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INSTITUTIONALIZING ENTREPRENEURIAL STRATEGIES FOR THE TRANSITION TO A CIRCULAR ECONOMY

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Abstract

The article discusses the problem of achieving sustainable development goals based on the implementation of business models, which can be identified as “closed-loop technologies” or models characteristic of the “circular economy”. Based on the analysis, it is concluded that the implementation of the transition to a circular economy requires the institutionalization of business models used by entrepreneurs, which have characteristic features and ensure the achievement of the corresponding goals. This institutionalization can be achieved through the development of appropriate standards. The international and domestic experience of creating standards in the field of circular economy is considered. It is noted that both international and domestic standards in the sphere of the circular economy are at the stage of formation, and that when they are finalized, it is important to take into account the experience of implementing entrepreneurial projects related to the use of closed-loop technologies.

Keywords: circular economy, economic development, consumption standards, principles of circular economy, sustainable development

1. Introduction

The thesis that the goals of sustainable development should become motivating factors for decision-making in economic systems of various levels is currently beyond doubt. The discussion is about how to properly build a system of institutions that would ensure the achievement of the set goals with minimal costs for society. If, at the macro level, the system of sustainable development goals and indicators of their achievement are developed, in sufficient detail (for example, the strategy of action declared in 2012 at the conference in Rio de Janeiro and adopted by the UN General Assembly [1] provides for the achievement of goal No. 12. “Ensuring transition to rational models of consumption and production” [2]), then at the level of entrepreneurial strategies and typification of the relevant business models, it should be recognized that formal (institutionalizing) documents are significantly lagging behind.

There are various definitions of a circular economy. A circular economy is an economy based on the principle of renewable resources, in contrast to the linear model, namely the processing of secondary raw materials and the transition from fossil fuels to the use of renewable energy sources” [3].

The circular economy is one of the technological strategies for achieving sustainable development goals [4] and provides for the priority development of such business models as “circular suppliers” (supply of products that comply with the principles of circular economy); “Resource recovery”; “Platforms for exchange and sharing”, “product lifecycle extension”; “Product as a service” (in this case, providing a service is an alternative to purchasing a product) [5].

The most extensive and thoroughly worked out is the regulatory regulation and the corresponding programs for the implementation of the transition to a circular economy in the European Union, in particular, the corresponding plan and road maps [6].

In December 2018, the International Organization for Standardization (ISO) created a new technical committee - ISO / TC 323 “Circular Economy”. Its secretariat was headed by the French organization for standardization (Association Française de Normalization, AFNOR) [7]. The new TC will develop requirements, principles, guidelines for the implementation of circular economy projects and related tools (vocabulary, performance indicators, maturity assessment model) intended for both commercial organizations and public and non-profit enterprises.

As noted, [8] some aspects of the circular economy are already being considered in existing technical committees. For example, environmentally friendly, socially responsible procurement for long-term economic development - in ISO / PC 277 "Sustainable development in the procurement system", eco-design and life cycle assessment - in ISO / TC 207 "Environmental management".

ISO / TC 323 will prepare the foundational standards. A priority in its program is the development of a standard for a circular economy project management system, which will provide a methodological basis and a systematic approach to the implementation of such projects and will allow organizations to draw up their own action plan and determine performance indicators.

The following standards are currently being developed within the purview of ISO / TC 323: ISO / WD 59004 Circular economy - Framework and principles for implementation; ISO / WD 59010; Circular economy - Guidelines on business models and value chains; ISO / WD 59020.2 Circular economy - Measuring circularity framework; ISO / CD TR 59031 Circular economy - Performance-based approach - Analysis of cases studies; ISO / DTR 59032.2 Circular economy - Review of business model implementation; ISO / AWI 59040 Circular Economy - Product Circularity Data Sheet [9].

2. Methodology

Among the most widely used instruments for the transition to a circular economy in the European Union, it should be noted: [10]

- taxes on the extraction of primary raw materials;
- quotas for production and / or import (ban on the use) of certain raw materials and materials);
- environmental taxes
- contributions to maintain extended producer responsibility (types of packaging, disposal of certain types of goods, etc.);
- quotas for CO² emissions;
- taxes on waste collection and disposal;
- provision of tax incentives for the secondary use of raw materials and goods;
- concessional lending and direct financing of projects that meet the goals of the transition to a circular economy (processing, introduction of waste-free technologies, etc.).

Let's consider several examples of procedural implementation of these tools [11]:

- Eco-labeling. The mechanism was established in 1993. Based on voluntary certification against a wide range of constantly updated criteria.
- Circular government procurement. The condition for participation in the tender for the provision of services (sale of goods) for state needs is compliance with the criteria characteristic of a circular economy.
- Extended producer responsibility. This scheme obliges manufacturers to take operational or financial responsibility for the last phase of their products. For example, for the separate collection of waste, their transportation and processing.

Here are the most frequently considered business models of the circular economy: [12, 13]:

1. Circular suppliers. Within the framework of this model, limited (usually natural, irreplaceable) resources are replaced, either by fully renewable resources (for example, based on the use of a different production technology), or the old resources are obtained from a renewable source (for example, extracted from waste). For example, Renault established a vehicle recycling subsidiary in 2008, which has made it 85% recyclable and 95% recoverable at end-of-life [14].

2. Resources recovery. The model is based on the use of technological innovations that ensure the recovery and reuse of resources. For example, unsold stale bread is used by bakers to make craft beer [15].

3. Sharing platforms. The model provides for the exchange or sharing of goods or assets. It can be implemented both at the level of producers and at the level of consumers, provides for the exchange and / or goods and / or raw materials. This model also includes the sharing of expensive rare equipment. For example, in 2001, Tata Steel and Steel Authority of India Ltd. created an electronic platform Mjunction for the sale of by-products (secondary steel, construction and hazardous waste), which were used by contractors as raw materials [16].

4. Product life extension. A model within which activities are implemented aimed at extending the life cycle of products through repair, modernization, reconstruction, and restoration. For example, Caterpillar (the world's largest manufacturer of construction equipment) provides information, data, training and service tools to help dealers (service businesses) implement solutions to increase the longevity of their equipment [17].

5. Product as a service. A model in which customers use products on a "lease" basis or outsource a business process involving the use of specific equipment. For example, Philips is implementing the Circular Lighting program, which provides lighting services. In this case, all technical problems (maintenance, replacement, modernization, optimization) are solved by a company selling lighting devices [18].

In fact, the following sequence of events is being built, which, among other things, is characteristic of the promotion of circular economy models:

1. Institutionalization of conditions. Changing conditions (development of technologies, degradation of the natural environment, etc.) make it possible to identify the emergence of threats to the existence of socio-economic systems (environmental disasters), and the state begins to introduce new regulations aimed at limiting activities associated with negative consequences (prohibitive environmental legislation). In parallel, the state is trying to create conditions for activities aimed at reducing anthropogenic pressure (for example, preferences for a "green" economy). This first stage can be characterized as "institutionalization of conditions", that is, the consolidation of restrictions and preferences within the framework of the relevant regulatory legal acts for the implementation of desirable entrepreneurial behavior focused on achieving sustainable development goals.

2. The emergence of business models. Under the influence of new rules of doing business (restrictions and preferences), as well as within the framework of the objective logic of the development of business systems and the environment, new forms of business organization (production, distribution, etc.) begin to emerge. So, for example, a combination of factors such as the depletion of natural resources (increase in the cost of raw materials) and the emergence of new technologies (stimulation of innovation by the state) leads to the fact that it becomes more profitable for an entrepreneur to extract the raw materials necessary for the production of goods not from natural sources, but from waste. Another example is associated with the increasing complexity and high cost of goods, combined with the desire of the consumer to change it frequently (fashion, changing conditions of consumption, etc.), which leads to the emergence of the business concept "product as a service".

3. Institutionalization of business models. The most successful business models (business methods) are institutionalized in the form of best practices, standards and regulations. A typical example, widely used quality management standards or GMP standards (good manufacturing practices used in the pharmaceutical industry. Business models institutionalized in the form of standards perform a whole group of functions: optimization of activities for entrepreneurs, quality assurance for consumers, the criterion of compliance with the declared goals - for the state. At this stage, within the framework of the relevant standards, systems of voluntary and mandatory certification appear.

4. Institutionalization of entrepreneurial strategies. The increasing complexity of socio-economic systems and the environment for doing business, including due to the need to increase the number of business contacts, the need to optimize activities for long periods of time, the tightening of requirements for business transparency, leads to the fact that not only individual business processes are formalized (models), but also business strategy in general. A typical example is ESG management (Social, and Corporate Governance), in which the system of sustainable development goals is intertwined with the

goals of the corporation and becomes an element of its strategy. The fourth stage can proceed in parallel with the third, since in this case the strategic and tactical elements of business management interact, mutually enriching each other, using their elements as formalizing features.

There is no integral system in Russia that characterizes technologies or products associated with a circular economy. At the same time, the principles laid down in the circular economy are promoted within the framework of individual legislative acts, primarily those related to waste processing. Thus, the Federal Law of the Russian Federation of June 24, 1998, No. 89-FZ "On Production and Consumption Wastes" (FZ No. 89) [19] identifies the elements of a circular economy model and provides definitions of some basic concepts. In particular, waste disposal is defined as the use of waste for the production of goods (products) or the provision of services, including the reuse of waste. The definitions of three basic concepts of the circular economy (three Rs) are given, such as: recycling - reuse of waste for its intended purpose; regeneration - return to the production cycle after appropriate preparation; recuperation - extraction of useful components for their reuse.

3. Results

The tasks of strategic planning in the development of a circular economy in Russia are also implemented through the formation of an institutional framework for the regulation of waste processing. In particular, they are set out in the order of the Government of the Russian Federation dated January 25, 2018 No. 84-r on the approval of the Strategy for the development of industry for the processing, disposal and disposal of production and consumption waste for the period up to 2030 [20]. Within the framework of this strategy, the task is to practically implement the principles of "3R" (recycling, regeneration, recovery) when working with waste on the territory of Russia.

There are sectoral strategic decisions focused on the development of elements of the circular economy. So, for example, the Order of the Government of the Russian Federation dated May 10, 2016 No. 868-r approved the Strategy for the development of the building materials industry for the period up to 2020 and further perspective until 2030 [21]. Within the framework of this strategy, it is planned to develop a "market for secondary material resources of technogenic origin", which can be used in the modernization of existing and creation of new building materials.

The earliest systematic attempt to institutionalize the implemented practices in the field of circular economy should be considered the "Preliminary National Standard of the Russian Federation Innovation Management" Application of the principles of circular economy in organizations "[22]. Within the framework of this standard, the concept of a closed-loop economy is used, which in international practice is considered a synonym for a circular economy.

The following terminology is used within this Preliminary Standard:

- business model - a system for making interrelated (interdependent) decisions and measures of a commercial enterprise, which determines the procedure for creating, implementing and providing value in the short, medium and long term;

- circular economy - an economy that is built on the principles of recovery and regeneration of resources, requiring the development of special products and whose components and materials always have the highest possible consumer properties and maximum cost, with a clear distinction between technical and biological production cycles.

An implementing circular economy principles in a commercial enterprise means using a systems approach to develop technological processes, products (services) and a business model to create value by ensuring compliance with environmental standards and requirements during resource management. Including, on the basis of such principles as:

- restorative, according to which products are restored for reuse, which reduces the need for new resources;

- regenerative, according to which living systems acquire the ability to regenerate (i.e., heal, renew) previously used resources.

In accordance with the Order of the Federal Agency for Technical Regulation and Metrology No. 1902 [23], in November 2020, TC 483 (Technical Committee) "Circular Economy, Shared Consumption and Sustainable Financing" was approved in Russia. In accordance with this Order, TC 483 is granted the right to participate in the work of international technical bodies ISO / TC 322 "Sustainable Financing" and ISO / TC 323 "Circular Economy" with the right to vote.

The tasks of TC 483, in accordance with the topics assigned to this technical committee, include:

- formation of a program for the development of national standards and control over the implementation of this program;
- consideration of proposals for the application of international and regional standards at the national and interstate levels;
- consideration of draft international standards and preparation of the position of the Russian Federation when voting on these drafts;
- consideration of proposals for the development of international standards, including on the basis of national and interstate standards;
- expert examination of official translations into Russian of international and regional standards, national standards and codes of practice of foreign states;
- preparation of conclusions on the possibility of applying international, regional standards, national standards and sets of rules of foreign states to confirm compliance with the requirements of technical regulations and the inclusion of these standards and sets of rules in the relevant lists.

The following can be cited as domestic companies implementing business models of the circular economy:

- PJSC "SIBUR Holding" whose business model meets the following features of a circular economy: deep processing of associated petroleum gas and fatty fractions of natural gas instead of ecologically sound combustion; growth in the output of petrochemical products as more environmentally friendly in comparison with similar materials in terms of the life cycle; recycling of polymeric materials [24].
- PJSC Norilsk Nickel, which signed an agreement of intent in 2020 with Fortum and BASF to create a battery recycling cluster in the Finnish city of Harjavalta in order to serve the needs of the electric vehicle market [25].
- Tetra Pak JSC, which by 2022 plans to launch on the market aseptic packaging made entirely from renewable materials, as well as the use of Certified Tetra Pak® equipment, which has been reconstructed and certified in accordance with a single world quality standard. This equipment complies with the principles of a circular economy, thus reducing the volume of recycling, and the equipment is sold at a lower price while maintaining functionality [26].
- Bonus-Kama LLC. On March 12, 2021, she officially opened a plant for the production of rubber crumb reclaim on the territory of the Mendeleevsk PSEDA. (Republic of Tatarstan). The plant operates according to the circular economy scheme. The environmental project for recycling tires and rubber waste into secondary rubber includes both the production of tires with the restoration of their previous characteristics, and the supply of crumb rubber for the manufacture of rubber mats, sports surfaces and components for cars [27].

Projects related to the implementation of circular economy models are also being implemented in the CIS countries, for example:

- in the Republic of Kazakhstan [28];
- the Republic of Belarus [29].

