable to occur naturally, but we enter it ourselves and check what the effects are. In research, we manipulate variables, not people, although the effects of this should by definition affect the behavior of those participating in the study. Well-conducted experimental research has high internal validity, which is appreciated by the awarding of the Nobel Prize for Economics:

1. in 2002 to Vernon Smith, for the establishment of laboratory experiments as a tool for empirical analysis
2. in 2002 to Daniel Kahneman, for the use of psychological tools in economic research; stimulated the growth of laboratory experiments to test economic ideas.
3. in 2017 to Richard Thaler, for contribution to behavioral economics.
4. in 2019 to Abhijit Banerjee; Esther Duflo; Michael Kremer: for their experimental approach to alleviating global poverty.

Critics of the experimental approach often note that most laboratory experiments employ only small numbers of undergraduate students (there were 136 students in Mehrabian's studies), and thus have questionable external validity. While the survey can be conducted on many thousands of people, experiments are conducted in small groups, because their preparation requires many hours of work and more time investment on the part of the respondents. So the question arises to what extent the results obtained (e.g. in a 30 student study) can be generalized; in other words, what is the external validity of such study. After all, we are not only interested in the reactions of participants, we want to rule on the population from which this sample was selected. If we are interested in the electoral preferences of Poles, then the sample drawn for the study should be representative of adult Poles. Representative samples are extremely important if our goal is to know the distribution of the variable in the population. However, due to the large number of disturbing variables, often with very skewed distributions (e.g. education level), they are much less useful when we want to test the relationships between variables. Effective statistical control of important variables (although irrelevant due to the purpose of the study) is very difficult to achieve - therefore, converting accompanying (interfering) variables into permanent ones gives much better results. The main purpose of experimental research is not to determine the distribution of a dependent variable, e.g. the level of satisfaction, but to determine whether the difference in the level of stress between the studied groups differing in the degree of exposure to social assessments is statistically significant. For this we do not need a representative sample. It is enough if we divide the volunteers into two or more groups at random, and make them work in different conditions. From testing representative samples, a much better strategy to maximize external validity is to replicate studies on homogeneous samples – where we separately examine administration staff, research staff, students, etc. But in each we manipulate the values of an independent variable: the degree of exposure to social assessment during the performance of tasks. Research results of thirty people randomly divided into experimental conditions have greater cognitive value than three thousand participating in correlation studies. Second degree randomization (random assignment to experimental groups) provides us with high internal validity that we will never achieve in correlation studies. The problem is that people are unwilling to participate in experimental research, which seriously inhibit the development of social sciences.

As a result, experiments with small samples of undergraduates can frequently untangle causal connections that are impossible to assess in correlational studies, including questionnaire studies involving thousands of managers. Laboratory experiments are sometimes dismissed as unrealistic imitations of human interaction, unrepresentative of the real world. Those who make such claims often forget that an experiment can be realistic in two ways (more: Aronson and Wiczorkowska, 2001). Situational realism occurs when the situation in the laboratory is similar to those people often experience in the outsideworld. Psychological realism occurs when the laboratory situation encourages participants to treat the research situation seriously. Good research tasks, such as those in which participants take part in an involving game, engage participants and cause the situation to become very real. The feedback participants receive has a real value. Participants in these research tasks are much more involved than they are completing survey questionnaires. Experimental methods are sometimes questioned on ethical grounds. A very few drastic side-effects of participation, like emotional stress of the subjects in Milgram (1963) experiment, which facilitated, in some of the subjects, learning something potentially unpleasant about themselves, resulted in developing VERY strict ethic research rules. In our opinion too strict. For example, the experiment (Piliavin at al, 1969), in which the helping behavior of unsuspecting passengers in a subway train was measured, has shown that even generally very helpful people are more reluctant to help a drunk. If the participants possessed prior information, and knew that they were being watched, the bystanders would be more likely to help. The usefulness of the research results is unquestionable, but the fact that there was no pre-experimental consent, means that this experiment would not be allowed today. Pendulum of our ethic concerns swung too far the other way. Nisbett (2015) cites many examples in which the lack of experimental research prior to costly investments has caused serious social losses. One example he gives: as part of the crime prevention program, teenagers (over 50,000 in New Jersey only) watch the »Scared Straight« documentary, in which prisoners show young people how life is like in prison without sparing them drastic descriptions of rape and murder that happen in prison. To check if watching the film was effective, seven experimental tests were carried out comparing the percentage of crime in the group that was included in this program with the control group (not watching this movie). It turned out that those covered by the preventive program commit crimes 13% more often than their peers from the control group. Despite these results, the program is still being implemented because politicians prefer to trust their beliefs rather than scientific data.

3. QUANTITATIVE CASE STUDIES

Managers expect from scientists to receive knowledge easy to use. They do not realize that the results of the managerial research conducted in the »ceteris paribus« paradigm (we examine the relationship between variables assuming other things being equal) are difficult to use in real situations, because in reality ceteris is never paribus. The solution is quantitative case studies, easier to implement thanks to the development of new technologies (tracking employee computer activity during work, wearable technologies). Although in an experimental study we can show that exposure to the assessment increases the level of employee stress (Nowak, 2019), although the clones created by the collective draw eliminated the impact of individual differences, we still do not know whether it would be better if a new employee (let's call him Smith) will work in isolation or under supervision of the controller tracking his activities. Thanks to the development of technology, we can determine this by conducting research on one person (quantitative case study). Every morning we can flip a coin: heads - Smith works without supervision, tails - Smith is supervised. Every day we monitor the record of stress levels, performance and the number of mistakes made. After a few weeks, we can summarize the results - calculating the average of records separately for days with and without supervision.

The data collected so far allow us to predict that Smith may be surprised by the results, because most often our insight into what stresses us is very poor. The correlation between physiological measurements and subjective assessments is close to zero. Thanks to such measurements it may turn out that supervision is beneficial for Jones but not for Smith. This insight is possible only thanks to new wearable technologies. The use of sleep sensors, heart rate monitors, etc. in such a convenient form as watches or bands, which the wearer easily forgets, but also usage of ever smaller eye tracking cameras - means that the examined person can quickly get used to the device and in fact forget about being tested. This, of course, is important for the study, because when conducting research, we always want the tested object not to have a constant impression that it is monitored or controlled because such an impression introduces an additional variable to the study and can affect both behavioral and measurement results. The use of modern measuring devices is a huge field for monitoring fatigue and cognitive overload. Workplace stress is the leading cause of ill health and sickness in Britain- in 2017/2018 there were 0.6 million cases of work-related stress, anxiety or depression (44 % of all the cases of work-related ill health) (Health and Safety Executive, 2019). It would be a wish that thanks of the monitoring employee is aware of the moments of his highest productivity and properly uses this time. On the other hand, studying the differences between individuals in terms of predisposition to work under time pressure can be important aspects when recruiting employees for specific positions related to specific requirements and the nature of the work. The correct matching of entrusted tasks to the personality types of employees can be an important element in the optimization of tasks performed by the entire organization. If we can add to this assessment continuous monitoring during the performance of duties, which would suggest to the employee e.g. taking a coffee break, going for a walk or a nap - because it will increase his effectiveness and efficiency and he will be able to do the same task much faster, more efficiently and by committing fewer mistakes - we would have reached a milestone in human resource management and self-awareness about our efficiency in the workplace. This also means much better work life balance, fewer diseases, less risk of burnout, less job resignation, less costs for hiring and training new people, etc.

3.1. Modern technologies and safety at work

New technologies can help reduce workplace accidents. One example is the solutions that are already being used on an increasing scale and which is especially important for employees whose daily duties include overcoming long distances by car, for whom the vehicle is a daily workplace, e.g. sales representatives or professional drivers. Cars that are monitoring the speed of our reactions (gear changes, braking, pedals usage) have already entered the daily use, which, using an algorithm to assess our fatigue on the basis of the collected indicators - suggest getting off the route and taking a coffee break. The next step is to use a camera that tracks the eyes and pupils of the driver and based on these measurements to determine cognitive load and mental multitasking. It is not only the possibility to suggest the driver to take a break while driving, but also in the long run the results of measurements can affect the car's safety systems, in fact it would be an extraordinary milestone in road safety and driving professions (couriers, trucks drivers, taxi drivers) of course until the introduction of autonomous vehicles. The next step, which from the point of view of European countries is still quite abstract, could be to prevent the phenomenon of death from overwork called »Karōshi«, where it is estimated that about 10,000 Japanese die from overwork every year (Bird A, 2002). As this socio-medical phenomenon relates to deaths or serious damage to health, caused by cardiovascular disease, which is indirectly caused by overload and stress in most white-collar workers - we can suspect that the possibility of constant monitoring of cognitive load, stress level and other indicators such as heart rate variability - could reduce the number of similar incidents in the future.