4. CONCLUSIONS

Thus, having considered the problems of introducing business models that can be identified as “closed-loop technologies” or models characteristic of the “circular economy”, the following conclusions can be drawn:

- for the implementation of the transition to a circular economy, the institutionalization of business models used by entrepreneurs, which have characteristic features and ensure the achievement of relevant goals, are required;
- the sequence of institutionalization of entrepreneurial strategies in the sphere of the circular economy is typical both for Russia and for foreign countries and is represented by the following sequence: from government restrictions to business models and strategies that are formalized through standards and certification;
- at present, as in Russia, there are companies successfully implementing the principles of the circular economy, the experience of which must be used in the development of domestic standards and certification systems;
- when developing domestic standards related to the circular economy, it is necessary to ensure harmonization with the international standards being developed in parallel.

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QUALITATIVE FORECASTING METHODS IN THE BUSINESS PLANNING PROCESS

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Abstract

Forecasting changes is a very important managerial task in the business planning process, because it allows the company to start adapting to changes in conditions of discontinuity in a timely manner. Forecasting methods can be divided into quantitative and qualitative. The authors of this paper focused on the qualitative forecasting methods. There are a number of different qualitative forecasting methods, and the authors decided to address the following in this paper: scenario analysis, Delphi method, case study method, brainstorming, and examination of consumer opinions and attitudes. For each of the mentioned methods, it is explained how it is applied in practice and where its significance lies. Qualitative methods are widely used in management and business planning, especially in situations where there is insufficient historical data to apply quantitative methods.

Keywords: qualitative forecasting methods, business planning, management.

1. Introduction

One of the most dominant characteristics of modern business conditions is the intense dynamics of changes that permeate the business environment. The nature of changes is diversified and is manifested through the emergence of new technologies, changes in consumer demands, emergence of new competitors, etc. The task of strategic management is to try to anticipate these changes and to begin the process of adapting to them in a timely manner. Forecasting changes is also important for the business planning process. Creating a business plan implies anticipating numerous market trends, from future demand for the product, future consumer needs, product sales potential, technological changes, to competitors' moves, etc. The success of the company's business plan directly depends on the accuracy of these predictions. For example, based on the forecast of future product demand and sales potential, the company's management makes a projection of sales revenue, which is necessary if one wants to examine the financial viability of the investment. In the practice of managerial forecasting, it is important to comply with two requirements: 1. determine the correct direction, i.e. the direction of future events, and 2. try to keep the difference between the predicted and the actual event as small as possible.

Methods used for forecasting can be divided into qualitative and quantitative. The subject of research of this paper are qualitative methods, which include: scenario analysis, Delphi method, case study method, brainstorming, examination of customer opinion. There are other qualitative methods that are not listed here, but the subject of this paper is the five mentioned methods.

2. Forecasting as the basis of strategic planning

Forecasting can be explained as an attitude about an unknown and uncertain event and is future-oriented [1]. Forecasting as such is the basis for performing strategic planning. Authors Ansof and McDonnell [2] define strategic planning as a logical, analytical process of choosing the future position of the organization in relation to the environment. Famous domestic author in the field of management, Momcilo Milisavljevic, sees strategic planning as a process that includes: consideration and assessment of market conditions, analysis of consumer needs, competitive strengths and weaknesses, as well as analysis of economic, political, legal, technological and social factors [1]. Successful implementation of strategic planning requires careful observation of all signals that indicate possible changes in the environment.

Forecasting of changes can be divided into two primary groups [3]:

1. Forecasting changes in market circumstances in the business environment: economic, technological, sociological and legal and political;
2. Forecasting changes in one's own business.

Forecasting allows the company's management to anticipate possible changes in the environment and to begin the process of adapting to them in a timely manner. Large companies with a complex organizational structure, diversified portfolio of jobs they perform and a large number of employees need more time to implement changes in their own business, so the role of strategic management is very important. Without anticipating trends, companies simply fail to adapt to change in time and lag behind the competition.

Forecasting methods can be divided into two groups:

1. Quantitative methods and
2. Qualitative methods

The subject of this paper are qualitative forecasting methods which are described next.

Qualitative forecasting methods

As already mentioned in the introduction, qualitative methods include, among others: scenario analysis, Delphi method, case study method, brainstorming, customer opinion examination. The essential advantage of qualitative forecasting methods, in relation to quantitative methods, is reflected in their potential to predict changes that may occur in the demand for a new product and, implicitly, in the volume of its sales [4]. Also, the lack of historical information favors the application of qualitative methods.

The authors of this paper have noticed that there are a number of different approaches to the classification of qualitative forecasting methods in the professional literature and no clear consensus. The following is an overview of certain qualitative methods that are most often used in practice, with reference to their specifics and ways in which they can be applied.

1.1.1. Scenario Analysis

Scenario analysis enables the necessary imagination of management in identifying opportunities and dangers in the environment, which facilitates the perception of profits and risks in taking alternative directions of action in the future [5]. With this method of forecasting, managers are trying to visualize a number of possible futures and consider their implications [3].

The scenario method is usually applied by management creating three types of scenarios: pessimistic, realistic and optimistic and then, for each type of scenario, impact assessments on the business model of the company are performed and response options are generated. The goal is to get different options for reacting and adapting to the circumstances in the environment for different scenarios. This gives the business plan of the company more flexibility, elasticity, and thus a better chance of success. In addition to human judgment regarding the choice and design of each individual scenario, there are also computer programs that can be used as an aid for these purposes.

Primary stages in the making of scenarios are [6]:

1. Defining the time frame and scope of analysis;
2. Defining the main issues in the solution of which the scenario method should provide support;
3. Identification of key factors and trends on which the observed results depend;
4. Consideration of the interaction (correlation) between key factors;
5. Identification of key scenarios and focus on a smaller number (3-5);
6. Measuring the probability and impact of the realization of individual scenarios on the results.

According to [7], the scenario method is most useful in the following situations:

- When it is necessary to make a forecast for a longer period of time;
- When making long-term assessments relating to the market, future consumers and competition moves;

- When the company operates in conditions of discontinuity, uncertainty and risk;
- In complex situations when a large number of factors operate in the environment, most of which cannot be quantified;
- In situations where there is little available, reliable data for quantitative methods;
- The above indicates that the scenario method can be successfully used to determine the company's mission.

The scenario method has undoubtedly contributed to improving the quality of strategic planning and management as a whole. The scenario method provides an opportunity for managers to think more broadly and creatively about the future, as well as to avoid or at least mitigate uncertainties and risks in the environment that the future brings [7]. This method especially gains in importance and quality if combined with other methods and techniques of strategic management [Ibid].

Delphi method

The Delphi method is one of the most well-known methods of qualitative forecasting and is used to predict the probability and time of future events [3]. It is an exploratory or research method that uses the advantages of group opinion, overcomes obstacles that arise in the work of the group and relies on the opinion of a group of experts. The survey is anonymous and allows statistical inference by filling out a defined questionnaire. Respondents fill in the questionnaire independently of each other and this gives this method the character of impartiality in judgment [8].

The Delphi method steps are as follows [9]:

1. Determining the coordination group (the group must know how to implement the Delphi method, methods of statistical processing of research results, as well as the area of forecasting)
2. Determining a group of experts (experts must have relevant knowledge in the field for which the forecast is made)
3. Compiling a questionnaire (questions must be clear and unambiguous and must pinpoint the essence of the problem)
4. Circles of the Delphi method (sending questionnaires, filling in questionnaires, statistical processing of obtained results and giving feedback to a group of experts)
5. Presentation of results

The advantages of the Delphi method are reflected in the following [9]:

- Flexibility – the method is flexible enough to be applied in different situations and a wide range of different problems.
- Iterative process – an interactive approach allows experts to reconsider their views and claims through feedback.
- Process – the process gives experts more time to think about their views, resulting in better answers.
- Anonymity – allows experts to freely express their opinions and views, without the risk of being hampered by loyalty to the organization or by pressure from the group.
- Writing down thoughts – performing the method implies that the experts express themselves in writing, which leaves the possibility to review the answers in the future, if the need arises.
- Evaluation – the Delphi method can be used to evaluate the dissemination of opinions as well as consensus points.
- No personal influence – potential personal influence is eliminated in this way.

1.1.2. Case study method

Case study is the analysis of a business situation based on the business operations of a particular organization. The goal of the case study analysis is to put the person analyzing the case study problem in the role of a business consultant or manager, to conduct an analysis of the situation in and around the organization, and to make recommendations for solving the problem. Case study provides a good

basis for discussing different ideas. Group solving of the study enables the development of analytical skills, creativity, organizational skills and teamwork.

Authors advocating the application of the case study method emphasize the richness of theoretical implications that include the study of an individual case, and there is undivided agreement that the case study method is invaluable in the preliminary stages of research to discover significant links between phenomena and to formulate hypotheses [10]. One of the characteristics of this method, around which there is an unambiguous agreement in the literature, is its holistic character, that is, the aspiration towards a complete solution of the problem [Ibid].

The application of the case study method enables a comprehensive view and analysis of the company's business problems, with the drawing of conclusions that can be very useful for the needs of business planning and forecasting. Many authors advocate the importance of strategic planning, but it should be borne in mind that in conditions of discontinuity and frequent changes, it is not at all easy to implement strategic planning. There are no guarantees that the company will achieve all points of its strategic plan and therefore it is important to develop short-term, operational plans and forecasts, including the maximum number of factors and risks that affect the company's operations [11].

The great challenge organizations in modern business conditions are faced with is to find a business model that will enable the acquisition of a sustainable competitive advantage in the market and which will ensure the long-term growth and development of the organization [12]. Innovation plays an important role in the fight for competitive advantage. Innovators face the need for financial resources at every stage of business. Some face this problem at an early stage, when exploring possible business concepts and trying to understand the viability of their idea [13]. Innovations are the means by which entrepreneurs use change as an opportunity to carry out various production or service activities [14].

Brainstorming

Brainstorming is a well-known technique that has a wide application in management. There are several different definitions of this technique in the literature. According to [15], brainstorming is a technique of group problem solving which implies presenting spontaneous ideas of all members of the group in order to reach a solution to the problem. It is a modern decision-making technique in which a larger number of people participate. However, if we look at what this term really means, then the applicable name could be "fight of opinions" or "fight of ideas" [16]. The brainstorming technique is based on solving the current problem by finding new and unusual solutions, stimulating the quantity of ideas and encouraging other people's ideas, because this technique is usually performed within certain work teams, i.e. company groups [17].

The essence of brainstorming is to provoke the imagination and creativity of the group through discussion and generating a number of ideas to solve problems or to predict future phenomena and trends. The degree of creativity of the group has a great significance and influence on the success of the application of this technique. Creativity is the ability to see things that others see almost identically in a completely different, universal way. Creative process consisting of 4 overlapping phases [17]:

1. Unconscious search – represents a preoccupation with a given problem (this phase often lasts much shorter than necessary, so in practice, for this reason, it happens that managers make premature decisions).
2. Intuition – connects the previous phase, i.e. the creation of the creative process, with the next phases. This phase requires a certain amount of time within which the creators of creativity come up with certain ideas.
3. Transparency – represents the focus of ideas not only on new, but also on existing problems that affect certain products and services. This stage of creating a creative process can easily occur at a stage when one does not even think intensely about a given problem.
4. Verification – the last phase of the creative process, which is a logical formulation, i.e. testing of the process itself. It is realized in such a way that experts are invited to help the end of the creative process with their suggestions and critiques, or, simply, the work on creating ideas continues.

Examination of consumer opinions and attitudes

Consumers in the market form their opinions and attitudes regarding products, prices and other aspects of the company's offer. This creates the image of the product. Understanding the factors that influence the formation of consumer opinions and attitudes is an important task, because attitudes play a significant role and determine consumer behavior in shopping. Consumer satisfaction research provides valuable information about consumers' opinions and attitudes about a product, service or company [18]. A distinction should be made here between traditional market research and consumer satisfaction research. Consumer satisfaction research is a relatively new discipline that has been developed separately as part of market research.

Characteristics of the traditional market research are [19]:

- deals with defining the needs of consumers in order to develop new products and services;
- deals with the question of whether consumers buy a product, why they buy it and whether they will buy it in the future;
- tries to find out the best way to differentiate the product;
- deals with market segmentation in order to better and more fully understand the needs of consumers and meet them;
- is interested in brand awareness in the market.

On the other hand, consumer satisfaction research has the following characteristics [19]:

- deals with the examination of the satisfaction of consumer needs;
- investigates how consumers use products and what their user experience is in order to improve existing products and to design new products that will better meet the needs and expectations of consumers;
- it is interested in "listening" to consumers and enabling the "voice" of consumers to be heard in the company. This means that the company's behavior (whether it is product design, how to communicate with the market or something else) is harmonized according to consumer requirements;
- is interested in changing products and services in order to more fully meet the needs of consumers, but not only in terms of basic needs, but also expectations and overall satisfaction;
- deals with identifying target consumer segments whose needs are not adequately met by existing products and services, as well as identifying consumer segments that have specific requirements and needs, in order to improve existing and develop new products.
- is primarily interested in brand (and / or company) loyalty and retaining consumers who will make repeat purchases of the company's products.

Surveying consumer opinions and attitudes can be realized in the form of a questionnaire on a representative sample. Communication can be done in person, by phone, computer and e-mail. A pre-prepared questionnaire is used to examine all consumers in the selected sample.

The collected data are processed, a qualitative dimension is added to them and thus information is obtained, which managers then use to make decisions and to predict the future needs of consumers, their attitudes and expectations. This method of forecasting is very important, because consumers represent the key stakeholders of the company and their opinion and attitudes regarding the company's offer is something that every management should take into account.

3. Conclusion

Forecasting changes is essential for the company's timely adaptation to those same changes. The survival, as well as the growth and development of the company directly depend on the success of adapting to changes. Forecasting methods can be divided into quantitative and qualitative. This paper deals with qualitative forecasting methods, namely: scenario analysis, Delphi method, case study method, brainstorming and examination of consumer opinions and attitudes. For each of the mentioned methods, it is explained how it is applied in practice and what its significance is reflected in. Qualitative methods are widely used in management and business planning, especially in situations where there is insufficient historical data to apply quantitative methods. The essential advantage of qualitative forecasting methods, in relation to quantitative methods, is reflected in their potential to predict changes that may occur in the demand for a new product.

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APPROACHES TO OPTIMIZING BUSINESS MODELS

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Abstract

Making insignificant external changes in the business model allows to create significant competitive advantages. Key changes that are introduced in the architecture of business models can increase or decrease two fundamental types of risks in the tourism business: information risk and the risk of inconsistency of motivations. Many managers often do not realize that changes in the business model are less complex and uncertain than traditional forms of product upgrades. Achieving significant results does not always require new, revolutionary technology or the creation of completely new markets. Changes in the business model affect the supply of existing products based on existing technologies on existing markets.

Keywords: Management, risk, changes, tourism business, motivation, advantages, decisions, uncertainty, market

1 Introduction

The ancient Greek mathematician Archimedes is known for his claim to the lever, which allows a relatively small effort to cause much more significant changes. There are many variations of his words: "Give me a long enough lever and fulcrum and I will lift the Earth." With this, he expressed the fundamental truth that with the help of appropriate tools, workers could move very large weights. In this spirit, making insignificant external changes in the business model allows to create significant competitive advantages. Key changes that are introduced in the architecture of business models can increase or decrease two fundamental types of risks in the tourism business: information risk and the risk of inconsistency of motivations.

Information risk is typical of business models that require decision-making in the absence of information. The risk of inconsistency of motivations arises when the motivations arising from the business model lead to actions that conflict with larger interests in the value chain. These risks can cause low efficiency of the business model and significantly affect the final results. Reporting them helps to create business models that minimize their negative consequences and therefore achieve maximum efficiency.

The main approach to changing the business model in the practice of large companies is related to the four issues:

What decisions are made?

When are they taken?

Who takes them?

Why are they taken?

Many managers often do not realize that changes in the business model are less complex and uncertain than traditional forms of product upgrades. Achieving significant results does not always require new, revolutionary technology or the creation of completely new markets. Changes in the business model affect the supply of existing products based on existing technologies on existing markets. This approach reduces overall uncertainty and makes the results more predictable and measurable. The material costs for changes in business models, as a rule, are insignificant and do not require any investments other than the working hours of the management. Anyone who has a degree in business administration can handle this without being a professor or having a doctorate in algorithm development.

• **Method of "business model change"**

The "business model change" method is applicable to both large and small businesses, as well as in areas such as services and tourism, where other types of innovation often fail. The one who lacks inspiration deserves a look around, as many changes in business models can be freely borrowed from

other areas and regions. And because changes in business models are often invisible to the outside world, they are difficult to copy and easy to keep for a long time. Even looking at a new business model, it is often impossible to understand its benefits. For example, Toyota's decades-old manufacturing system has been rejected by skeptics in the U.S. automotive industry for decades, which has lost its competitive advantage.

Updating a business model in start-ups can be much more complicated than new ones. Established companies often become hostages of traditional methods of work in their activities, while new companies seek innovations, to destroy the old practice. Thus, one of the goals of business model change is to take a critical look at the many key solutions underlying business model building. Also, to identify impact points that open ways to create new values and allow to eliminate, reduce or make more acceptable the information risk and the risk of inconsistency of motivations. [1] Ralph D., Graham P., MMS: Technologies, Usage and Business Models. Wiley 2004, pp. 223-240.

- *The traditional model change*

Some changes in business models, by their nature, are a new version of existing models. In this case, they only require the ability to look at the previous business from a different angle. Even a simple change can have a significant effect. For example, Zipcar is radically changing the standard working conditions in the field of car rental, creating a membership model for car sharing for residents of large cities who do not have their own cars, but who need a car from time to time, usually for local trips or for the weekend. The traditional model of car rental, which assumes a one-day rental, leads to insufficient non-use at off-peak times of the large fleet of expensive machines. At the same time, Zipcar customers can take advantage of hourly rental. Thus, traditional rolling mills often remain unclaimed or unused most of the time.

What the founders of Zipcar are doing is changing the model of what is being offered for sale and leading to consumers who are not satisfied with the traditional car rental model. The company aligns what it wants to sell with what consumers want to buy. Other key elements in the Zipcar experiment followed: the use of 'zipcars' is not at all like ordinary car rental, as signing a membership contract to use the car no longer requires any paperwork; going to the official office becomes unnecessary as members book cars online and receive information on where the nearest zipper is parked; members return the car to the parking lot from which it was taken. Zipcar's five-word marketing slogan - "wheels when you need them" - emphasizes the simplicity, informality and convenience of the service offered. In early 2013, the major rental company Avis bought Zipcar for \$ 500 million, promising to leverage its infrastructure, expertise and scale to take Zipcar to a new level of profitability. Despite the future of these intentions of Avis, the model for the collective use of rental cars is beginning to provoke the imagination of old players in the rental industry.

- *Changes and decisions*

Changing business models is not a new phenomenon. The method of "changing the business model" has been sporadically practiced in the past, but, as a rule, not systematically and without its development to the level of a clearly defined and reproducible process. Many of the examples of changing business models have been one-off steps to eliminate disastrous business results. In this regard, even the innovators themselves have often been unable to see the wider opportunities behind their impromptu response to the business crisis.

The first step in understanding the approach to using the capabilities of the "change the business model" method is to realize the fact that, without exception, all business models dictate the need for the company to adopt a number of key decisions.

The study of some key solutions allows us to conclude that very often the existing basic solutions lead to inefficiencies (or risks) in the business model. For example, the supply of a certain tourist product may face the risk of insufficient demand, as the position is not set for a certain season, without knowing whether consumers will appear or not (information risk). Alternatively, the marketing department and other departments may suffer from insufficient coordination (risk of non-compliance), as the former traditionally focuses on maximizing sales and the latter on minimizing costs. In this case, the way to rethink the business model lies in changing the circumstance, how decisions are made, ie. solutions are levers for creating (and rethinking) new business models. Individual company approach in decision making

Modern concepts distinguish four main types of innovative intervention in key decisions: change in what "what" goals the decision will be focused on; "When" the decision should be taken; "Who" should make

the decision; and "why" the decision, thanks to the motivations it creates, will affect the activities of the participants in the process that this decision affects. These key business model solutions can be modified to increase their effectiveness by eliminating inefficiencies due to information risk or non-compliance risk, and sometimes both.

Each key decision related to a business model is determined by fundamental alternatives, pre-selected by the company. In other words, if the company has decided to offer one or another range of travel products in a certain way, this choice will determine the "what" essential questions the business model should answer. For example, choosing "what" product to sell, in 2021 a travel company decides to focus on health tourism, and another chooses a wider field of activity.

Choosing what you want to achieve by deciding on a business model can increase or decrease its effectiveness. There are a number of ways and means to change the fundamental "what" of the business model. For example, if the company is a tour operator of recreational services, burdened by delayed payments of some of them, it can switch to a model with prepayment for the services provided. If a company organizes sea cruises and wants to minimize the risk of changes in consumer demand, it can start offering sea vacations. It all depends on the goals. Simply put, one solution works better than another in terms of maximizing the values created within the economic situation.

2 Decisions and risk management

The initial choice on which a business is based is often seen as a fixed starting point for everything a company does. This invariably puts limits on the directions in which it could or wanted to change its business model. For example, if a travel company has developed a large hotel complex in which consumers can receive comprehensive services, the key decisions in the business model of the company will inevitably reflect this feature. When another company creates a model with scattered small multifunctional hotels that calls into question that company's approach, it surprises the market leader in that business. The company has invested too much in the traditional model of presence and interaction with consumers to be able to respond quickly to the challenges of the other company. If the company has not started, the only way to change the question "what" for a business model and review and critical reassessment of assumptions. [2] Jansen W., Steenbakkers W., *New Business Models for the Knowledge Economy*. Libgen Librarian 2007, pp. 88-102.

The architecture of the business model is set from the moment of making each decision, it determines when the decision should be taken. Many decisions envisaged by the company's business model should be made until sufficient information has emerged about their confident making. Thus, the moment of decision-making plays a key role in the information risk that these decisions are used in the business model. Thus, companies often have to make decisions in advance on such risky issues as building new hotels or investing in long-term marketing research. Those who are the first to implement a new technology are willing to take significant risks, as they will get the most revenue if their steps work. Some fast-reacting simulators can report the mistakes of the former and can build a better, less risky model. Generally speaking, the more expensive it is to eliminate the adverse consequences of a decision, the more the moment of decision-making affects the level of risk. The time interval between the time of the decision and the time of receipt of the information sufficient to make the decision is defined as the information risk for that decision.

If you modify the business model, changing the moment, when "decisions" are made, the information risk and the inefficiency it creates are reduced. For example, an online travel company reduces information risk by offering users to rate and vote for the most preferred trip from a large catalog of options and then offers those of them who received the most votes. Instead of trying to guess at the search for the early stage in the business process, this type of model postpones the decision on the variety and type of excursions until the consumer preferences become clear.

2.2 Changes and results in a business organization

Every decision dictated by the business model is made by a specific entity (people): working in a company, regulatory body, committee or other organizational structure. Ideally, the decision-maker should proceed from all available information in order to maximize the value deriving from that decision. It is understandable that the choice of the decision-maker affects both the information risk (because different decision-makers are informing to different degrees) and the risk of inconsistency of motivation (because some subjects may be more interested). from the results of others, and work better in the value chain). For example, a hotel manager may know customer preferences better than the owner. Transferring decision-making rights to the most informed entity capable of dealing with relevant risks

helps to reduce the level of inefficiency. That is why the question of 'who' makes the decisions is extremely important.

The structure of the business model, as a rule, forms certain goals and motivation for the decision-makers. To the extent that these rites, in general, act rationally, these factors can significantly influence the decisions made. For example, companies focused mainly on short-term profits make completely different decisions than companies focused on the long term. Or companies that bear most of the costs but receive only a small share of the benefits of certain investments are unlikely to agree to such investments. Where decision-makers have different motivations but need to work together to create values, the motivation should be adjusted so that participants can pursue their goals without compromising the value chain. Understanding the motivation of the respective countries helps to achieve decisions that best create values. This also helps to reveal discrepancies that need to be addressed. "Why" in any key decision has a significant enough impact on the business. For example, in an attempt to modify the "why" motivation, some companies in the United States have begun, for example, to directly provide medical care to their employees. By integrating doctors, hospitals and funders into a single structure, they are trying to bring all countries' aspirations in line with the goals of improving health outcomes and ensuring tighter control over cost increases. To date, a number of clinics managed by the companies and focused on the health of workers have achieved increased efficiency, significant quality of medical services. [1] Chlamtac I, Gumaste A, Szabo C., *Broadband Services: Business Models and Technologies for Community Networks*. Mexmat 2005, pp. 204-256. Using one or more of the four levers can change the business model to such an extent that it delivers results to a much higher degree. The four-lever option strengthens the company's structure, as its components are the focus of programmatic identification of changes in the business model - changes that limit the inefficiencies caused by the destructive impact of the two characteristic types of risks and thus provoke the possibility of creating new values.

To verify this impact, it is assumed that the consumer acquires a set of services (in the hotel or restaurant), or thinks about the option of taking advantage of one or another new service (for example, an exotic trip). In this case, the user faces an information risk. He does not know if this service will satisfy his needs. This is especially important for services that are related to new technologies, insufficiently tested, not well understood and are still being tested. Whatever technology is given, because the decision "what to buy" is made by the consumer, information risk can lead to potential inefficiencies, ie. old technologies dominate the market.

The balance can change the "who" lever. The decision rights are transferred into the hands of those participants in the process who "have" the greatest tolerance for great information risk or are able to realize the greatest profit by taking the decision upon themselves.

Sometimes it is possible not only to reduce information risk, but also to make the information received more useful and coordinated. LiveOps, an innovative call center, has developed a surprisingly successful real-time hiring strategy with highly qualified agents (for work from home), perfectly tailoring their knowledge and skills to the needs of the callers. The coordination of multiple information flows, based on IT technologies, has made the work of the center both more flexible and operational.

3. Making decisions in vague future results

The rationale for investment and financial decisions for business development in the real sector of the economy at risk is based on the development of their theoretical foundations. Particular attention is paid to the peculiarities of the business risk assessment in the real economy compared to the risk in the financial sphere. To this end, we analyze the risk factors in different sectors of the economy that determine the opportunities for diversion of future business outcomes and also the specificity of the main risk management methods. In this respect, key risk measures for the different activities and the theoretical criteria for assessing the risk decisions used in the decision-making process in the financial markets take the cornerstone.

3.1. The main answers for manager in decision making process

In modern conditions, the need to make decisions in the conditions of uncertainty of future results requires the solution of three main problems, having both theoretical and practical significance. First, is it possible to make an approximate idea of the possible development of events evaluating the useful results in the conditions of irreversible uncertainty? It is obvious that in this case it is necessary to use the opinions and opinions of decision makers or experts in the field.

Second, when building a model for the distribution of future results in the conditions of uncertainty, it is a matter of choosing one of the two main forms of its representation: a) stochastic uncertainty and b) non-stochastic uncertainty. In the first case, such forms of modeling the results in the conditions of uncertainty are used in the analysis of profitability and prices of various financial instruments (for example, ordinary shares on the financial markets). In the second case, a small number of future outcomes and events are used, subject to an unknown subjective form, which is formed taking into account the opinions and judgments of decision-makers about the possible development of the business and its expected results.

Third, a feature of both forms of modeling useful results is that both are subjective and in principle unverifiable.¹

It follows that subjective opinions and judgments will always give decisions that are deliberately inconsistent with the real development of economic processes. In financial markets, investors make decisions to form portfolios of securities, taking into account their expectations, formed under the influence of information signals from dividends paid and the behavior of major market players to macroeconomic assessments and decisions of government agencies and international organizations. Under the influence of these subjective factors different prices are formed for the financial instruments, market valuations of the share price and other parameters of the financial instruments arise, which in the conditions of irreversible uncertainty about the future results (for example the income from shares) acquire an objective, independent of individual market participants. The reason for this is largely related to the fact that the purchase and sale of financial instruments is widespread, and they themselves are fully standardized commodities.