4. ETHICAL CONCERN

Monitoring employees using software that records what is happening on the monitor, takes pictures, but also prepares a summary of the time of using various applications, websites visited, and classifies the time spent in front of the monitor screen productively or not - is becoming increasingly popular (in particular for people who work remotely, especially in the case of companies that do not invest in a stationary office and employ people on a »freelance« basis). In this type of software, you can even apply rules for alerts that will be sent to immediate supervisor when specific (banned) pages or applications are launched - e.g. facebook, ebay, skype - which are certainly not used to fulfill obligations unions of employee. This could lead to an unprecedented loss of control over the individual's personal information (Çiçek, 2015). Of course, with the use of modern technologies and measurements, there are some dangers. First of all, the collected data is relatively sensitive and should be properly protected against access by third parties. On the other hand, there is a certain risk of abuse, because just as organizations sometimes still have very controversial management of employees through fear or manifestations of mobbing, so potentially superiors, having access to such specific information about their employees, could decide for example to introduce some stress manipulation (drawing the conclusion that, for example, Smith, is too relaxed at work and its efficiency should be increased in this way - by introducing a stress factor). Apart from the ethical aspect of similar behaviors (which in principle should not be subject to any discussion) considering similar potential experiments conducted by managers - this is a highly debatable issue in terms of potential increase in efficiency. Because it is obvious that for everyone different factors act in a different way and not for everyone a factor considered as a stressful will increase motivation. In fact in many cases it can bring even the opposite result, especially when used with bad intentions and with insufficient knowledge about human nature and psychology. The topic of predisposition to perform specific types of tasks or taking specific positions within an organization is worth exploring and researching with the using of new devices available in research. The use of modern technologies allows us to better adapt the entrusted tasks, better plan the recruitment process and manage human resources of modern organizations in the most optimal way. As work optimization seems to be more and more important in every field is the future of the modern world - we can expect that this new branch of management science will improve in time. It is highly recommended that the tool enabling such advanced monitoring of an employee be intended for his own use. In order to increase self-awareness about the predisposition to perform specific tasks and the moments of his greatest performance or the greatest cognitive load. Certainly, it should not become a tool of any discrimination against potential employees due to predispositions. Because it is known that people can compensate for certain deficiencies or a lack of predisposition, they can work outside their comfort zone successfully. In our opinion the benefits of the using wearable technologies to diagnose employee predisposition will outweigh the hazards.

5. CONCLUSION

Realizing that this text as thousands of others can perish in the information smog we will repeat 5 main thoughts:

1. Management practitioners need scientific research results, but although the number of studies increases exponentially, the popularization of their research results in the »information smog« leads to harmful for practice misinterpretations (Wieczorkowska, 2017).
2. The cliché activated automatically in the minds of consumers of research »these are the results of scientific research« causes the exclusion of criticism, which causes that the results of scientific research are treated identically regardless of their internal and external validity (Wieczorkowska, Król, Wierzbinski, 2016)

3. Consumers of scientific research results should remember that: (1) correlation studies, regardless of how large the sample was tested, cannot have high internal validity; (2) the results of experimental studies, whose external validity is increased not by testing representative samples, but by replication on often small groups are much more valuable (Wieczorkowska, Król, 2016).
4. The main difficulty in applying the research results is the fact that both experimental and correlation studies are conducted in the »ceteris paribus« paradigm (with the determined influence of other variables - other things being equal), and in a specific situation in which we want this knowledge to be used, other variables are not fixed (ceteris is never a paribus) and thus may distort the relationships established previously in the research.
5. The future of research is quantitative case studies - possible thanks to the introduction of new technologies such as bands, eye trackers and other wearables and programs that are tracking employee computer activity during working hours. Just like the breakthrough in medicine came not through new theories but through the advancement of technology, so too will be the case when it comes to management science (Wieczorkowska, Karczewski, 2019). All that remains is to wait patiently, working intensely with the tools currently available to us. A good diagnostic instrument can help us gain a greater self-awareness of our predispositions and, in so doing, better understand the costs incurred by us when doing our work.

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SUSTAINABILITY MANAGEMENT IN RUSSIA: VALUES, MOTIVES AND ASSESSMENT

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ABSTRACT

The sustainability management concept brings new challenges and advantages for organizations. Some of them have already implemented this concept in practice and show a high level of maturity in sustainability management. Some of them have just started or are only discussing the opportunity to implement sustainability practices. Nevertheless, organizations in Russia shall cope with the increasing complexity of the social and economic environment and the sustainability management concept gives an organization the internal strength to do this. Our study is focused on the assessment of sustainability management of organizations in Russia, including the values, motives and level of maturity of sustainability management. The research questions are as follows:

- *What indicators allow us to assess comprehensively the sustainability management of an organization?*
- *What are the main motives that lead managers to implement sustainable development principles in management processes in Russia?*
- *What values does sustainability management bring to an organization?*

To conduct our study, we used a semi-structured online survey with managers of organizations in Russia. Our data-frame includes answers from 34 respondents from different regions of Russia.

Keywords: *Sustainability Management, Sustainability Assessment, Sustainable Development Principles, Sustainable Development, Motives of Sustainability Management*

1. INTRODUCTION

This study is devoted to sustainability management and its assessment in organizations. Sustainability management is a new concept for many organizations in Russia, but it is getting more popular nowadays. Sustainability management gives an organization the internal strength to cope with the increasing complexity of the social and economic environment. The main challenges of the sustainability concept lie in the fields of integrating it in practice - into people, processes, and policies, balancing the economic, social, ecological, and institutional principles in the management of organizations, and measuring sustainability and sustainable development. The identified challenges and research gaps allowed us to state the following research questions: What indicators allow us to assess comprehensively the sustainability management of an organization? What are the main motives that lead managers to implement sustainable development principles in management processes in Russia? What values does sustainability management bring to an organization? Our study aims to develop the methodology of sustainability management assessment for organizations including the value, motives and level of maturity and to test this assessment technique in practice. To conduct our study we used the method of a semi-structured online survey with managers of organizations. Our data-frame includes answers from 34 respondents from nine regions of Russia.

2. THEORETICAL BACKGROUND

Sustainability is a key idea that lies in the basis of the concepts of sustainability management and sustainable development. Sustainability may be considered as the capacity of the system or process to maintain itself for a long time (Moldan and Dahl, 2007). The most known definition of “sustainable development” was made in the 1987 Brundtland report “Our Common Future” as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, p.43). Sustainable development may be defined as development that accepts the rights of all people and nations to grow and flourish today as well as in the future (Robertson, 2017). The concept of sustainable development is considered as one of the most challenging concepts that has ever been elaborated on, despite its simple idea. Its main challenge is to provide the development of social and economic systems in harmony with the ecological systems of the planet. The sustainable development concept aims to provide everybody with the opportunity to lead a dignified life and protect the planet from damage (Moldan and Dahl, 2007, p.2). Sustainability management may be defined as “the organizational practices that result in sustainable development” (Cohen, 2011, p.4). In the broad sense, sustainability management aims to provide the economic efficiency of an organization/project in the long run, simultaneously ensuring a high level of ecological and social responsibility. “By slightly altering the way we view the delivery of projects, we can realize a global system that preserves its natural resources, positively impacts society, and strengthens the global economy” (Carboni et al., 2013, p.7). To summarize, the concept of sustainability management aims to balance the economic, social and ecological interests in the short and long term as well (Silvius et al., 2012).

2.1. Principles of sustainable development and sustainability management

The concept of sustainable development that was elaborated as “Agenda 21” at the Earth Summit (UN Conference on Environment and Development) in 1992, included three main principles: social, economic, and environmental. These three principles are known as the “three E’s” (environment, economic, and equity) or the “three P’s” (people, planet, and profit) and are also called “the triple bottom line” (TBL), the term introduced by John Elkington (Elkington, 1999). In other words, sustainable development includes the three following dimensions: ecological sustainability, economic opportunity, and social inclusion (Robertson, 2017, p.3). According to GPM Global, the triple bottom line concept “aims to measure the financial, social and environmental performance of the corporation over a period of time. Only a company that produces a TBL is taking account of the full cost involved in doing business” (Carboni et al., 2013, p.29). The Project Management Institute (PMI) defines sustainable development as a new management paradigm, which aids in coping with the complexity and dynamics of an organization. Sustainable development as a new management paradigm is also of relevance for temporary organizations (i.e. for projects and programmes). The principles of sustainable development - including economic, ecological and social; short-term, mid-term, and long-term; local, regional, and global; as well as values-based – can be used in all project management processes that allow us to improve the quality of the project results (Gareis et al., 2013, p.7).

The fourth principle of sustainable development is institutional. This principle was included in the system of sustainability indicators by the UN Commission on Sustainable Development. The fourth principle of sustainability has not been so well adopted as the three main principles; moreover there is a need for the development of sustainability indicators for the institutional component (Moldan and Dahl, 2007). The institutional component of sustainability may be considered as the acceptance of sustainability management institutions by an organization, as its intention towards sustainable development and the balance of economic, social and environmental objectives.

For the assessment of sustainability management, we would propose to use four principles (components) of sustainable development – economic, ecological, social and institutional – applying them to the management processes and deliverables.