4. Conclusion

The most important is the relationship between the decisions related to the business model and the creation or reduction of inefficiencies due to information risk and the risk of non-compliance with motivations. Risk, in itself, is not a bad thing, as it can both limit the creation of values and contribute to their creation. It is very important not to increase the level of risk unintentionally. The main idea is that the concept is a tool that allows you to identify and adjust both types of risk by increasing or decreasing, and sometimes transfer from the most inappropriate participant to a more appropriate one. In some cases, the correct modifications allow the most significant risks to be considered more carefully. The key to successfully changing the business model is to eliminate inefficiencies by changing the leverage tools of those solutions that led to their emergence. The approach to changing the business model can formally include three consecutive steps:

first, identification of key solutions for the existing business model;

second, drawing up a matrix of the inefficiencies and risks that these decisions create to identify those with the most important consequences;

third, changing solutions in such a way as to create new, more sophisticated business models that are not exposed to risks that would otherwise be a source of risk

This process should begin with an audit of the business model, including the first and second steps. It will help to focus attention on the disadvantages and opportunities that will require special attention. Like any transformational activity, changing the business model creates both resistance and enthusiasm. Every breakthrough is a threat to the current state of affairs, and they, as habitual and understandable, always find defenders who do not want to deal with the uncertainty of the new approach or the new idea.

Companies very often become hostages to their own success and look for a key to the future in their past. This is the main danger faced by successful companies that have become large and complex. Increasing the scale of the company becomes an end in itself based on past successes, which neglects and drowns out some new opportunities and prospects. However, some of them are able to look critically at their activities. For example, Amazon.com - one of the companies appearing in a different context in recent years has significantly transformed the basic principle of its growth - the model "we sell everything, we keep a little in stock." [5] Avramov, V., Industry 4.0 - Challenges to Developing and Managing Human, Capital, Authority, governance and societal development (Global, regional and national perspectives), Panayotov, D., (editor), Sofia 2017, pp. 531-539. This strategy allows the company to operate from the beginning with virtual stocks capable of satisfying every taste. But over

the years since its inception, Amazon has been aggressively expanding its business and becoming more competent than many of the vendors it has previously relied on. Its virtual scope has become real over time, and the risks that the company has previously avoided have begun to deserve to be addressed.

It always takes great courage to go against the expediency underlying one's own activity. Many companies fail at this. However, the example with Amazon suggests that the company can not afford sentimentality about "icons" of the past. She should be able to selectively forget the past and without hesitation ignore "previous icons". At the same time, discipline is needed in experimenting and adapting to the new, as efforts can lead to significant changes in management and become a source of frustration. But in many cases, experimenting with changes in the business model can help move from familiar but outdated paradigms for product renewal and the search for new markets to rethinking the business model.

Since its publication in 2007. in English, a book by Marshall Goldsmith "Jump higher than your head!" - 20 habits you need to give up to conquer the peak of your success, has always been on the list of best books for business. [6] Davidson, J. (2003). Frame Managing projects in organizations: how to make the best use of time, techniques, and people, San Francisco, John Wiley and Sons Ltd., CA: Jossey-Bass, pp.73-80. It is dedicated to knowing how to adapt leaders so that they and their company become more successful. The book clearly resonates with the art of changing the business model. In conclusion, it is very difficult to choose the future when consciousness is blocked in the past. Business models should be sufficiently resilient to meet current requirements and flexible enough to respond to changed conditions in the near future. At the same time, these changes need to be systematically controlled and monitored so as not to prevent the company from using the new opportunities and maintaining its competitiveness in the future.

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THE INTERVAL AHP DECISION SUPPORT FOR IOT INFLUENTIAL FACTORS OF ENTERPRISES

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Abstract

In recent years, the term Internet of Things (IoT) has been introduced, and it defines objects that can connect and transmit data via the Internet. The Internet of Things connects billions of devices to provide inventive capabilities between things and people. Even though many IoT-related products are present on the market, problems need to be addressed, primarily lack of confidence and understanding of IoT and security issues. This paper aims to analyse the influencing indicators in creating successful IoT system-related enterprises. The paper develops a decision support platform using the interval approach in Analytical Hierarchy Process (AHP) to assess influencing factors in IoT. This paper confirms that intangible indicators (telepresence and intelligence) are less significant than tangible ones (security, value, and connectivity). The research indicates that once enterprises build a correct IoT connectivity system, it is necessary to combine it with good IoT security to create an advanced IoT environment. Information privacy stands out as the most important factor of influence. Enterprises should also consider significant factors like market demand and data management.

Keywords: Multi-Criteria Decision Making (MCDM); Analytical Hierarchy Process (AHP) Interval AHP; Internet of Things (IoT); enterprises.

1 INTRODUCTION

The Internet of Things is a system of interconnected products, services (computer equipment, machines, physical objects) that are equipped with functions for sensory cognition of the environment and (or) itself, for computer processes, and connection via the Internet. These IoT-enriched products are "smartly connected products" or "smart products". In the IoT era, people search for information every day or surf certain websites, share documents or chat online regardless of time and space constraints using the Internet through a host of applications. In recent years, many countries have been working on finding opportunities to apply IoT in different fields, such as education, transportation, home appliances, medicine, factories, and smart cities. The branching of the IoT into the consumer and technology sectors is remarkable for reforming the industrial revolution. The predicted business revolution caused by digitalization and the Internet of Things is precisely related to strategic advantage realization. IoT, which is considered a new engine for information, is estimated that the communication technology industry-leading market in the next years [1]. Products enriched with IoT technology (smart connected products) help you understand how, why and when users buy and use certain products. Thus there are opportunities for interactive communication with the customer. The ultimate goal of the IoT is to enable commercial activities inside factories and also outside the markets. However, there are some challenges for companies to apply innovative concepts in products immediately. A large number of academic papers explore security issues, including information on collected activities, from intelligent devices, software, and hardware. The IoT connection that stems from Industry 4.0 makes objects automatically communicate with each other. This feature increases the risks of exposure to information, such as personal data in the human resources department, financial reports, documents in the R&D office. The purpose of IoT is in platform creations that can accept, store and transmit data through the internet in computing devices. These computer devices including sensors, desktops, laptops, smartphones, and other electronics, and in recent years, some IoT-related applications have provided value to consumers. All of the listed IoT devices can connect to the internet, record some personal information and common activities about how people use them, and provide suggestions to users. IoT connects the power of the

internet with the competence of industries to run factories, machines, goods, and infrastructure [2]. End-users can control these IoT objects using their smartphones or voices. The IoT allows control over things (computers, networks, laptops, etc.) to develop products or services and ensure the delivery of the smart enterprise [3]. Based on the literature survey, this paper establishes five major influential factors of connectivity, telepresence, intelligence, security, and value Fig1.

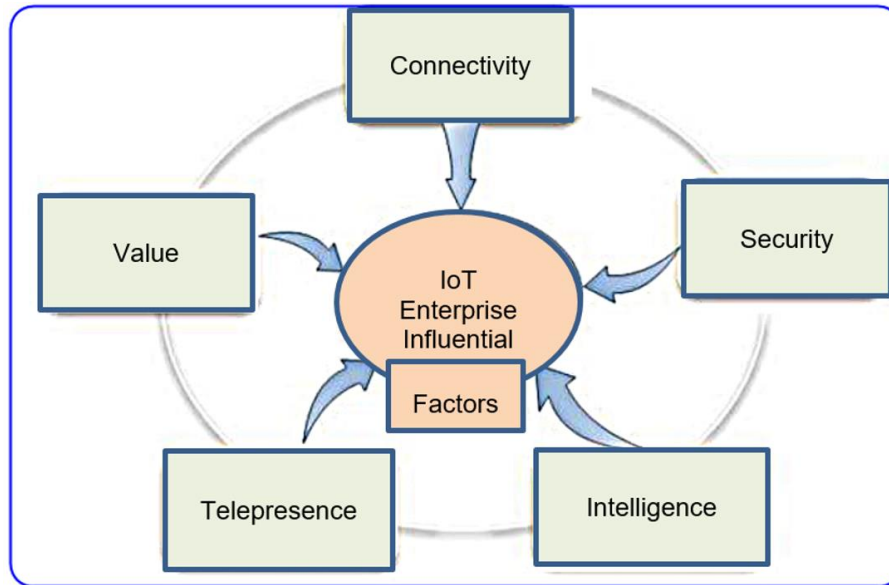


Fig 1. Influential factors for IoT enterprise adoption
Source: Authors based on [4]

The enterprise should assess the influencing factors to ensure a good IoT connectivity system and to achieve a successful IoT-related enterprise. The influential factors of IoT in enterprises are in Table 1.

Table 1. Main variables operational definitions

Operational definition	Main variables
The protective level of employees and enterprises when exchanging information by departments [5].	Security
The ability that allows enterprises to form a constant communication between IoT objects and objects using IoT technology [5]	Connectivity
The degree of understanding from IoT machines when operators need to take information from them or give them an instruction to complete work [5]	Intelligence
The subjective feelings induced by IoT devices to employees and end-users [5].	Telepresence
A subjective opinion of users about the use of IoT technology [6,7].	Value

Source: Authors based on [5-7]

The decision-making process for IoT enterprises faces conditions of inconsistency and uncertainty of data. The interconnected IoT devices ensure the ability to track many of the influential issues that affect an enterprise's performance. Fig. 2 gives the enterprise model and appropriate hierarchical levels. The capital enterprise hierarchical levels are: strategic, tactical, and operational [8].

For the most part, the current challenges facing enterprises are security issues such as a lack of trust and understanding of IoT. Although IoT has positive effects on enterprises, it also has many negative impacts that need to be reduced or eliminated to ensure successful IoT deliveries to enterprises. The study estimates an IoT framework for small and medium enterprises. The proposed method improves the decisions and services in the use of IoT in a smart city.

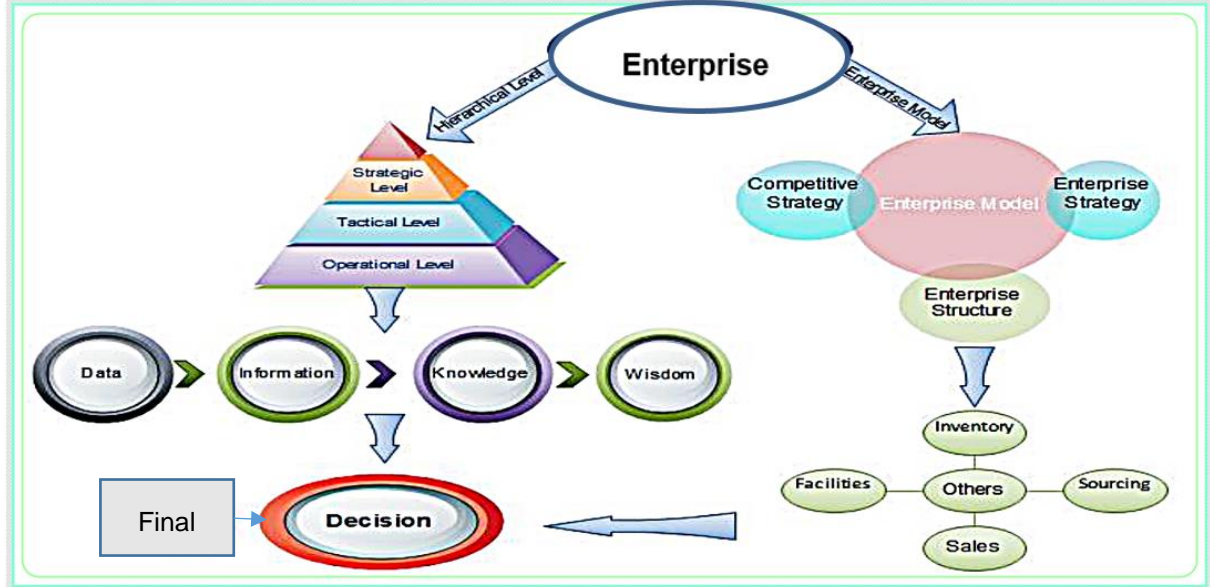


Fig 2. Enterprise models and hierarchical levels for final decision
Source: Authors based on [9]

The analytical hierarchy process (AHP) is a classical multi-criterion decision-making (MCDM) method used to analyse complex problems and to obtain weights for the selected criteria [10,11]. Nowadays, AHP is the most widespread method of multi-criteria analysis [12,13]. In this research, it has been applied an interval AHP method for developing IoT in enterprises to help decision-makers to estimate the influential factors. The determination of dominant factors can affect the success of IoT-related enterprises.

Section 2 illustrates the methodology of ranking through the interval AHP method of the proposed model and how to assist decision-makers in assessing the influencing factors that affect the enterprise's success. Section 3 provides results relating to - indicators for IoT effectiveness. Section 4 concludes the research and indicates future research.

2 METHODOLOGY - INTERVAL AHP

An interval grey number denoted as x_{\otimes} , is such a number whose exact value is unknown, but a range within which the value lies is known [14]: $x_{\otimes} = [x^l, x^u] = \{x | x^l \leq x \leq x^u\}$. More about the interval grey number is present in the papers [15,16].

Let $a_{\otimes} = [a^l, a^u]$ and $b_{\otimes} = [b^l, b^u]$ be two interval grey numbers, and k is scalar. Then the basic operations of interval grey numbers are defined as follows (1).

$$\begin{aligned}
 a_{\otimes} \oplus b_{\otimes} &= [a^l + b^l, a^u + b^u] \\
 a_{\otimes} \ominus b_{\otimes} &= [a^l - b^u, a^u - b^l] \\
 a_{\otimes} \odot b_{\otimes} &= [a^l b^l, a^u b^u] \\
 a_{\otimes} \oslash b_{\otimes} &= [a^l / b^u, a^u / b^l] \\
 ka_{\otimes} &= [ka^l, ka^u]
 \end{aligned} \tag{1}$$

The haziness resulting from the subjectivity degree associated with the fuzzy AHP method can lead to different interpretations. Interval matrices for pairwise comparisons in the AHP technique have been used to overcome this concern. In this case, pairwise comparison matrices had carried out using numerical intervals [17].