2.2. The value and motives of sustainability management

The value of sustainability management cannot be overestimated because it harmonizes the economic, social and ecological interests in the short and long term. According to Kristina Kohl, “sustainable strategy is a business model that focuses on creating long-term financial value while preserving natural and social capital”. The adoption of sustainable strategy as part of the business strategy has led to benefits (values) “such as opening new markets, creating new products and solutions, reducing costs, improving customer relations, reducing risk, and engaging employees” (Kohl, 2016, p. xiii). There are several forces within the American market and culture that can be considered as drivers (motives) of sustainability management. The first motive is the public relations value of being seen as a green (sustainable) company. The second motive is the growing cost of energy, materials, and waste management. The third motive is the growing body of environmental liability law and the costs of liability defense (Locke, 2009, p.2). And the fourth motive is the deep change in the culture and dominant social paradigm, the shared view about how the world works (Cohen et al., 2015, p.10-11). Public Policy can form the motives and incentives for the development of sustainable management practices in both the public and private sectors using the following functions: “funding of basic scientific research; funding of sustainable infrastructure; use of the tax structure to provide incentives to direct private capital toward sustainability investments; use of regulatory rules and enforcement to prevent unsustainable economic activities; and the development and maintenance of a system of generally accepted sustainability measures” (Cohen et al., 2015, p.22). One more motive to implement sustainability management in practice is that it increases chances for the success of a project: “An environmental strategy for a project provides added opportunity for the success of both the project and the product of the project” (Maltzman and Shirley, 2010). The potential success and profit are among the most important drivers of sustainability for any company: implementation of the sustainability concept leads to development of new products that require less resources to manufacture and reduce the cost of production, that leads to a higher profit margin and market share (Cohen et al., 2015, p.10-11). To formulate the research questions more precisely, let us proceed to the challenges and research gaps in the area of sustainability management and sustainability assessment that face science and practice today.

2.3. Research gaps

In practice the concept of sustainability brings many challenges. The first challenge lies in the process of integrating sustainable strategy into people, processes and policies. There is a gap between sustainable strategy and benefit realization (Kohl, 2016, p. xiii). When implementing sustainability management in practice we shall know more about the values or benefits it creates, and the motives or drivers that would really work. The next challenge consists in measuring sustainability and sustainable development, and the development of sustainability indicators that are universally applicable (Karlsson, Dahl, et al., 2007, p.27). The development of sustainability assessment applications is a complex objective because of the complexity of organizations and their environment, the complexity of the local, regional and even global issues they address, and moreover the dynamic processes they involve (Gibson, 2016, p.2). To choose the proper sustainability indicators the following metacriteria may be used: purpose; measurability; representativeness; reliability and feasibility; and communicability (Bauler et al., 2007, pp. 56-57). The methodological challenge lies in constructing indicators that are reliable and accurate in the assessment of environmental and societal trends, but are easily understood by their target audiences (Bauler et al., 2007, p.49).

There are still many ways to measure sustainability and to choose sustainability indicators (Cohen et al., 2015, p.16) that lead us to a common practice when the sustainability assessment application and its indicators are designed for only one project, case or organization (Gareis et al., 2013). Development of the universal methods of sustainability assessment would make sustainability measurement and reporting for organizations easier (Cohen et al., 2015, p.16). Another challenge that faces science and practice nowadays is the balancing of the economic, social, ecological, and institutional principles of sustainable development in the management of organization and project management. To achieve the balance between these principles the organization always meets the trade-offs between the different dimensions of sustainability (Gareis et al., 2013, p.41). The balancing of the sustainability principles in a particular period of time is also related to balancing the short-term, middle-term and long-term objectives of the sustainable development of an organization (Carboni et al., 2013). If the organization values the short-term gains higher than the distant costs caused by social and environmental degradation, it leads to the exaggeration of the short-term objectives to increase the short-term profits while sustainable development requires priority of the long-term objectives (Gareis et al., 2013, p.41). These challenges led us to stating our research questions.

3. RESEARCH QUESTIONS AND METHODS

Our research questions are as follows:

- What indicators allow us to assess comprehensively the sustainability management of an organization?
- What are the main motives that lead managers to implement sustainable development principles in management processes in Russia?
- What values does sustainability management bring to an organization?

To conduct our study, we used the method of a semi-structured online survey with managers of organizations in Russia. Our data-frame includes answers from 34 respondents from different regions of Russia. The structure of the questionnaire was divided into three modules. The first module is one of general, or institutional questions in sustainability management; the second module is one of special questions in the three dimensions of sustainability – economic, social, and ecological (Carboni et al., 2013; Cohen et al., 2015; Gareis et al., 2013; Maltzman and Shirley, 2010; Moldan and Dahl, 2007; Silvius et al., 2017); and the third module is one of questions related to the motives and values of sustainability (Cohen et al., 2015; Kohl, 2016; Locke, 2009).

4. FINDINGS

The online survey was conducted with managers of organizations located in nine regions of Russia, including the cities of Moscow, Omsk, Yekaterinburg, Arkhangelsk, Chelyabinsk, Krasnoyarsk, Kazan, Kyzyl, and Ulan-Ude. 17 organizations are large (more than 251 employees); 6 organizations are middle-sized (from 101 to 250 employees); 5 organizations are small (from 16 to 100 employees); 4 are micro organizations (less than 15 employees); managers of 2 organizations didn't answer this particular question about the organization's size. The studied organizations implement their projects in different sectors of the economy; among them are industrial companies, including engineering, gas, chemical production, as well as service companies, including IT-companies, banks, etc. Six organizations implement their projects at the international level; six at the national level of the Russian economy; and 22 organizations work only at the regional level. Most of their projects are commercial, but some of them also implement social projects. The survey was conducted from November 2018 to March 2019.

4.1. Module 1 - Module of institutional questions

This module included 6 questions. The questions were about the application of the sustainable management concept by the organization; the strategy of sustainable development; the time-frame of the sustainable development strategy; three principles of sustainable development – economic, social and ecological – and their role in the strategy of the organization; planning of the results and effects of the projects; and the economic, social and ecological objectives of the projects (Moldan and Dahl, 2007; Gareis et al., 2013; Maltzman and Shirley, 2010; Silvius et al., 2017). The maximum possible score for this module was 10 points. We considered the following levels of institutional sustainability:

- 7.6 - 10 points – high level (8 from 34 organizations have this level, in fact the highest score was 10 points);
- 5.1 – 7.5 - average level (13 organizations);
- 2.6 – 5.0 – below average level (6 organizations);
- 0 – 2.5 - low level (7 organizations, in fact the lowest score was 0.5).

The average score was 5.5 points.

4.2. Module 2 - Module of special questions

This module consisted of 3 submodules: those of social, ecological and economic questions (Moldan and Dahl, 2007; Carboni et al., 2013; Cohen et al., 2015; Gareis et al., 2013; Maltzman and Shirley, 2010). Maximum possible score for the 2nd module was 30 points.

4.2.1. Social dimension (module 2A)

This submodule included 4 questions concerning the opportunities for studying and training by the staff; gender equality; inequality in the income distribution of the organization's staff; KPI in social sustainability (human rights, reduction of poverty, labour safety, support of trade unions, prevention of corruption and bribes, safety of consumers, partnership between management and staff of the organization). The maximum possible score for submodule 2A was 10 points. The distribution of the respondents was the following:

- 7.6 - 10 points – high level (3 from 34 organizations, in fact the highest score was 8 points);
- 5.1 – 7.5 – average level (12 organizations);
- 2.6 – 5.0 – below average level (9 organizations);
- 0 – 2.5 – low level (10 organizations, in fact the lowest score was 0).

The average score was 4.3 points.

4.2.2. Ecological dimension (module 2B)

The submodule of ecological questions consisted of 6 questions, including questions about the internal assessment of the project's influence on the environment at the planning stage; expenses on transport and cooperation with local suppliers; the renewable energy; waste management; KPI in ecological sustainability (water consumption, carbon dioxide emissions, emissions of other harmful gases into the atmosphere, consumption of energy, materials and other resources). The maximum possible score for submodule 2B was 10 points. The following levels of ecological responsibility were identified:

- 7.6 - 10 points – high level (3 from 34 organizations, in fact the highest score was 10 points);
- 5.1 – 7.5 - average level (5 organizations);
- 2.6 – 5.0 – below average level (7 organizations);
- 0 – 2.5 – low level (19 organizations, in fact the lowest score was 0).

All in all, the ecological dimension received the lowest scores in the survey. The average score was 2.9 points.

4.2.3. Economic dimension (module 2C)

This submodule included 4 questions related to the economic sustainability of the organization and its projects; KPI in return on investment (ROI), net present value (NPV), cash flow, liquidity of assets, market share, new jobs, taxes; economic efficiency of corporate social responsibility; economic efficiency of waste recycling. The maximum possible score for submodule 2C was 10 points. The distribution of the respondents was the following:

- 7.6 - 10 points – high level (9 from 34 organizations, in fact the highest score was 10 points);
- 5.1 – 7.5 – average level (6 organizations);
- 2.6 – 5.0 – below average level (15 organizations);
- 0 – 2.5 - low level (4 organizations, in fact the lowest score was 1).

The economic dimension received the highest scores in the survey. The average score was 5.54 points.