- Defining the goal.
- Identification of criteria and sub-criteria that contribute to the overall goal.
- Creating a comparison matrix C_{int}

$$C_{int} = \begin{bmatrix} 1 & [x_{12}, y_{12}] & \dots & [x_{1n}, y_{1n}] \\ [x_{21}, y_{21}] & 1 & \dots & [x_{2n}, y_{2n}] \\ \vdots & \vdots & \ddots & \vdots \\ [x_{n1}, y_{n1}] & [x_{n2}, y_{n2}] & \dots & 1 \end{bmatrix}. \quad (2)$$

In the matrix C_{int} , for all $i, j = 1, 2, \dots, n$, inequalities $x_{ij} \leq y_{ij}$, $x_{ij} \geq 0$, $y_{ij} \geq 0$, $x_{ij} = 1/y_{ij}$ and $y_{ij} = 1/x_{ji}$ are satisfied.

- Based on the matrix C_{int} , matrices $R = (r_{ij})_{n \times n}$, $S = (s_{ij})_{n \times n}$ and $T = (t_{ij})_{n \times n}$ are constructed:

$$r_{ij} = \begin{cases} y_{ij}, & i < j \\ 1, & i = j \\ x_{ij}, & i > j \end{cases}, \quad s_{ij} = \begin{cases} x_{ij}, & i < j \\ 1, & i = j \\ y_{ij}, & i > j \end{cases}, \quad t_{ij} = r_{ij}^\alpha s_{ij}^{1-\alpha}, \quad i, j = 1, 2, \dots, n, \quad 0 \leq \alpha \leq 1. \quad (3)$$

- The introduced non-interval matrices R and S make it possible to examine the consistency of the interval matrix C_{int} by examining the consistency of the matrices R and S . If they are consistent, have acceptable values $CR \leq 0.1$, then an interval matrix C_{int} will also be consistent.
- The convex combination method has been used to calculate the weights of the interval matrix C_{int} . Let $\omega(R)$ is a vector containing weights of a matrix T , where $\omega_i(T) = (\prod_{j=1}^n t_{ij})^{1/n}$, for all $i = 1, 2, \dots, n$ and all $0 \leq \alpha \leq 1$. If $\prod_{i=1}^n \omega_i = 1$, then

$$\omega_i(T) = (\prod_{j=1}^n t_{ij})^{1/n} = (\prod_{j=1}^n r_{ij}^\alpha s_{ij}^{1-\alpha})^{1/n} = \omega_i^\alpha(R) \omega_i^{1-\alpha}(S), \quad (4)$$

where $\omega(R)$ and $\omega(S)$ are weighting vectors of matrices R and S , respectively. For a matrix C_{int} can be obtained, based on the weighting vector ω of the matrix T , interval weight $\omega(C_{int})$, where

$$\omega_i(C_{int}) = [\min\{\omega_i(T) | \alpha \in [0, 1]\}, \max\{\omega_i(T) | \alpha \in [0, 1]\}] = [\min\{\omega_i(R), \omega_i(S)\}, \max\{\omega_i(R), \omega_i(S)\}]. \quad (5)$$

- The probability that one interval weight is bigger than the other is calculated [18]. Interval weight $\omega_i = [\omega_i^L, \omega_i^U]$ is bigger than the interval weight $\omega_j = [\omega_j^L, \omega_j^U]$ if

$$P(\omega_i \geq \omega_j) > P(\omega_j \geq \omega_i), \quad p_{ij}^* = P(\omega_i \geq \omega_j) = \frac{\max(0, \omega_i^U - \omega_j^L) - \max(0, \omega_i^L - \omega_j^U)}{(\omega_i^U - \omega_i^L) + (\omega_j^U - \omega_j^L)}, \quad (6)$$

for all $i, j = 1, 2, \dots, n, i \neq j$. Specially, $p_{ii}^* = 0.5$ for all $i = 1, \dots, n$. By calculating comparison probabilities for all intervals, a probability matrix (preferences) $P_p^* = (p_{ij}^*)_{n \times n}$ is obtained.

- Using the row-column elimination method, based on the obtained probability matrix, interval weights are ranked [19].

An overview of some interval mathematics algorithms is in papers [20,21].

According to this procedure, the authors have developed a corresponding software, which has been used to solve problems of the ranking of indicators in the conceptualization of IoT effectiveness.

3 RESULTS - FACTORS FOR IOT EFFECTIVENES

The research involves criteria: Connectivity - C, Telepresence – T, Intelligence – I, Security – S, and Value – V, to research and rank the relevant sub-criteria. Defined indicators for the IoT effectiveness through five sets of criteria and fifteen sub-criteria have presented in Fig 3.

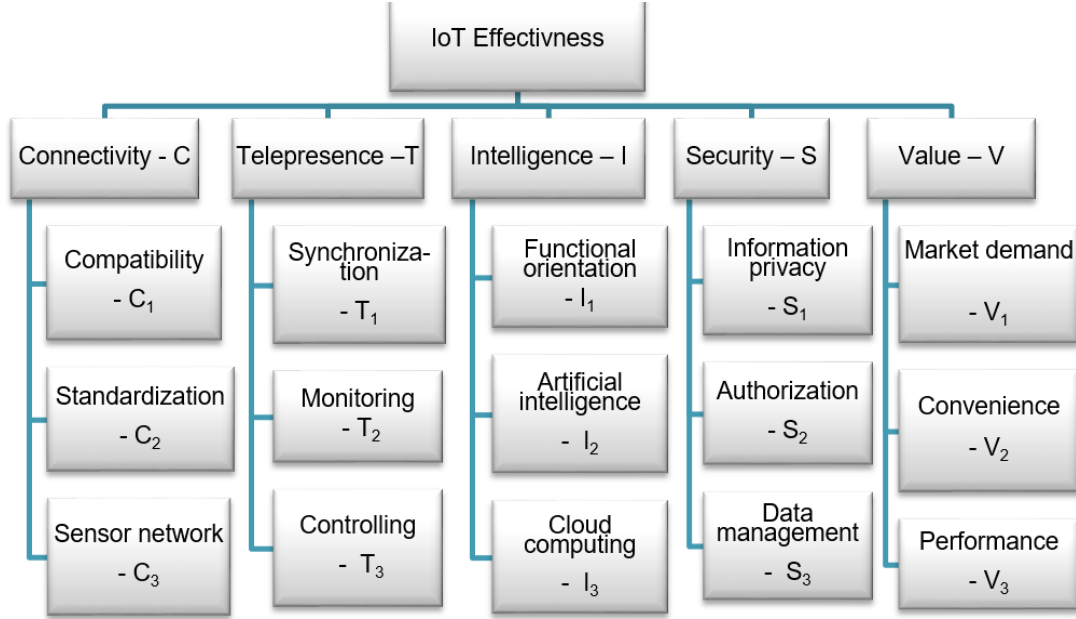


Fig 3. A hierarchical structure that connects criteria and sub-criteria for the IoT effectiveness
Source: Authors

The following results are obtained using the interval AHP method, and they are presented in Table 2 to Table 7. The interval matrix proposed by experts is consistent because the matrices R and S are consistent. The weights of the factors are marked with w_c and the sub-factors w_{sc} .

Table 2. Interval comparison matrix and weights of criteria in the interval AHP method ($Cl_R = 0.00984433$, $CR_R = 0.00878958$, $Cl_S = 0.0279004$, $CR_S = 0.0249111$).

	S	V	C	T	I	w_c
S	[1,1]	[1,2]	[2,2]	[3,4]	[3,5]	[1.78649,2.39616]
V	$[\frac{1}{2}, 1]$	[1,1]	[1,2]	[3,3]	[3,4]	[1.55665,1.6578]
C	$[\frac{1}{2}, \frac{1}{2}]$	$[\frac{1}{2}, 1]$	[1,1]	[2,3]	[2,4]	[1.15826,1.25091]
T	$[\frac{1}{4}, \frac{1}{3}]$	$[\frac{1}{3}, \frac{1}{3}]$	$[\frac{1}{3}, \frac{1}{2}]$	[1,1]	[1,2]	[0.557189,0.557194]
I	$[\frac{1}{5}, \frac{1}{3}]$	$[\frac{1}{4}, \frac{1}{3}]$	$[\frac{1}{4}, \frac{1}{2}]$	$[\frac{1}{2}, 1]$	[1,1]	[0.361175,0.557189]

Source: Authors

Table 3. Interval comparison matrix and weights of criteria C in the interval AHP method ($Cl_R = 0.0268108$, $CR_R = 0.0462255$, $Cl_S = 0.0268108$, $CR_S = 0.0462255$).

	C3	C2	C1	w_{sc}
C3	[1,1]	[1,2]	[2,2]	[1.25992,1.5874]

C2	$\left[\frac{1}{2}, 1\right]$	[1,1]	[1,2]	[1.,1.]
C1	$\left[\frac{1}{2}, \frac{1}{2}\right]$	$\left[\frac{1}{2}, 1\right]$	[1,1]	[0.629961,0.793701]

Source: Authors

Table 4. Interval comparison matrix and weights of criteria T in the interval AHP method ($Cl_R = 0.00914735$, $CR_R = 0.0157713$, $Cl_S = 0.0268108$, $CR_S = 0.0462255$)

	T1	T3	T2	w_{sc}
T1	[1,1]	[2,3]	[3,3]	[1.81712,2.08008]
T3	$\left[\frac{1}{3}, \frac{1}{2}\right]$	[1,1]	[1,2]	[0.793701,0.87358]
T2	$\left[\frac{1}{3}, \frac{1}{3}\right]$	$\left[\frac{1}{2}, 1\right]$	[1,1]	[0.550321,0.693361]

Source: Authors

Table 5. Interval comparison matrix and weights of criteria I in the interval AHP method ($Cl_R = 0.0268108$, $CR_R = 0.0462255$, $Cl_S = 0.0268108$, $CR_S = 0.0462255$)

	I2	I1	I3	w_{sc}
I2	[1,1]	[1,2]	[2,2]	[1.25992,1.5874]
I1	$\left[\frac{1}{2}, 1\right]$	[1,1]	[1,2]	[1.,1.]
I3	$\left[\frac{1}{2}, \frac{1}{2}\right]$	$\left[\frac{1}{2}, 1\right]$	[1,1]	[0.629961,0.793701]

Source: Authors

Table 6. Interval comparison matrix and weights of criteria S in the interval AHP method ($Cl_R = 0.$, $CR_R = 0$. $Cl_S = 0.00460136$, $CR_S = 0.00793337$)

	S1	S3	S2	w_{sc}
S1	[1,1]	[2,2]	[2,3]	[1.5874,1.81712]
S3	$\left[\frac{1}{2}, \frac{1}{2}\right]$	[1,1]	[1,2]	[0.793701, 1.]
S2	$\left[\frac{1}{3}, \frac{1}{2}\right]$	$\left[\frac{1}{2}, 1\right]$	[1,1]	[0.550321,0.793701]

Source: Authors

Table 7. Interval comparison matrix and weights of criteria S in the interval AHP method ($Cl_R = 0.$, $CR_R = 0$. $Cl_S = 0.00460136$, $CR_S = 0.00793337$)

	V1	V3	V2	w_{sc}
V1	[1,1]	[2,2]	[2,3]	[1.5874,1.81712]

V3	$\begin{bmatrix} 1 \\ 2, \frac{1}{2} \end{bmatrix}$	[1,1]	[1,2]	[0.793701, 1.]
V2	$\begin{bmatrix} 1 \\ 3, \frac{1}{2} \end{bmatrix}$	$\begin{bmatrix} 1 \\ 2, 1 \end{bmatrix}$	[1,1]	[0.550321, 0.793701]

Source: Authors

All comparison matrices have been created based on the expert's opinions in the IoT field and entrepreneurship, and they are consistent. Let's denote with l- lower limit, h - the upper limit of interval weights. Fig. 4 graphically shows the interval weights of the sub-criterion.

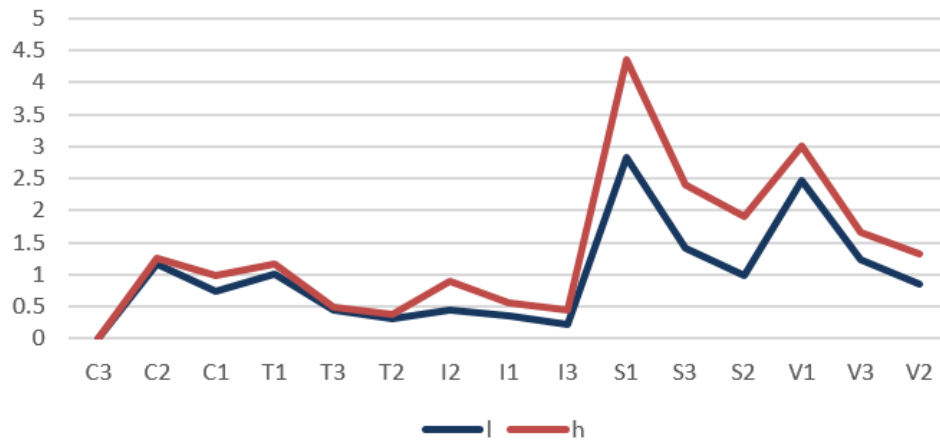


Fig. 4 The final ranking of indicators by interval AHP.

Source: Authors

In Table 8, the factors have ranked using the interval AHP method.

Table 8. Ranking of factors with final interval weights

Influencing factors	$w_c \odot w_{sc}$	p^*
S1- Information privacy	[2.83587, 4.35411]	0.981039
V1- Market demand	[2.47103, 3.01242]	1
S3 - Data management	[1.41794, 2.39616]	0.688659
C3 - Sensor network	[1.45931, 1.98569]	0.911379
V3 - Performance	[1.23551, 1.6578]	0.504539
S2 - Authoratization	[0.98314, 1.90183]	0.758956
C2 - Standardization	[1.15826, 1.25091]	0.757775
V2 - Convenience	[0.85666, 1.3158]	0.501056
T1 - Synchronization	[1.01248, 1.15901]	1
C1 - Compatibility	[0.72966, 0.99285]	0.893962
I2 - Artifical intelgence	[0.45505, 0.88448]	0.973713

T3 - Controlling	[0.44224, 0.48675]	0.52709
I1 - Functional orientation	[0.36118, 0.55719]	0.979742
T2 - Monitoring	[0.30663, 0.38634]	0.554026
I3 – Cloud computing	[0.22753, 0.44224]	

Source: Authors

Final ranking indicators in the interval AHP method are presented in Fig 5.

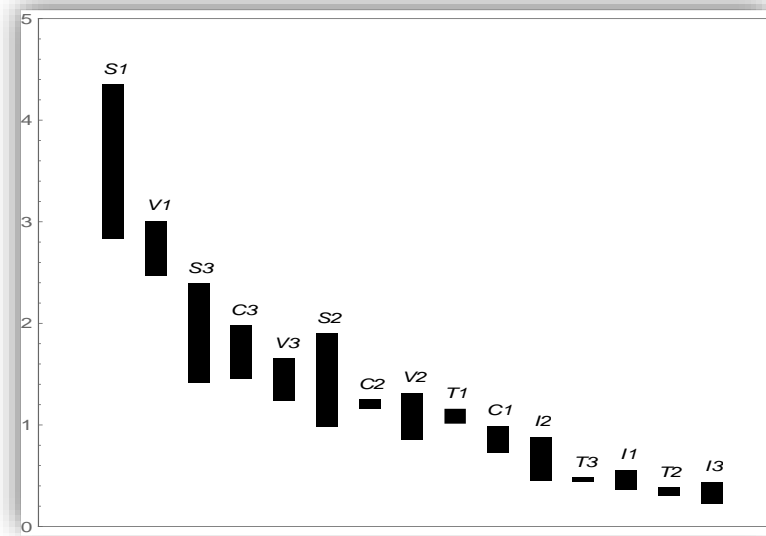


Fig. 5 The final ranking of indicators by interval AHP.

Source: Authors

4 CONCLUSION

The proposed model may be used to assess influential factors of the enterprise related to IoT. The results enable decision-makers to find ideal solutions. The proposed approach in determining the influencing factors may deal with unclear and inconsistent information. Decision assessment was improved using the AHP interval approach. Results show that our work can be adapted and replicated in different settings and countries for IoT research. Based on the interval AHP analysis, this study concludes that both: internet connectivity and telepresence should be improved to a certain level to obtain a good performance of IoT effectiveness. The current development and design of the IoT may reshape the whole industry because the business value of IoT is deep and ranges from the digitalization of the enterprises' internal business and user experiences to the unlocking of new digital products and disruptive business models. Based on the Interval AHP analysis, this research finds that both: internet connectivity and telepresence should be improved to reach a good performance of IoT effectiveness to a satisfactory degree. The study indicates that when enterprises create the right IoT connectivity system, it is necessary to combine it with good IoT security to create an advanced IoT environment. The most important factor of influence is the privacy of information. In addition to enterprise privacy, they need to pay attention to important factors such as market demand and data management. For future studies on building a successful IoT effectiveness, other methods, and industries, will be taken into account.

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MODERN BUSINESS ORGANIZATION AND KEY COMPETITIVENESS PERFORMANCE – RESPONSIBILITY AND EFFICIENCY

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Abstract

Modern business organization in conditions of high, global competitiveness, is focused on achieving business excellence whose main goals are to achieve a high level of responsiveness - responding to all customer requirements, and achieving the highest possible level of efficiency. These are two goals that are contradictory at first glance: a high level of customer service implies high costs. However, modern management tools are aimed at resolving this very contradiction: to achieve a high level of response to customer requirements, while improving cost performance. The embodiment and indicator of these improvements is the realization of the highest ideal of business excellence - the elimination of inventories from business.

Keywords: Globalization, supply chain, responsiveness, efficiency, competitiveness, management models, inventories.

1. INTRODUCTION, MODERN BUSINESS CONDITIONS

The basic characteristic of the modern world is the development of the process of globalization in all aspects of social life, and especially in the economy. In modern conditions, the competition has become global. With the development of electronic technology, the market has become accessible to everyone. Barriers to market entry are no longer fixed capital, mass production and economies of scale, but new asset management, business models and strategies that are often characterized as "breakthrough strategies". It is no longer enough to manage the internal factors of the company and customer relations, it is necessary to manage the entire process of creating and delivering value to end customers and consumers.

Other characteristics of the modern business environment are closely related to the processes of globalization. These are: global changes of customer requirements, dramatic development of information and communication and other technologies, constant innovation and shortening of the product life cycle, as well as the growing importance of organizational culture and the creation of new associations and cooperative relationships through a new entity - supply chain.

The development of electronic information technologies is a particularly important feature of the modern business environment. ERP system (Enterprise Resource Planning), as a key operational application and support for process integration in the enterprise, is a modular system that "sees" and monitors the process through all functions in the enterprise, from ordering materials, to order execution. ERP supports the established procedure of activities and processes and prevents skipping, data is entered only once, which allows subsequent checks and controls of execution and executor. On the basis of ERP (i.e. as support), other planning applications have been developed, such as MRP I - Material Requirements Planning, and MRP II - Manufacturing Resources Planning, and many others. Company information systems are easily connected to other companies' systems, via the Internet.

Responsiveness - responding to customer requirements, and operational (and cost) efficiency are seemingly contrasting strategic performance. According to the original definition, the responsive system does not pay much attention to costs and prices, but to product quality and availability, to the service aspect. An efficient system counts on cost reduction and low prices. However, today, in highly competitive conditions, this is no longer the case. And product quality, and availability, speed, and prices, make today a broad picture of responsiveness - meeting all customer requirements, and even exceeding customer expectations.

Determinants of competitiveness and supply chain concept

A company's competitive strategy is what distinguishes a company from competitors in the market. Until the first half of the 20th century, in the so-called "Industrial era", competitiveness could be ensured mainly through the management of internal factors (capacities), through mass production, economies of scale. In a growing market, technical and other capabilities were important to increase production volumes in order to transfer fixed costs to a larger number of units and thus achieve the strategic advantage of low costs per unit of product. In economies of scale, positive effects have also been achieved from acquired skills and abilities in work, which are usually illustrated by the experience curve (or learning curve). [1].

Today, competitiveness factors come primarily from the perspective of value per customer perception. The key factors of competitiveness are determined by the demand requirements coming from the environment and concerning the quality of products and services from the perspective of the customer, speed and reliability of delivery, but also the total operating costs that determine the pricing policy. Companies strive to develop efficiency, flexibility and operational excellence, in order to ensure the achievement of goals - effectiveness. Therefore, the task of management is to create new strategies by focusing on customer requirements, and then finding organizational forms that would best meet these performances. Competitive advantage is usually gained through lower costs or through the creation of innovative products, or a combination of elements of these two approaches. However, through any competitiveness strategy, strategic values are always linked to customer values and the optimal level of service. The function of competitiveness strategy in the company has a business strategy and it defines the manner and concept of competition in a particular market or market segment through the organization of the business system. New organizational forms are realized through partnership, through the organization of the supply chain, through the creation of intangible resources and capabilities, and increasingly through the development and direction of knowledge and organizational culture as an environment of efficiency and effectiveness. Although culture is not directly the subject of this paper, it is important for the management of a business organization and deserves special work. Culture mediates between organizational and individual knowledge and enables social interaction, [2] necessary for the selection and understanding of goals and their achievement. This is especially important in the supply chain.

"Companies that efficiently manage their supply chain have numerous advantages, that is, they successfully achieve their goals. A recent study by Peter J. Metz of the MIT E-Business Center found that companies that manage their entire supply chain, from the most distant supplier to the end customer, have achieved huge, cost-effective success, such as a 50 percent reduction in inventory and a 40 percent increase in delivery timeliness. Effective supply chain management (SCM) has allowed Campbell Soup to double its inventory turnover rate, Hewlett-Packard has reduced supply costs for printers by 75 percent, for Sport Obermeyer, in two years, profits have doubled and sales have increased by 60 percent, and National Bicycle achieved an increase in its market share from 5 percent to 29 percent. Companies like Wal-Mart, which better managed their supply chain, benefited from greater customer loyalty, higher profits and shorter lead times, lower costs, higher productivity and higher market share. These benefits are not limited to traditional production or retail. Project management organizations can enjoy similar benefits by efficiently managing their supply chains." [3].

Today, competition no longer takes place between individual companies, but between supply chains, and the competition is about gaining and loyalty of customers and consumers. Management is placed in the context of the supply chain and its unified management. Companies turn to their core competencies (where they add the most value) and do what they do best, leaving all other activities, through forms of outsourcing and partnerships, to other companies in the chain. According to Martin Christopher, the supply chain is a network of organizations involved in downstream and upstream connections and flows, activities and processes that produce a product (or service) for the end consumer and are managed jointly, with the aim of best satisfying consumers and achieving competitiveness [4]. Managing and coordinating numerous activities and complementary competencies in the supply chain is today the biggest challenge for managers, as it provides the greatest opportunities for business improvement and optimization. The task of management is to jointly incorporate the core competencies of companies into efficient processes, and in that sense, companies are legitimately interested in the value chain of other companies in the chain. What is expected from the management of these relationships is to improve performance and develop a unique supply chain competence. The supply chain strategy is, through specific organization, adapted to the goals and business strategies of the companies in the chain, thus becoming a source of uniqueness of the offer that cannot be copied, and a source of synergetic effects (ability to achieve greater effects at lower costs through the supply chain business, than through independent business).

The development of a chain system or supply network would not be possible at this level if there was no exceptional development of electronics-based information technologies, because supply chains require constant rapid exchange of current information, often "in real time". These are primarily data on demand, on stocks in the supply chain system, on capacities and planned activities, etc. Numerous programs and applications have also been developed to support joint planning, coordination and control of activities and processes in the supply chain. Electronic Data Interchange (EDI) is especially important. It is a technology developed to create a common language for the direct exchange of business documents between the computers of companies that are business related. With the advent of the Internet, the EDI system became open so that all partners could use it, which made it possible to connect enterprise systems and connect ERP software and enterprise programs with supply chain management (SCM) software.

Inventories as a key indicator of responsiveness and efficiency business system

What are stocks and why do they occur? At the basic level, they are only a by-product of the universal accounting legality of the material flow: [5].

Inventories = cumulative supply - cumulative demand

In other words, if we draw a black box around a part of the supply chain, and measure the total amount of product that is poured into the box (supply), and then subtract the total amount that we find out of the box (demand), the result is, provided that neither one product is not destroyed along the way, stock in a box. The mathematical formula is:

$$I(t) = S(0, t) - D(0, t).$$

$I(t)$ means certain stocks in the box at time t and the assumption is that it starts at time 0, without stocks in the box ($I(0) = 0$). The result in the black box can also be negative, if the customers ordered and did not receive the goods ($I(t) < 0$), i.e. demand exceeds supply. Positive stocks can be thought of as quantities waiting for an order, and negative as purchase orders waiting for goods.

However, this is an abstract management model that has the task of minimizing the complexity that exists in reality, so that we can understand the essence. In practice, it is impossible to establish a lasting and complete balance between supply by suppliers and demand for products, but this must be pursued. If we know what causes inventory, we will know what to change in the organization of activities and processes. The inventory and inventory cost management model itself includes consideration of

determinants such as ordering and procurement costs, inventory holding and handling costs, lead time of the procurement, lead time of delivery to customers, stock out costs...

Decisions on stocks refer to the amount and type of stocks at each stage, on the amount of stocks in the form of raw materials, semi-finished products and finished products. Inventories are kept at a certain level as security due to possible unexpected events. Since keeping stocks creates costs, it is necessary to find the optimal level and determine the point of re-ordering. It is necessary to find the optimal point on the scale of economy and the balance between the frequency of ordering, the cost of ordering and the cost of handling inventory, then, determine the level of security stocks in relation to the planned level of services. [6].

However, in addition to reducing costs, there are other, even more significant goals of eliminating or reducing inventories, and these are the goals of improving the overall efficiency of the system and saving other resources of the company. Many characteristics of the business system and business are broken over the level of inventories in terms of rationality or irrationality, or in relation to efficiency and responsiveness and the level of services to customers (consumers). In this sense, inventories can be the most suitable indicator of the optimality of the business system. The ideal is the elimination of stocks in all forms and phases, that is, the presence of "transit stocks", which are always moving. This means that all unnecessary activities have been eliminated and that the integration of information and synchronization of material flows has been achieved, that coordination is perfect. It is a pull system of the organization in which processes are started only when there is demand.

CPFR - Collaborative Planning, Forecasting, and Replenishment - and VMI - Vendor-managed inventory models are particularly suitable for the context of both supply and inventory management. These are models that solve problems between customers and suppliers, but have a significant impact on the entire supply chain and on the level of services and responsiveness and on inventory control. If well implemented, these models have a major impact on flow synchronization and inventory reduction along the entire supply chain.

Such a goal of the organization – work without stocks, directs and forces the company to work efficiently. Inventories do not contribute to creating value for customers, but can mask weaknesses in the functioning of processes and systems. Unnecessary accumulation of stocks leads to spoilage of stocks, to obsolescence and damage, to insufficient focus and to relaxation of employees. Therefore, setting a strategic goal to eliminate inventories is a driver of reengineering or improving the overall business and operating system of the enterprise.

Models, methods and techniques of managing activities and processes and eliminating unnecessary inventory

Business and organization management models are at the same time part of the inventory management system. It is a series of management tools and means that improve business performance, where reducing inventory levels is one of the most important performance targets, and at the same time an indicator of the efficiency and effectiveness of the business system.

The level of stocks, along the entire supply chain (raw materials, semi-finished products and finished products) is one of the key performances of the supply chain, which has great operational and strategic implications. Inventory level is a measure of efficiency, agility of the organization and level of service. There are four management decisions that can positively, or compromise to an optimal level, affect the level of necessary safety stocks: [5].