4.2.4 The results of sustainability management assessment

At the end, we summarized the results of modules 1 and 2, and each organization received its total score. To classify the results of the sustainability assessment we identified the following levels of sustainability:

- 30.1 – 40 points – high level of sustainability management (3 from 34 organizations, in fact the highest total score was 35.75 points);
- 20.1 – 30 – average level (12 organizations);
- 10.1- 20 – below average level (12 organizations);
- 0-10 – low level (7 organizations, in fact the lowest total score was 2.5).

The average total score was 18.3 points, that is below the average level of sustainability management.

4.3. Module 3 - Module of questions related to the motives and values of sustainability

The respondents have chosen the motives/ values which may lead to sustainability management of the organization. Table 1 shows the distribution of answers among the respondents. Questions 1-3 in the table 1 are based on Locke (2009), question 4 - on Cohen et al. (2015).

Table 1: Motives/ values of sustainability management

	Value/ motive of sustainability management	Absolutely agree	Partly agreed	Disagree
1	The public relations value of being seen as a sustainable organization	17	14	3
2	The growing cost of energy, materials, and waste management	10	12	12
3	The growing body of environmental liability law and the costs of the liability defence	17	6	11
4	The desire for change in the culture and dominant social paradigm	16	11	7
5	The need to work with foreign partners and adhere to the international standards	15	8	11
6	Digital transformation of the economy and society, the increase in open data access	15	15	4

Another block of questions was devoted to the motives to implement sustainability management practices in the organization under the influence of government regulations. Table 2 shows the answers of our respondents related to the public policy. Questions 1-6 in table 6 are based on Cohen et al. (2015, p.22).

Table 2: Influence of the public policy on the motives/ values of sustainability management

	Value/ motive of sustainability management	Absolutely agree	Partly agreed	Disagree
1	Funding of basic scientific research	20	10	4
2	Funding of sustainable infrastructure in the country/ region	20	10	4
3	Use of the tax structure to provide incentives to direct private capital toward sustainability investments	21	9	4
4	Use of regulatory rules and enforcement to prevent unsustainable economic activities	14	12	8
5	Development and maintenance of a system of generally accepted sustainability measures	14	15	5

And in the last question in this module we asked the respondents if they agree or not that the implementation of sustainability management in practice leads to the success of an organization in Russia. This question was based on Maltzman and Shirley (2010) and Cohen et al. (2015, p.10-11). 27 respondents absolutely agreed with this statement, 3 didn't agree and 4 were not sure about the right answer.

5. CONCLUSIONS

One of the main results of our study was the development of the technique for assessing sustainability management in organizations. We used four dimensions of sustainability in our assessment methodology including three basic dimensions (economic, ecological and social) plus the institutional dimension. Our survey was divided into three modules of questions. To assess the level of sustainability management we used the first two modules and 20 questions. The first module is one of institutional questions, the second module was divided into three parts: module 2A - social dimension; module 2B - ecological dimension; module 2C - economic dimension. The maximum possible score for the first two modules was 40 points. To classify the results of the sustainability assessment we identified four levels of sustainability: high; average; below average; and low level. The analysis of 34 organizations shows that the average level of sustainability management is below average (average total score was 18.3 points). The level of sustainability is higher for the institutional and economic dimensions than for social and ecological. The ecological dimension received the lowest scores (2.9 from 10 in average). The third module of questions was devoted to the motives and values of sustainability management. Among the most important motives/ values were the awareness that implementation of sustainability management in practice leads to the success of an organization in Russia; the public relations value of being seen as a sustainable organization; and digital transformation of the economy and society, and the increase in open data access. The government also has an impact on the motives and values of sustainability management. The most important factors that may lead to implementation of sustainability management practices in an organization were the tax structure, as well as the funding of a sustainable infrastructure and the funding of basic scientific research in the field of sustainability. This study has its limitations, including a small number of research participants. The 34 participants of the survey were enough to test our assessment technique, but not enough to develop a statistical model. Future research may be based on a bigger number of participants from different regions of Russia.

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THE USAGE OF MODERN PAYMENT TECHNOLOGIES IN UKRAINE

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ABSTRACT

Over the past few decades, e-commerce has become an integral part of the trade industry, and online purchases have become part of everyday life of most consumers in many countries around the world. Even in Ukraine, no serious business can be imagined without e-support in the form of online stores or web resources, and some merchants are completely transformed into a more economical and user-friendly virtual format. For the organization of Internet commerce necessarily need tools that would allow you to pay for the purchased product in online mode, thereby making the purchase process as comfortable as possible for both the customer and the seller. For this purpose, electronic payment systems have been created to allow payment on the site in several "clicks". Thanks to payment services, the buyer has the opportunity to immediately pay for purchased goods, without interrupting the monitor, and the seller can quickly get funds to the current account. Introducing a family of cashless payment systems, the modern electronic service for payment of online purchases represents a complex combined product, which is based on a set of technical infrastructure, procedural operations, rules of operation. Generated in a single integral system, these elements provide the possibility of transferring funds from one entity to another in a non-cash format. In this case, online payment transactions go online. Similar payment systems allow you to make online purchases and pay for goods and services using bank cards, electronic money or other settlement tools.

Keywords: *payment systems, mobile payment systems, electronic money*

1. INTRODUCTION

1.1. Basics of payment systems

For the organization of Internet commerce necessarily need tools that would allow you to pay for the purchased product in online mode, thereby making the purchase process as comfortable as possible for both the customer and the seller. For this purpose, electronic payment systems have been created to allow payment on the site in several "clicks". Thanks to payment services, the buyer has the opportunity to immediately pay for purchased goods, without interrupting the monitor, and the seller can quickly get funds to the current account. With the advent and distribution of the Internet, payment services began to go from the material to a more convenient

infrastructure. The most known today non-bank payment systems came into existence in one year - 1998. It was a PayPal payment network and an electronic payment system WebmoneyTransfer. The development of payment systems of the new generation is closely linked to the concept of "electronic money." Under electronic money is understood systems of storage and transmission of both traditional currencies and non-state private currencies. However, due to the development of a wide variety of electronic payment services, for a long time under the notion of "electronic money" understood quite different things. In 1993, the central banks of the European Union began to study the phenomenon of electronic money, which at that time considered prepaid cards. In fact, this was the recognition of the existence of electronic money at the official level.

2. DEVELOPMENT OF PAYMENT SYSTEMS IN UKRAINE

2.1. Main payment systems in Ukraine characteristics

A huge impetus for the development of modern payment systems has been the development and spread of smartphones in the community, as well as technologies of contactless payments, such as NFC. Researchers of the consumer market have repeatedly noted that the buyer, paying off at the cashier's shop, in most cases holds in one hand a mobile phone while another gets a card or cash. The idea of using a smartphone for payments lay on the surface. An additional stimulus for innovation was the development of trade and media internet sites that created the entire ecosystem of internal relations and saw the payment system a convenient part of its service. Both of these factors have become crucial for the emergence of such payment systems as ApplePay (2014) and AndroidPay (2015). With huge online application stores and media content, as well as two of the world's most popular mobile platforms in the world, both companies rightly judged that their ecosystem is well suited for billing services. ApplePay and AndroidPay provide a service linking a payment card issued by a bank or other institution to a customer's account. Mobile giants work with virtually all of the world's most popular payment cards: Visa, MasterCard, AmericanExpress, Discover, ChinaUnionPay, Suica, iD, QUICPay. To start the service, a contract with the bank is signed. Actually, ApplePay is the bank itself and it costs the service as a commission for each payment. However, the commission fee is very small and on average less than 0.1%. Google said their AndroidPay service is more of a promotion tool and is free for issuing banks. The payment process itself is carried out with the help of a NFC wireless chip on the smartphone (if any) and the corresponding terminal of the seller. PIN identification is required only if such requirements are in the national law. Unfortunately, only AndroidPay payment system and only clients of such banks as PUMB, Oschadbank, PrivatBank and UkrSibbank are available in Ukraine. However, according to the statement of the service itself, the list of banks will be expanded.