- Shortening of lead-time,
- Reducing uncertainties on the supply side,

- Reduction of errors in demand forecasting,
- Reduction of service levels (reliability and speed of delivery).

By shortening the supplier's lead-time (e.g. from six days to one day), it can completely eliminate security stocks on this basis. There are various methods for reducing demand prediction errors. A good demand forecast is key to reducing inventory. Any reduction in inventory levels, which are maintained due to the speed and reliability of delivery to customers, must be agreed with customers.

The costs of inventories and their reduction can be very little directly affected. It is necessary to control and improve the course of the whole process in order to eliminate unnecessary delays or unnecessary activities. Mapping is necessary to determine delays in the process and movement of materials, and eliminate them by reengineering or restructuring. It is neither an easy nor a simple job, although both theory and practice know hundreds of management tools that guide, improve and control activities and processes.

Tools and techniques that directly affect the elimination of unnecessary stocks are, above all:

- pull system of the organization ("pulling" system),
- JIT supply (just-in-time),
- Total Productive Maintenance (TPM), and
- postponement - delayed assembly.

In order for these tools and techniques to be applied effectively, it is necessary to provide other conditions, such as: efficient preparation of production and efficient forecasting of demand (for example through the improvement of customer relationship management system - CRM).

In an integrated supply chain process, demand can be from internal customers, i.e. from subsequent production cells or stations in production, from distribution centers within the logistics network, or external customers. Each subsequent stage of the process is considered a customer that requires quality. If quality is not provided for internal customers, it will not be achieved for end customers either. The essence of the integrated process is that the demand of each subsequent phase is defined on the basis of the real demand of the end customer, on the basis of which the signal is sent to the upstream suppliers. These are the foundations of the "pull" system. The obvious benefit is to reduce inventory at all stages, as processes start and materials move only when demand is known (and concrete), [8] but there are many other implications for comprehensive synchronization and optimization of the business process. The pull system allows the demand to pull the whole process, like a gear. Unlike the pull system (pull by known demand), the push system is a system of "pushing" products, when products are made for a warehouse, and then the ones are pushed to the market, through traditional distribution channels, according to unknown customers.

The essence of the JIT method is that materials, from suppliers to production, but also to the end customer are delivered only when they are needed (exactly on time), and in the quantity needed, in order to meet the demand from which came the signal to start the process. The materials that arrive in this way are not stored, but are immediately sent to the production process. As operational instruments for improving activities and processes, JIT and "pull" in a modern organization are connected by a process approach, where JIT dominates in upstream flows and "pull" in downstream flows.

The best example of a flexible organization, capable of adapting to significant changes and decreasing and increasing demand, is Dell Computers, which operates in the same way all over the world, thanks to the potential flexibility of the strategy. This company achieves the effects of economies of scale, although it creates a product when it is ordered (pull system), and exactly according to customer specifications (customization, mass customization). Dell's logistics platform is able to operate on the

principle of "integral transit", [9] that is, it does not create stocks at any stage of the process. The companies that supply the Dell company with components are integrated into Dell's logistics system. From their warehouses nearby, they accept an obligation to deliver components to Dell for each order within a few hours (JIT supply).

The post-assembly system (postponement) is applied in the downstream parts of the supply chain, after the "separation point", in branches where it is difficult to predict demand in advance. The point of separation is the moment when a specific demand becomes known, when the product ends, exactly according to the specification of the customer's requirements. The point of separation in the supply chain can be moved forward or backward, depending on the ability to know the specific demand. [10]. It is applied in the car industry: a certain type of car is produced in a generic form, in a certain quantity. When the buyer appears with his requests concerning e.g. paint and accessories, the car is completed as soon as possible. Thus, a certain (relatively higher) demand is satisfied with a smaller stock. It is similar with products that can be produced in "bulk", and are packed in appropriate packaging at the request of the customer, in wholesale or retail. In the production of paints, "mixing" of a certain shade can be done in retail. Delayed assembly is also suitable for a modular production system, when standardized parts can be combined in various ways, according to the customer's wishes and specifications.

Reducing or eliminating inventories, therefore, is not only aimed at reducing inventory costs, but improving the entire business process, saving all other resources and achieving maximum efficiency, which includes improving customer service through faster and more accurate delivery, improving product quality and eliminating defects, by reducing total costs and thus creating opportunities for lower prices. The level of inventories is one of the most important indicators of the overall efficiency and ability of the enterprise, that is, the enterprise that operates without inventories, with the desired volume of business, achieves the performance of business excellence.

One of the most important reasons for integration in the supply chain is the construction of such key competencies as to permanently reduce inventory standing time - dwell time (as opposed to productive time). Dwell time thus represents the ratio of the time in which stocks stand in relation to the productive time of moving to the desired location. To achieve such synchronization, the logistics function must be fully integrated into the operating system of the overall supply chain.

Conclusion

From the previous considerations, an important conclusion emerges that the essence of successful inventory management, but also the overall business, is primarily in the improvement of activities and processes. These improvements can be achieved either through reengineering of activities and processes or through continuous improvements. In that sense, numerous models, methods and techniques of directing activities and processes or their continuous improvements are available. These management tools concern the arrangement of the system structure or the functioning of the system. At the same time, a key indicator of the success of the improvement may be the reduction of stock levels. This thesis received its full confirmation with the development of the supply chain concept.

At first glance, it is concluded that the stock level provides a higher level of services due to security and speed of delivery. However, this does not have to be the case. A high level of inventory can be an indicator of poor organization, which at the same time has a negative impact on efficiency, quality and effectiveness. A low level of inventory does not have to reduce the level of service if it is supported by other process performance - if material supply is improved, preventive equipment maintenance is implemented and production preparation is improved or demand forecast is improved, and distribution is tailored to customer needs. The demand forecast is especially important, which must be based on current information, and not on the basis of historical data and general trend.

In addition to direct inventory management, reduction (or elimination) of inventories is achieved by applying other models, methods and techniques, which improve the overall business of the company and its supply chain.

In the 1970s, Toyota and other Japanese companies insisted on operational efficiency in their policies. Then a discussion developed as to whether strategy or operational (and cost) efficiency was more important. Today, it is clear to all successful companies that responsiveness is necessary - a response to all customer requirements (i.e. strategy), as well as operational efficiency that implements the service segment, and cost efficiency that can provide cost leadership and low prices. These three types of performance, which are not the result of compromise, but on the contrary, focused efforts, actually create the broadest picture of responsiveness - responding to all customer requests, and connivance. Some theorists would say that this is business excellence that exceeds customer expectations.

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THE IMPORTANCE OF BUSINESS FLEXIBILITY DURING COVID-19

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ABSTRACT

This paper defines the circumstances of COVID-19 and their impact on business. Some examples of flexibility in business are presented. The common conclusions of many researches are also presented and the priority activities that each organization must undertake in order to survive on the market are identified. The results indicate an increased volume of sales through websites, social networks and other forms of online sales. The results also suggest a rise in paying for services via mobile money, which further confirms the flexibility of certain companies.

Keywords: Flexibility, business, COVID-19

1. INTRODUCTION

The market, both globally and locally, is no longer as it used to be, as COVID-19 has affected all market participants. The consequences of the pandemic from an economic point of view are as follows: reduced working hours, job cuts, supply chain disruptions, jeopardizing research and development processes, business closures, business model changes, loss of key customers and restrictions on products/services [1]. Organizations must find the right business model in such circumstances, in accordance with their capabilities. Large organizations and entrepreneurs make strategic business decisions in terms of the following: product range, target groups of consumers, pricing policy, improvement of existing items and presentation of new products. Planning is a cyclical activity that includes all internal and external factors of the organization in order to define the business framework. Internal factors are largely controlled factors. With proper planning, organization and control, there is no room for big surprises. External factors are prone to change and cannot be influenced by the organization. Furthermore, in a situation where the external factors are changing, the management of the organization must recognize the reasons, or at least the consequences that the changes will cause. Consequently, decisions are made on further business activities in terms of certain changes in order to adapt to fluctuating factors. Changes are evident in all industries, including education, and higher education and other educational institutions have adapted quickly to new business conditions after the onstart of the COVID-19 pandemic and its spread throughout the world. The specific nature of this virus in terms of mode of transmission, speed of spread, etc. has created the need to adapt the higher education system to such circumstances, which is also valid for other business activities [2].

2. METHODOLOGY

A descriptive analysis of events in the business market is applied in this paper. It presents the results of research from different parts of the world, as well as some case studies.

3. RESEARCH RESULTS

3.1 Market changes

Many studies have been done in the past two years regarding the impact of COVID-19 on business and the results of various organizations. One of the researches presented by McKinsey presents the following results and findings of the **sector research related to market changes**:

- The demand for IT services is constantly growing but despite this, many entrepreneurs are not aware how important the IT sector will continue to be for a country's economy. The global market for IT service providers of \$1 trillion per year will grow in 2021 and 2022 by more than 6 percent per year, faster than the global GDP.
- E-commerce on its way to expansion faces five common pitfalls that business owners must recognize, as they hinder growth and long-term success. This includes shifting focus and investing in operations and channel management and designing technology platforms for short-term goals.
- The automotive future is an electric one. New regulations in the European Union and the United States have been passed to bring the share of all-electric vehicles (EVs) worldwide to at least 50% by 2030, and several countries have announced accelerated deadlines to ban the sale of internal combustion engine vehicles by 2030 or 2035. These regulations have directly or indirectly influenced people's awareness, which has in turn impacted consumers' decisions to purchase EVs as the popular and sustainable vehicles of the future [3].

The mentioned factors represent external factors faced by organizations and their management.

There are factors that stand out by importance for organizations and they are classified within the category of location factors (Figure 1).

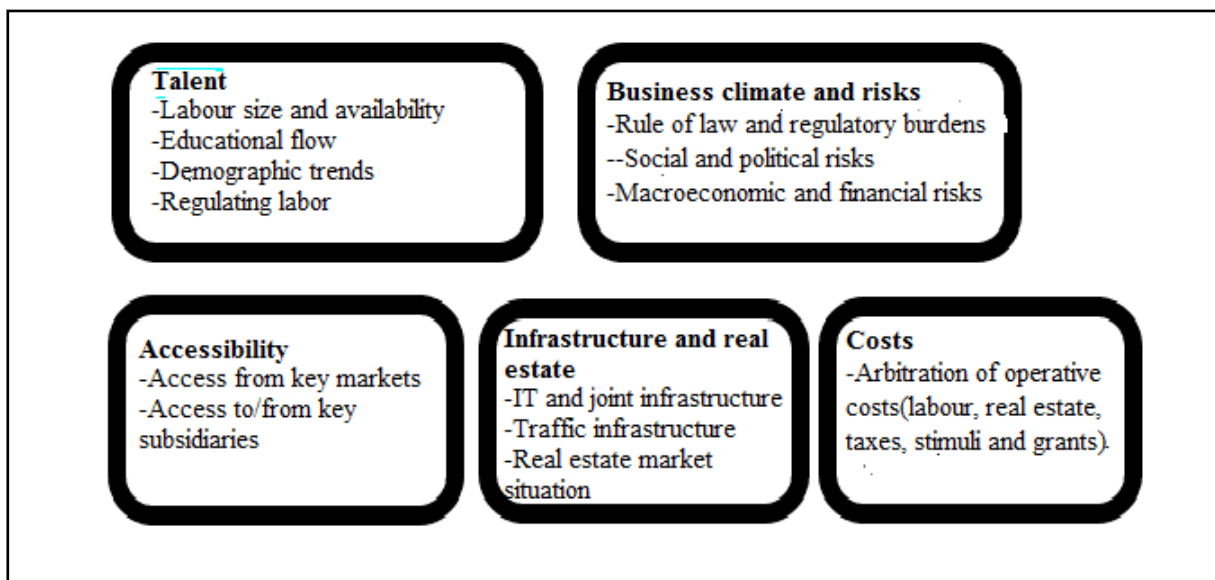


Figure 1: Critical location factors (CLF) [4].

These location factors are to be seen as guidelines that managers must take into account when formulating a strategy in fluctuating circumstances.

Entrepreneurs have been acknowledged for their agility during the COVID-19 pandemic: 68% of surveyed entrepreneurs adjusted their business plans and almost 40% of entrepreneurs perceived new business opportunities during the pandemic. Opportunities have emerged in certain business areas: digitalization, health and well-being, the local market, sustainability and new business models. Nearly a

third of all companies surveyed already had internet trading and/or deliveries to end users preceding COVID-19. Some 21% of them expanded their business into online trading and/or delivery in response to the pandemic. However, 48% of companies failed to use online shopping and/or delivery options [5].

An excellent example of adapting to new circumstances is the case study from Thailand:

***Case study:** “Create something out of nothing” - a new way of doing business with a different offer and target market in a pandemic.*

After a complete halt in business in Perth, Australia, Melissa Challenor-Bevis, CEO of EPIC Service, Australia, had to turn to a different kind of business. She focused her business on advisory and consulting services. After starting an engineering company in Thailand and adapting to a different culture and business environment, she found that the pandemic provided her with the best environment for ‘deep digging,’ or creating something out of nothing. The EPIC company had initially based its business activities on engineer and design services in Thailand, in order for the company to turn into a center for advisory consulting services for Australian companies during the pandemic. The company also helps Thai companies which are seeking advice and business contacts in Western Australia to expand their business [6].

Some more examples of customization:

- A large industrial plant operated at more than 90% of its capacity with only about 40% of the typical workforce, thus enabling the multiplication of productivity.
- Turbocharger improvements. One American industry player ran a ‘lean’ production program with 90% of its employees working remotely. It has accelerated progress in maturing the first initiatives to achieve 30% higher productivity and quality.
- A large engineering company in aviation and defense designed and manufactured fans within a week and thus used the COVID-19 situation to develop new products.
- A U.S. defense contractor relocated two-thirds of its workforce to teleworking. This required significant process innovations, given the need to support sensitive customer missions.
- A large shipbuilder switched from three to two shifts for its thousands of employees, coordinating directly with local officials [7].