2.2. Analysis of main legislation about payment systems in Ukraine

Efficient payment systems in the modern world are the key to the stable functioning of the financial system and the economy of the country as a whole. The National Bank of Ukraine for the first time published the Oversight Report (Oversight) of payment systems, which is one of the key instruments for ensuring financial stability. The general principles of issuance and execution of operations using electronic payment facilities are regulated by the norms of the Laws of Ukraine "About the National Bank of Ukraine", "About Banks and Banking", "About Payment Systems and Transfer of Funds in Ukraine", the Regulations on the Procedure for the Issue of Electronic Payment Facilities and the Implementation operations with their use, approved by the Resolution of the Board of the National Bank of Ukraine dated November 05, 2014 No. 705, other legislative acts of Ukraine. The issuance of electronic payment facilities within Ukraine is carried out exclusively by banks that have entered into an agreement with the payment organization of the payment system and received its permission to perform these

operations (except for banks that issue electronic payment funds for use within these banks). Acquiring within Ukraine is carried out solely by resident legal entities who have entered into an agreement with the payment organization of the payment system. Users have the right to use electronic payment facilities for conducting payment transactions in accordance with the account regimes established by the regulatory acts of the National Bank of Ukraine and the terms and conditions of the agreement with the issuer. The NBU Report states that at the end of 2018 there were 42 domestic and international payment systems established by residents and non-residents, as well as two systems established by the National Bank of Ukraine. Last year, the international payment system UnionPay International (payment organization UnionPayInternational Co., Ltd., People's Republic of China) entered the Ukrainian market the largest in the world by the number of issued payment cards. In addition, a new international payment system has been registered and two other domestic payment systems have expanded the list of services and have become international. The National Bank of Ukraine in the report notes that starting from 2018 the regulator has substantially increased the requirements for participants of payment systems and payment service providers. In future, according to international standards, oversight functions will be expanded to the infrastructure of the financial (in particular, stock) market, which are traditionally considered to be systemically important for the economy of the country. In Ukraine, it is a central securities depository (currently - the National Depository of Ukraine) and a central counterparty (at the present stage, in part, these functions are performed by PAO "Settlement Center" bank). According to the Report, according to the results of 2018, the system of electronic payments (SEP NBU) remains the only systemically important payment system in Ukraine. The category of socially important payment systems includes five payment systems: Mail order, FORPOST, MasterCard, Visa, Western Union. The categories of importance of payment systems in Ukraine and their criteria are presented in the Table 1.

Table 1: Categories of importance of payment systems in Ukraine and their criteria

Category	Criterion
systemically important	more than 10% of interbank transfers – transfers in the country precares on securities transactions in the open market provision of settlement of obligations of participants that arise in other payment systems
socially important	more than 10% of domestic and cross-border transfers more than 10% of transactions using electronic payment facilities
important	5-10% of interbank transfers 5-10% of domestic and cross-border transfers 5-10% of transactions using electronic payment facilities more than 5% of internal transfers more than 5% of cross-border transfers the only one in the market by type of services

As of January 1, 2019, the number of active cards in the payment system "MasterCard" amounted to 26.0 million units, Visa - 10.5 million units, in the "SPACE" NPP - 0.5 million units. The network of payment terminals in 2018 increased by 18% and as of January 1, 2019 amounted to 297,300 pcs. This increase was due to an increase in the number of trade payment terminals: from 232.1 thousand units. to 279,0 thousand pieces (by 20% compared to the beginning of 2018). The number of bank terminals, by contrast, decreased by 7% and amounted to 18.3 ths. At the same time, the popularization of innovative services, such as Apple Pay and Google Pay, stimulates the development of contactless billing infrastructure.

As of January 1, 2019, 79.4% of the devices of the country's trade network provide an opportunity to make contactless payment (or 221.5 thousand pieces). As a result, in Ukraine there is a joint overview between the central bank of Belgium and the National Bank (based on the relevant memorandum) regarding the payment system MasterCard, through which about 70% of non-cash card transactions in Ukraine are performed. The company providing payment services, in accordance with the law, is a "financial institution" and must be registered as a legal entity with a statutory capital of at least UAH 3 million. In the future, such a company should be registered in the State Register of Financial Institutions, which is conducted by the National Commission, which carries out state regulation in the field of financial services markets (the National Financial Services Commission). For conducting activities in the field of payments, the company must obtain a license from the NBU for the transfer of funds without opening an account, and if necessary, also a general license for foreign exchange transactions. The cost of such licenses for today is, respectively, 36 thousand UAH and 9 thousand UAH. However, this is not all. The rules of each payment system in Ukraine must be pre-agreed by the NBU, and only then such a payment system can be registered in the Payment Systems Register and start its work.

3. CONCLUSION

Thanks to the NBU's initiatives, envisaged by the Comprehensive Program for the Development of the Financial Sector of Ukraine until 2020, the most necessary steps for the development of the Ukrainian economy and the increase of non-cash payments are already being implemented. Among them: the transition to the latest standard of SWIFT-payments ISO20022, electronic digital signatures, electronic filing of documents, the cancellation of seals and stamps, remote identification of BankID and MobileID. The regulator discusses the issue of creating a so-called "sandbox" - a special legal regime for a group of companies or territories where it will be possible to work out financial technologies in practice. The Verkhovna Rada of Ukraine is considering bill No. 7270 on payment systems, the provisions of which are intended to unify the Ukrainian legislation with the European Union Directive on payment services No. 2015/2366 (so-called PSD2), which has recently entered into force. The bill envisages introduction of norms allowing the use of third-generation payment systems in Ukraine (Internet payments). In particular, the document contains the following innovations:

- Unification of definitions of payment institutions with PSD2
- the ability for billing institutions to open accounts, electronic purses, issue payment cards and electronic money, and also have a network of agents
- an opportunity for residents of Ukraine to pay utility bills, taxes and fees by electronic money
- Settlement of contractual write-offs by technical means
- an opportunity for banks to open accounts for legal entities-non-residents.

Thus, fintech companies interested in conducting a payment business in Ukraine can already begin to place their projects, and foreign payment companies can look at our market more closely. Since the beginning of 2019, the network of trading payment terminals has grown by 4% to 289.6 thousand pieces, of which 0.6 thousand units. - These are mobile payment terminals (mPOS). At the same time, 81% of trade POS-terminals in Ukraine provided an opportunity for contactless payment (as of April 1, 2019). The general indicator of the ratio of the number of payment terminals to the number of permanent residents of Ukraine from the beginning of the year increased by 3% and reached 7,300 pcs. per 1 million people. Nevertheless, today the most promising and interesting for innovators is the "fourth generation" of payment systems - blockade. And here the situation with legal regulation is not so rosy.

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FORECASTING CORRECTNESS OF INCURRING CREDIT WITH THE AID OF E.I. ALTMAN'S, J. GAJDKA'S AND D. STOS'S DISCRIMINANT ANALYSIS MODELS ON THE EXAMPLE OF 200 STUDIED COMPANIES FROM OPOLE AND PODKARPACIE PROVINCES WITHIN 2010-2018

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ABSTRACT

The credit risk related to issuing credit for a company is mostly the result of too high amount of the incurred credit, wrong prediction of future periods and repayment of the incurred liability. In order to minimize risk, as part of information about a credited company, there should be technical and economic information enabling to conduct "collective evaluation of the company's activity" with the use of E.I. Altman's, J. Gajdka's and D. Stos's models. Both models were used in the group of the studied companies of Opole and Podkarpackie provinces. The research showed that incurred credit contributed to improvement of the financial liquidity in both groups. However, credits of greater worth led to the lessened increase of net profit and contributed to the small decrease of companies showing net loss. On the other hand, the group of companies, in which credits of lower worth were incurred, could decrease the number of companies suffering from net loss.

Keywords: *company, financial liquidity, credit, discriminant analysis, net profit*

1. INTRODUCTION

Using the J. Gajdka's and D. Stos's model in practice, it should be noted that the model proves to be perfect for Polish conditions because it reflects the realities of the Polish market, and demonstrates correctness of incurred credit of studied companies. The E.I. Altman's model was also used in research because the research results had to be compared in terms of a difference from the Polish market because this ratio was created for the American market and its needs. 200 micro, small and medium-sized companies were studied in the research, including 100 companies from the Opole province and 100 companies from the Podkarpackie province. Such a big group of the studied companies was used to indicate correctness of the company's decision on incurring credit. The goal was to indicate that the company, which did not have the financial liquidity, or was operating on the border of its maintenance, could improve or regain the financial liquidity after incurring credit (Gabrusiewicz, 2014, pp. 245-261; Jaworski, 2001, pp. 638-641; pp. Nowak, 2014, pp. 185-194; Rutkowski, 2007, pp. 420-429). However, the amount of properly incurred credit and the period of its duration were additionally taken into account because they had significant influence on the company's financial liquidity. Used models also enabled to indicate that the incurred credit influenced development of the subject's running a business positively, and even contributed to improve its financial condition. Nevertheless, it had to be incurred in a proper amount and for a proper period.

2. J. GAJDKA'S, D. STOS'S AND E.I. ALTMAN'S DISCRIMINANT MODELS

The J. Gajdka's and D. Stos's model reflects the best research results because it was developed in Poland, where Polish companies underwent discriminant analysis. The J. Gajdka's, D. Stos's and E.I. Altman's models are comparable, but were developed for different economic realities.

When both models were compared, differences between them were indicated (Parvi, 2015, pp. 141-149; Zarzecki, 2003, pp. 173-181). The E.I. Altman's model has been used for dozens of years. It may distort a picture and a result of the research because it was used as early as in the 1970s. The credit risk related to issuing credit for investments is mostly the result of the credited company's wrong prediction of its realization (Czekaj, 2008, pp. 10-17; Dowgiałło, 2002, pp. 122-124), and as it can also be noticed in the conducted research, the wrong credit amount, either too low, or too high, and the time period, for which it was incurred. The E.I. Altman's model enables to forecast the course of economic events happening in the company within subsequent two years of its operation. The "Z" value, calculated on the basis of 5 economic and financial ratios, is the basis of this model (Czerwiński, 1980, pp. 44-55; Rutkowski, 2007, pp. 420-429):

Table 1: E.I. Altman's guidelines for the company's classification (Source: E.I. Altman)

The "Z" ratio's value	The chance of the company's bankruptcy
$Z \leq 1.8$	Very high
$1.8 < Z < 3$	Indefinite, but significant
$Z \geq 3$	Low

$$Z = 1.2 x_1 + 1.4 x_2 + 3.3 x_3 + 0.6 x_4 + 0,999 x_5$$

where:

X1 - working capital / assets in total

X2 – net income / assets in total

X3 – EBIT / assets in total

X4 – net market value of the company/liabilities in total

X5 – trade (net sale) / assets in total

These ratios are statistical assessment of performance of not only the manufacturing company, but also other kinds of the company. If the result of "Z" value's calculations is below three, it means that credit ratings of the company's need to be examined and assessed thoroughly because the indefinite or low chance of the company's bankruptcy, or its ability to overcome such situation, should be expected. In calculations of the E.I. Altman's "Z" ratio, attention should be paid on the X₅ ratio's value, which is trade (net sale) to assets in total, if the denominator shows low value in relation to the numerator. It may mean that the company is underfunded. That is why values not exceeding three that is $X_5 \leq 3$ are considered to be the proper level of this ratio because, otherwise, the general assessment may be distorted. By the use of the "Z" ratio, we can predict c. 80-90% of accurate forecasts of the companies' bankruptcy, or occurring problems with companies' maintenance of the financial liquidity. It concerns both one- and two-year periods. E.I. Altman, in his original model, took a sample consisting of 66 companies operating in the same period and sector of economy. Half of these companies was insolvent. At the beginning, he estimated values of 22 financial ratios. Later, the number of these ratios, after conducting statistical tests and verification of their meanings (values), was lessened to 5. These 5 ratios reflect economic and financial situation and predicted credit rating best. The cut-off point in the E.I. Altman's model amounts to 2.675. It is the discriminatory line separating the set of companies into two groups that is companies with high (below 2.675) and low likelihood of insolvency (above the cut-off point). According to E.I. Altman's research, the error of wrong companies' qualification to the set was then the smallest – as many as 94% of companies, which bankrupted in the previous year, reached the "Z" function's value below 2.675. In the same period, the studied value of 97% of solvent companies was above the cut-off point.

Correctness of the classification a year prior to bankruptcy amounted to 95%, and, by analogy, results of the whole sample amounted to 82% two years prior to insolvency. In Poland, D. Zarzecki undertook verification of discriminant analysis's models in 2003. The result of the analysis of these models conducted by D. Zarzecki shows that the J. Gajdek's and D. Stos's model brings the best research results (Parvi, 2015, pp. 141-149; Zarzecki, 2003, pp. 173-181):

$$Z = 0,7732059 - 0,0856425 \times X_1 + 0,0007747 \times X_2 + 0,9220985 \times X_3 + 0,6535995 \times X_4 - 0,594687 \times X_5$$

where:

- X1 – revenues from the sale/assets in total,
- X2 – (short-term liabilities/cost of production sold) x 360,
- X3 – net profit/assets in total,
- X4 – gross profit from the sale/net revenues,
- X5 – liabilities in total/assets in total.

In this model, the cut-off point is 0.45, which means that a studied company is not endangered with bankruptcy, if the above value is reached. This cut-off point is different from the one given by E.I. Altman, but it is related to the used ratios, which are different in particular models. A comparison of these two research methods by E.I. Altman, J. Gajdka and D. Stos leads to clear conclusions and gives an opportunity to consider both studied methods – the one developed and functioning in the world, and the one used in Polish companies and adjusted to the Polish market's conditions. The other method is a little bit more correlated with Polish companies. However, ratios show that both methods are close to each other, and comply in indicating these companies, which can be included either to the group of companies endangered with bankruptcy, or the one, in which there are successful companies able to compete on the market with incurring credit. Strengths of the discriminant analysis are:

- the system's easy functioning,
- the assessment's objectivity, in which measurable financial information is the basis,
- effectiveness measured with the forecasts' regularities scale,
- providing early warnings about credit risk.

Weaknesses are:

- effectiveness dependent on the quality of financial data set necessary to estimate values of particular ratios,
- only selected, not complex, quantitative information is taken into account in the model's construction,
- quantitative information is static.

During the study of companies with the use of both models, the method enabling to compare them in a way presenting their financial capabilities unambiguously was constructed. Depicted values of the "Z" ratios were present in conjunction with several variables presenting what differences occur at the chosen amount of contracted credit and its period (Antonowicz, 2013, pp. 11-20; Parvi, 2015, pp. 141-149). Used models are very useful in assessment of the companies' crediting and are often used in practice (Czerwiński, 1980, pp. 44-55). Nonetheless, conducted analyses are not attempts to estimate specific worth of credit and the period for which the company should go in debt, but the credit's maximum worth and period. It may lead to issuing credit to a company, which may not be able to repay it in future.

3. THE USE OF E.I. ALTMAN'S, J. GAJDKAS'S AND D. STOS'S DISCRIMINANT ANALYSIS MODELS IN ORDER TO INDICATE CORRECTNESS OF A DECISION ON INCURRING CREDIT ON THE EXAMPLE OF 200 STUDIED COMPANIES FROM OPOLE AND PODKARPACIE PROVINCES WITHIN 2010-2018

In the Opole province, companies were studied with a comparison of the net profit in following years: a year prior to issuing credit, in the year of issuing credit and two years after issuing credit. The net income (division into following groups: from PLN 0 to PLN 100,000, from PLN 100,100 to PLN 200,000, from PLN 200,100 to PLN 500,000, and from PLN 501,000 to 1,000,000) and net loss were taken into account. The goal of such an analysis was to study range and opportunities of the obtained credit's amount in relation to the net profit and owned capital. The net profit, or net loss, indicated whether credit contributed to maintenance and improvement of the companies' financial liquidity, or it led to their bankruptcy. In 2010-2015, in the Opole province, companies of lower net profit (from PLN 0 to PLN 100,000 and from PLN 100,100 to PLN 200,000) were the most numerous – there were 80 such companies. In the Podkarpackie province, ranges between PLN 0 and PLN 100,000, and between PLN 100,100 and PLN 200,000 were dominant – there were 61 such companies. It should be noted that the studied companies tended to maintain net profit. Moreover, incurring credit even led to decrease of the number of companies, in which the loss occurred – from 20 to 3 in the Opole province, and from 15 to 9 in the Podkarpackie province. It proves that the decision on incurring credit, which contributed to improvement of the financial liquidity, was correct. These data were summarized in tables 2 and 3. In tables 4 and 5, the average net profit, average long-term and current assets, average worth of issued credit, and average loss of the companies that do not have the financial liquidity were presented.

Table 2: Profit or loss of studied companies of the Opole province examined, 100 examined companies (Source: own development based on 100 studied companies of the Opole province)

Year	Profit 0-100,000	Profit 100,100 – 200,000	Profit 200,100 – 500,000	Profit 500,100 – 1,000,000	Net loss
2010	28	33	15	4	20
2011	33	35	11	3	18
2012	35	37	10	3	15
2013	38	42	10	3	7
2014	37	41	12	5	5
2015	35	43	11	6	5
2016	36	44	11	5	4
2017	37	43	11	6	3
2018	37	44	10	6	3

Table 3: Profit or loss of studied companies of the Podkarpackie province examined, 100 examined companies (Source: own development based on 100 studied companies of the Podkarpackie province)

Year	Profit 0-100,000	Profit 100,100 – 200,000	Profit 200,100 – 500,000	Profit 500,100 – 1,000,000	Loss
2010	38	28	18	1	15
2011	38	29	17	1	15
2012	39	26	19	2	14
2013	42	26	20	2	10
2014	42	26	19	2	11
2015	39	28	20	3	10
2016	37	29	21	3	10
2017	38	29	21	3	9
2018	37	29	22	3	9

In the table 4, it should be noted that the average value of issued credit amounts to PLN 251,425. It is the working capital facility, revolving in subsequent years, and issued in 2011. The value of credit constitutes c. 1/3 of average values of current assets that is c. 33%. It is the evidence that credit, which is c. 30% of current assets, causes maintenance of the financial liquidity, and does not cause financial destabilization. While analysing the table 5, it should be noted that the average value of issued credit amounts to PLN 329,457. It is the working capital facility, revolving in subsequent years, and issued in 2011 as well.

Table 4: Average net profit in relation to value of long-term and current assets of studied companies of the Opole province in PLN thousands (Source: own development based on 100 studied companies of the Opole province)

Year	Average Net profit	Average value of Long-term assets	Average value of Current assets	Average value of assets in total	Average value of the issued credit	Average Loss
Before issuing credit						
2010	199,875 (80 companies)	450,456	658,475	1,108,931	X	225,154 (20 companies)
The year of issuing credit						
2011	205,895 (82 companies)	552,326	798,459	1,350,785	251,425	289,478 (18 companies)
After issuing credit						
2012	245,425 (85 companies)	582,954	821,258	1,404,212	X	198,487 (15 companies)
2013	263,125 (93 companies)	623,745	836,547	1,460,292	X	125,158 (7 companies)
2014	266,254 (95 companies)	639,532	840,128	1,479,660	X	134,578 (5 companies)
2015	295,365 (95 companies)	644,588	855,655	1,500,243	X	134,578 (5 companies)
2016	301,431 (96 companies)	668,602	884,286	1,552,888	X	130,884 (4 companies)
2017	301,431 (97 companies)	695,632	880,025	1,575,657	X	133,295 (3 companies)
2018	301,431 (97 companies)	722,548	888,365	1,610,913	X	132,654 (3 companies)

However, in case of companies of the Podkarpackie province, its worth in relation to current assets is c. 1/2, so it is 45% of the credit's worth in relation to current assets. In this case, it can be seen clearly that companies maintain the financial liquidity harder with such debts. Moreover, the group of companies suffering loss enlarged from 14 to 9 in the year of incurring credit. As late as in 2012-2018, the group decreased to 10 companies. But in the Opole province, the number of companies suffering loss decreased four times – from 20 to 5 with 30% relation of incurred credit to current assets, while in the Podkarpackie province, the number of such companies decreased from 15 to 9 with c. 50% relation of incurred credit to current assets. In conclusion, too heavy burden with debt and relying on foreign capital (over 45% of the current assets' value) leads to disturbance of the company's financial liquidity because the company is not able to pay such debt and use obtained funds properly and sensibly. Only these companies where foreign capital is 30% of current assets will use them sensibly and in accordance with their financial opportunities. The credit risk taken by a bank due to granting funds was minimal in case of companies with less credit. It is demonstrated by another calculations and use of E.I. Altman's, J. Gajdka's and D. Stos's methods. Nevertheless, granting funds constituting c. 50% of the company's current assets was too dangerous both for the bank and the company.

Table following on the next page

Table 5: Average net profit in relation to value of long-term and current assets of studied companies of the Podkarpackie province in PLN thousands (Source: own development based on 100 studied companies of the Podkarpackie province)

Year	Average Net profit	Average value of Long-term assets	Average value of Current assets	Average value of assets in total	Average value of the issued credit	Average Loss
Before issuing credit						
2010	198,264 (85 companies)	460,523	710,624	1,171,147	X	312,963 (15 companies)
The year of issuing credit						
2011	201,634 (85 companies)	492,129	724,663	1,216,792	493,486	401,552 (15 companies)
After issuing credit						
2012	215,778 (86 companies)	523,113	739,998	1,263,111	X	342,985 (14 companies)
2013	221,321 (90 companies)	556,447	772,224	1,328,671	X	309,662 (10 companies)
2014	238,394 (89 companies)	589,556	791,913	1,381,469	X	288,995 (11 companies)
2015	267,694 (90 companies)	601,339	801,785	1,403,124	X	269,441 (10 companies)
2016	266,984 (90 companies)	654,652	820,354	1,475,006	X	270,4524 (10 companies)
2017	298,654 (91 companies)	698,246	880,965	1,579,211	X	242,478 (9 companies)
2018	299,324 (91 companies)	699,325	889,648	1,588,973	X	240,964 (9 companies)

Analysing course of economical events since the moment preceding issuing credit (Pomykalska, 2007, pp. 178-189) and subsequent years of the activity's duration, five selected ratios corresponding to particular models were used. The cut-off points for two chosen discriminant analysis models were obtained.

Table 6: The use of E.I. Altman's, J. Gajdka'S and D. Stos'S discriminant analysis models on the example of 100 studied companies from the Opole province (Source: Own development on the basis of data of 100 selected companies from the Opole province)

E.I. Altman's model	2010	2011	2012	2013	2014
The number of companies showing profit	80	82	85	93	95
The average "Z" ratio for companies	3.12	3.45	3.32	4.11	4.15
Absence of risk, values close to and above 3.0	low	absence	absence	absence	absence
The number of companies showing loss	20	18	15	7	5
The average "Z" ratio for companies	1.98	2.36	1.95	1.72	1.80
Absence of risk, values close to and above 3.0	high	medium	high	high	high
The J. Gajdka and D. Stos's model	2010	2011	2012	2013	2014
The number of companies showing profit	80	82	85	93	95
The average "Z" ratio for companies	0.79	0.93	0.88	1.02	1.05
Absence of risk, values close to and above 0.45	absence	absence	absence	absence	absence
The number of companies showing loss	20	18	15	7	5
The average "Z" ratio for companies	0.31	0.39	0.37	0.34	0.33
Absence of risk, values close to and above 0.45	high	medium	high	high	high

Table following on the next page

Table 7: The use of E.I. Altman's, J. Gajdka's and D. Stos's discriminant analysis models on the example of 100 studied companies from the Opole province (Source: Own development on the basis of data of 100 selected companies from the Opole province)

E.I. Altman's model	2015	2016	2017	2018
The number of companies showing profit	95	96	97	97
The average "Z" ratio for companies	4.17	4.20	4.21	4.25
Absence of risk, values close to and above 3.0	absence	absence	absence	absence
The number of companies showing loss	5	4	3	3
The average "Z" ratio for companies	1.83	1.95	1.96	1.97
Absence of risk, values close to and above 3.0	high	high	high	high
The J. Gajdka and D. Stos's model	2015	2016	2017	2018
The number of companies showing profit	95	96	97	97
The average "Z" ratio for companies	1.06	1.12	1.13	1.15
Absence of risk, values close to and above 0.45	absence	absence	absence	absence
The number of companies showing loss	5	4	3	3
The average "Z" ratio for companies	0.35	0.38	0.39	0.39
Absence of risk, values close to and above 0.45	high	high	high	high

Table 8: The use of E.I. Altman's, J. Gajdka's and D. Stos's discriminant analysis models on the example of 100 studied companies from the Podkarpackie province (Source: Own development on the basis of data of 100 selected companies from the Podkarpackie province)

E.I. Altman's model	2010	2011	2012	2013	2014
The number of companies showing profit	85	85	86	90	89
The average "Z" ratio for companies	3.01	3.02	3.40	3.50	3.55
Absence of risk, values close to and above 3.0	low	low	absence	absence	absence
The number of companies showing loss	15	15	14	10	11
The average "Z" ratio for companies	1.30	1.38	1.40	1.48	1.5
Absence of risk, values close to and above 3.0	high	high	high	high	high
The J. Gajdka and D. Stos's model	2010	2011	2012	2013	2014
The number of companies showing profit	85	85	86	90	89
The average "Z" ratio for companies	0.55	0.55	0.59	0.60	0.61
Absence of risk, values close to and above 0.45	absence	absence	absence	absence	absence
The number of companies showing loss	15	15	14	10	11
The average "Z" ratio for companies	0.30	0.35	0.37	0.38	0.39
Absence of risk, values close to and above 0.45	medium	medium	high	high	high

On the example of the studied companies of the Opole province, the Altman's model shows significant improvement of the ratio in 2011 (3.45), when companies incurred credit, in relation to 2010 (3.12). Improvement of the selected companies' financial condition proves the above. In subsequent years, this value is the same, and in 2018, increases to 4.25. The J. Gajdka's and D. Stos's model also indicates values above the cut-off point from 0.79 to 1.15 in 2010-2018. Only in companies suffering from loss the cut-off's ratio tends to deteriorate with the use of both methods, which proves that even properly selected credit does not improve the companies' financial liquidity. The values described above present research included in the table 6-7.

Table following on the next page

Table 9: The use of E.I. Altman's, J. Gajdka's and D. Stos's discriminant analysis models on the example of 100 studied companies from the Podkarpackie province (Source: Own development on the basis of data of 100 selected companies from the Podkarpackie province)

E.I. Altman's model	2015	2016	2017	2018
The number of companies showing profit	90	90	91	91
The average "Z" ratio for companies	3.60	3.80	3.81	3.85
Absence of risk, values close to and above 3.0	absence	absence	absence	absence
The number of companies showing loss	10	10	9	9
The average "Z" ratio for companies	1.62	1.65	1.68	1.75
Absence of risk, values close to and above 3.0	high	high	high	high
The J. Gajdka and D. Stos's model	2015	2016	2017	2018
The number of companies showing profit	85	85	86	90
The average "Z" ratio for companies	0.69	0.75	0.77	0.89
Absence of risk, values close to and above 0.45	absence	absence	absence	absence
The number of companies showing loss	10	10	9	9
The average "Z" ratio for companies	0.42	0.45	0.44	0.43
Absence of risk, values close to and above 0.45	high	high	high	high

In turn, in the table 8-9, E.I. Altman's, J. Gajdka's and D. Stos's models were also used during research of companies of the Podkarpackie province. The above research shows that companies, which maintained the financial liquidity with incurring credit, improved their financial condition, but their cut-off point's ratio are different from ones noted in the Opole province.

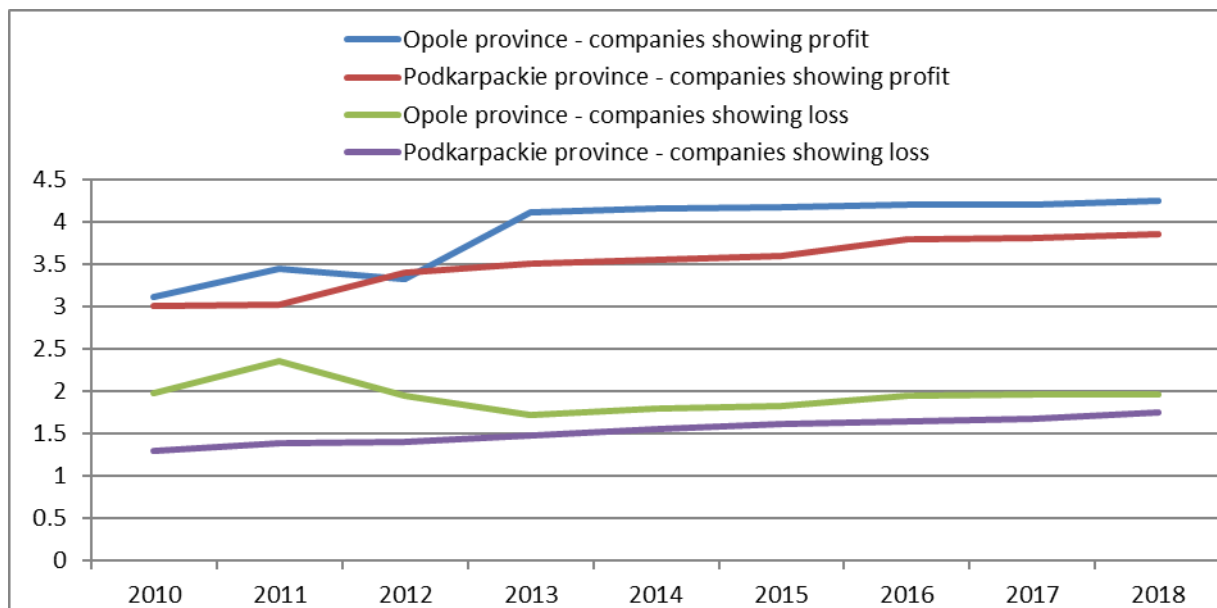


Figure 1: The use of E.I. Altman's model in the analysis of 200 companies of Opole and Podkarpackie provinces showing profit and loss in 2010-2018 (Source: own development on the basis of data of selected companies from Opole and Podkarpackie provinces)

In the E.I. Altman's model, improvement can be seen in 2010-2018 – ratio's value increased from 3.01 to 3.85. Whereas in the J. Gajdka's and D. Stos's model, the ratio's values increased from 0.55 to 0.89. It means that credit's worth constituting 45% of the current assets' worth is too heavy burden, and prevents from significant improvement of the financial liquidity. Moreover, it does not show the ratio similar to the one obtained in research in the Opole province.

Furthermore, the cut-off points' values of the companies showing net loss in the Podkarpackie province do not show significant improvement of the financial liquidity, but they slightly vary in 2010-2018. In the E.I. Altman's method, they vary from 1.30 to 1.62, and in the J. Gajdka's and D. Stos's method – from 0.30 to 0.43.

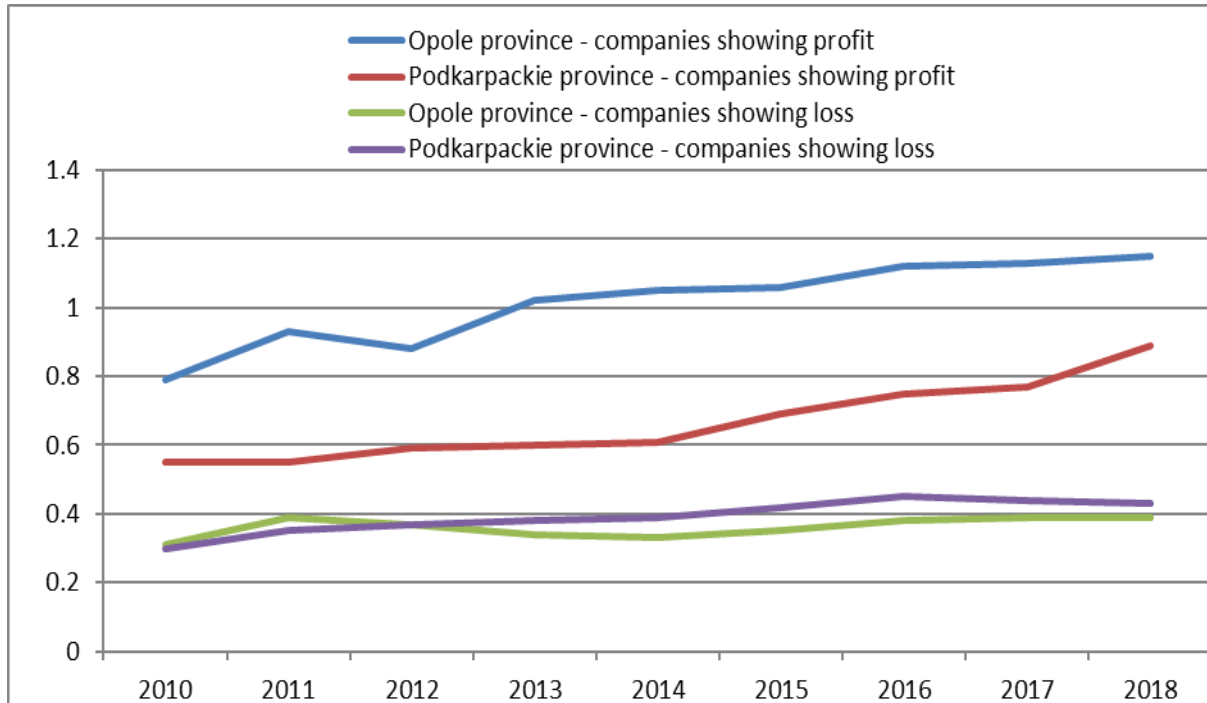


Figure 2: The use of the J. Gajdka's and D. Stos's model in the analysis of 200 companies of Opole and Podkarpackie provinces showing profit and loss in 2010-2018 (Source: own development on the basis of data of selected companies from Opole and Podkarpackie provinces)

It evidences that greater worth of credit could not ensure companies satisfactory improvement of the financial liquidity, but worsened their situation. Analysing net profit of the companies, it can be noted that issued credit influenced their development positively. There, its huge influence on the companies' net income can be seen. Thanks to opportunity to incur credit, companies could develop dynamically and as they planned in their assumptions with credit constituting 30% of the current assets' worth. Only credit constituting 45% of the current assets' worth did not cause major changes in many companies and did not lead to improvement of the financial liquidity of the greater number of companies showing net loss. The sensibly selected credit resulted in the greater increase of net profit and contributed to the increase of net income and profit, without which the company could not develop and reach significant results.

4. CONCLUSIONS

It should be emphasised that contracted credit in studied companies contributed to improvement of the financial liquidity. However, it was mostly in case of companies, whose credits were c. 30% of the current assets' worth. Furthermore, in case of companies of the Podkarpackie province, whose credits were 45% of the current assets' worth, the financial liquidity was not improved as much as in case of lower credits incurred by the studied companies of the Opole province. Nevertheless, credits enabled companies to settle current liabilities, which is proven by lessened number of companies suffering from net loss because such a phenomenon occurred in the group of 100 studied companies in 2010-2018. Therefore, companies maintained good financial condition after issuing credit.

It should be stated clearly that the decision on incurring credit was, indeed, correct. But it should be borne in mind that the amount of incurred credit must not exceed specific worth preventing from repaying incurred credit and settling liabilities, which could lead to the company's inability to debt service. That is why c. 30% of the company's current assets' value, resulting from research of the companies, is the optimal amount. The period, for which credit was incurred, is highly significant, but the studied companies contracted the working capital facility for one year with the possibility to renew it in subsequent years, which did not affect research and cause its distortion. The companies that had unevenly balanced liquidity or needed additional financial resources for the functioning on the market, and that took up a credit above the value exceeding 45% of the external funds in relation to their current assets, did not maintain the liquidity, and only 6 companies improved it in relation to 15 companies that were at risk of bankruptcy, which was reported in the Podkarpackie Voivodeship. While the number of companies in Opole Voivodeship, which improved their liquidity, is 15, that is several times more than in Podkarpackie Voivodeship, but the improvement occurred thanks to a taken credit, however the debt amounted only to 30% of the external funds in relation to their current assets. Therefore, there must be a firm answer that the credits that are incurred in the form of cash and account for more than 45% of the external funds in respect of current assets will not have a good impact on the financial condition of the studied companies, since such a capital obligation and interest liability constitutes a major burden for the company, which must within next months, after a credit was incurred, pay it back to the bank. The research was conducted based on 100 companies in the Opole province and 100 companies from the Podkarpackie province. The E.I. Altman's model was also applied in the paper and it was demonstrated that the value of the credit and the period for which it was incurred as well as the ratio of the amount of external funds to the working capital are of great importance to a company and its liquidity. The companies that were subject to the research, voluntarily made the research data available, i.e. the balance sheet and income statement.

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