3.1 Company priorities

Five priorities that every CEO must be aware of:

- Many companies have opted to take serious steps in terms of sustainability as a principle of production of goods and services with minimal damage to the environment. In the near future, however, this will be just as important for business as drawing up the balance sheet: in fact, consumers and regulators will insist on it. In this context, sustainability must be done systematically, like digitization or strategy development, as this will be an important source of long-term competitive advantage.
- One of the novelties whose potential has long been recognized is cloud computing, which is now beginning to deliver real results in innovation and productivity. In order for companies to use the cloud for good purposes, it is necessary for their staff to be “cloud literate” - that is, to have a refined sense of the possibilities of cloud computing.
- As always, the human element makes a great difference. Therefore, talent development is another priority. The organization of the future will not - or, at least, should not – resemble the one that existed in 2019. It will have to be more flexible, less hierarchical and more diverse.

- The pace of change is accelerating and the business environment is more fluid than ever. Organizations have realized the need for a quick response and have accomplished extraordinary things in the first months of the pandemic.
- Finally, leaders must understand that people desire meaning in their lives and their work. Previous research has found that companies with a strong sense of purpose outperform those lacking it. Furthermore, those who say they accomplish their purpose at work are simply better workers - the more loyal they are, the more likely it is that they will accomplish more and less likely they will leave. Purpose helps companies recognize new opportunities and connect with their customers [8].

Also, the help of micro, small and medium entrepreneurs is necessary. For help to be meaningful, it is essential that there is an understanding of the importance of this help on both sides. An example of significant support is described in the following case study:

Case Study - Jalisco Chamber of Industry Chamber (CCIJ): Hospital for Small and Medium Enterprises.

The organized support by the Chamber of Commerce of Jalisco in partnership with the University of Guadalajara was reflected in the forming and activating of the “Hospital for Small and Medium Enterprises.” The goal was to provide support so that employers could adapt to the new norms and respond to the extreme challenges created by the pandemic. In fact, practical business support has never been more important. The common goal was to protect 30,000 businesses and over 70,000 jobs in the Jalisco region of Mexico. The Hospital for Small and Medium Enterprises was established as a free service to meet the urgent needs of micro, small and medium enterprises, with the advice of professional professionals in the following areas:

- finance and accounting;
- marketing;
- human resources and workforce management;
- strategic planning;
- business re-engineering;
- legal and tax advice;
- leadership coaching.

Entrepreneurs had access to a maximum of five virtual consultations on one or more of the above topics. There was also support for materials, FAQs and tool kits. The initiative is a strong example of supporting companies in providing access to external experts, especially in times of crises [9].

3.3 Sales channels

There has always been, and still is, a variety of sales channels. The orientation of a manager towards one of the channels or a combination of several of them depends on the expertise of the manager, as well as the financial and system support. E-commerce companies based on Facebook and its own websites were the sales channels with the highest sales growth since the beginning of the COVID-19 crisis. The e-commerce companies in the sample used are using various channels to sell their goods and services (Figure 2). Social media plays an important role, and many use Facebook, WhatsApp and other social networks as an efficient way to reach potential and existing customers. However, more than half of the companies that responded with their own e-commerce website were used. Telephone channels, such as text messages, USSD, and calls, are also used frequently. Presence in third party markets remained relatively limited to the companies surveyed [10].

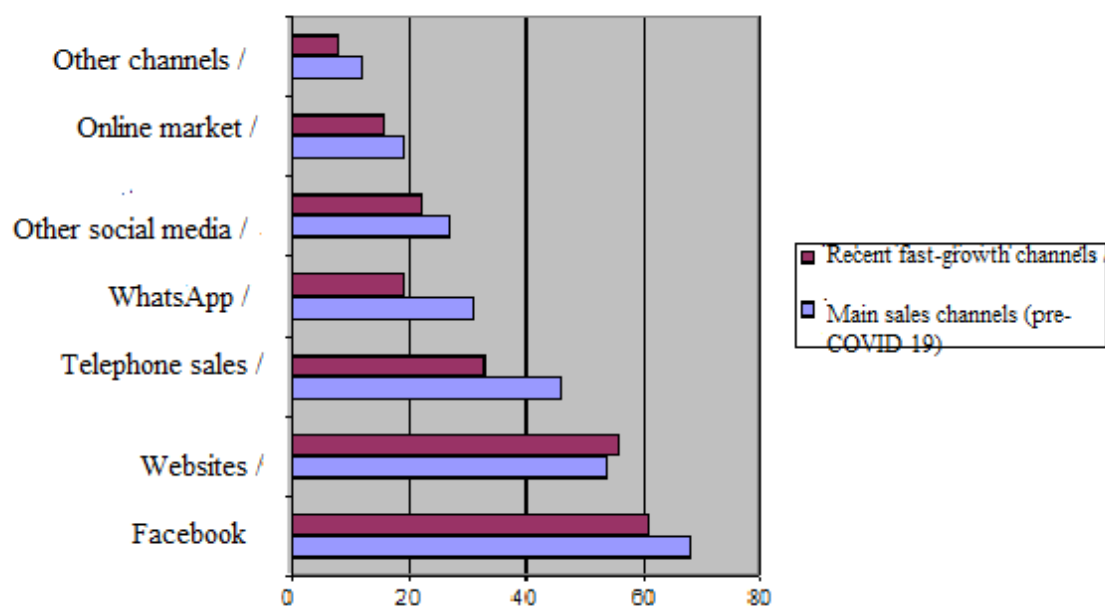


Figure 2. Main sales channels before the outbreak of COVID-19 and the channels with the highest growth in recent times (in percentage) [10]

3.4 Payments

Cash flow and payment methods have undergone certain changes. Businesses and individuals have turned to alternative ways of paying off their debts. Different methods of e-payment are on the rise, with the biggest leap observed in payments via mobile money (Figure 2). Two-thirds of e-commerce companies have seen changes in payment methods since the beginning of the COVID-19 crisis.

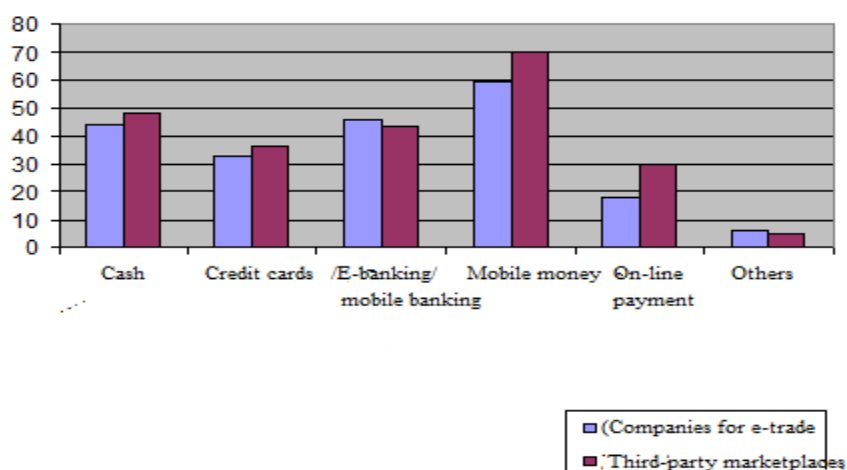


Figure 3. Payment methods with the highest growth since the outbreak of the COVID-19 crisis (in percentage) [11].

The biggest leap was noted in payments using mobile money. Thus, companies that have accepted different forms of payment had no problems in their business activities. Organizations that recognized the need for a flexible approach were able to realize business plans and profit during COVID-19.

4. CONCLUSION

The results of the research indicate that a certain percentage of organizations in the world have recognized the importance of adapting to fluctuating market circumstances caused by COVID-19. The ability of managers to recognize market signals, their flexibility, creativity and courage are key skills necessary for doing business in the new circumstances. Case studies around the world indicate the readiness of individuals to stand out for their entrepreneurial skills, which are especially pronounced in non-specific circumstances such as the COVID-19 environment. Finding the way to a customer has always been one of the most difficult tasks, but the complexity of current challenges in this regard cannot be measured against standard circumstances. The results of the research indicate a trend of sales growth through Facebook, websites, WhatsApp and other social sales channels. Everyone who assessed this as a possibility managed to make a profit and stay on the surface of the torrent called COVID-19. Research has shown that there are states that have recognized the need to help micro, small and medium-sized enterprises to mitigate the effects of the pandemic on business.

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COVID-19 AND HUMAN RESOURCES MANAGEMENT CHALLENGES IN BULGARIAN ORGANIZATIONS

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ABSTRACT

COVID-19 pandemic imposes a wide variety of challenges to organizations and all of them develop both universal and specific HRM approaches to react adequately to the crisis. The aim of the current study is to determine how the HRM experts perceive the challenges for their organization due to COVID. Most of the organizations were unprepared and needed to develop exclusively their anti-crisis measures. 40% of the HR experts believe that their business sector has already stabilized and the unemployment rates will remain the same as in 2020. COVID-19 created an extraordinary circumstance that required revision and adaption of the crisis management strategies as well. Despite the challenges of the COVID-19 crisis, it has also been an opportunity for positive change, growth and development (67% of the respondents). HR managers and experts perceive that expectations both of management and employees increased and their role requires more responsibilities and functions to react to the crisis and to implement the needed organizational changes.

Key words: COVID crisis; unemployment; crisis management; role of HRM; retention of staff;

INTRODUCTION

COVID-19 has put a serious mark on our entire life. Businesses all around the world suffered a lot from the pandemic and its consequences. Employees felt uncertainty, frustration, depression, social isolation. Many of them lost their jobs, others – even their lives. Companies were and are still struggling of keeping the morale and well-being of their employees and try to recover from it and bring their organizations back to normal. One of the functions that play a crucial role in coping with the COVID-19 situation is the human resources management. They are the standpoint to which everybody is stuck, hoping that people will re-gain their professional focus and will keep performing at the highest and bring the desired results.

CURRENT RESEARCHES ON COVID-19 AND HRM STRATEGIES

Hamouche (2021) summarize in his study that COVID-19 heavily impacted economies, societies, employees, and organizations [1]. Given the rapid spread of the COVID-19 virus, the most countries in the world have implemented several non-pharmaceutical measures intended to reduce its spread, such as social distancing and isolation. Lockdown measures have been imposed; people were quarantined; schools, universities, nonessential businesses, and non-governmental organizations have been temporarily closed or the work was reorganized in remote way; travels were restricted; flights were canceled; and mass public gathering as well as social events have been prohibited [2,3]. The normal everyday life dramatically has changed and has gained a new face.

Major & Machin (2020) state that trying to recover from this economic shock, companies have started reopening [4], in the mid of this ongoing pandemic, under extraordinary rules and a new functioning (e.g., physical distancing in the workplace) that no one can predict when it will end and this is confirmed also in the study of Shaw, Main, Findley, Collie, Kristman, & Gross [5]. Planning and forecasting was done in uncertainty and focused on short-term results. Therefore, this pandemic has obviously led to the emergence of a complex and challenging environment for managers and human resource management (HRM) practitioners who needed to find ingenious solutions to sustain their company's business and to help their employees to cope with the challenges of this unprecedented situation. In fact, organizations are generally not sufficiently prepared to deal with crises when they occur [6].

Whence the importance, for the scientific community, to support organizations by providing relevant information related to this new pandemic.

Liu, Lee, & Lee (2020) consider that in order to ensure the achievement of the organizational goals in a time of crisis, strategic agility is required [7]. Organizations need to be able to prepare and allocate their resources; to coordinate the needed mechanism; and to properly use the organizational resources and knowledge [7]. In this context, the novelty and the complexity of the COVID-19 represent a significant challenge that might compromise the achievement of organizational goals. According to Baert, Lippens, Moens, Sterkens, and Weytjens (2020) standard economic models in organizations are mainly trained to use data from 'normal times' perspective [8]. Thus, it is challenging to make predictions related to 'abnormal times.' This might suggest that making predictions related to the company's business, e.g., the preparation and the allocation of resources might be a complex exercise. In fact, COVID-19 has generated uncertainty. The economic impacts of COVID-19 pandemic on the labor markets and human capital are controversial and has not only negative but also positive effect [10].

COVID crisis impacts the development of a wide range of new practices in HRM domain to meet the new challenges and requirements of organizational practices. One of the biggest challenges that HRM should response was the influence of working from home during the COVID-19 crisis for organizations in different economic sectors [11]. HR managers have been faced to develop crisis management plans, elaborate new policies for remote as well as hybrid working systems as a response to the current and future crises [12].

METHOD AND DATA COLLECTION

Questionnaire on COVID-19 and impact on HRM was developed by international team lead by prof. Josef Poor to measure opinions of organizational managers and HRM experts about challenges of the coronavirus crisis and HR responses. The data was collected in Austria, Bosnia and Herzegovina, Bulgaria, Czech Republic, Hungary, Romania and Slovak Republic. The data for Bulgaria was collected in April 2021 when most of organizations had an experience with managing the crisis provoked by COVID-19.

SAMPLE

108 participants from Bulgaria are included in this research. They are professionals from the HR area and are representatives of their organizations. When it comes to the gender, 71% of the respondents are women and 21% are men. 20% are regular employees; 19% are mid-level managers; 15% of them have the position of CEO; 2 % are senior managers; 7% of them pointed other. More specifically, 29% have an HR role different from managerial, 20% are HR directors and 14% work in other departments but have HR related functions.

RESULTS

As mentioned and before, the HRM had a critical role in dealing with the COVID-19 pandemic. One of things that this research checked was whether the companies have an HR department at all. 64% of them said yes and 30% no. This result is a little bit disappointing because it shows that there are business organizations that do not pay enough attention of taking care for the human factor. They rely on other support functions to take the ownership but this might not be enough.

Additionally, the companies that have an HR department, 7% have between 1 and 5 HR specialists and the same percentage – 11-30 and 4% have between 6 and 10 employees in that area. This reconfirms the above statement for the lack of dedicated resources to be empowered and in charge for the personnel activities.

One of the greatest challenges of the COVID-19 pandemic was the uncertainty and lack of readiness how to act effectively. One of the key strategic elements was the lack or presence of clear view on what to be done in the pandemic. Asking the organizations about their contingency plan, the answers were interesting (Fig.1).

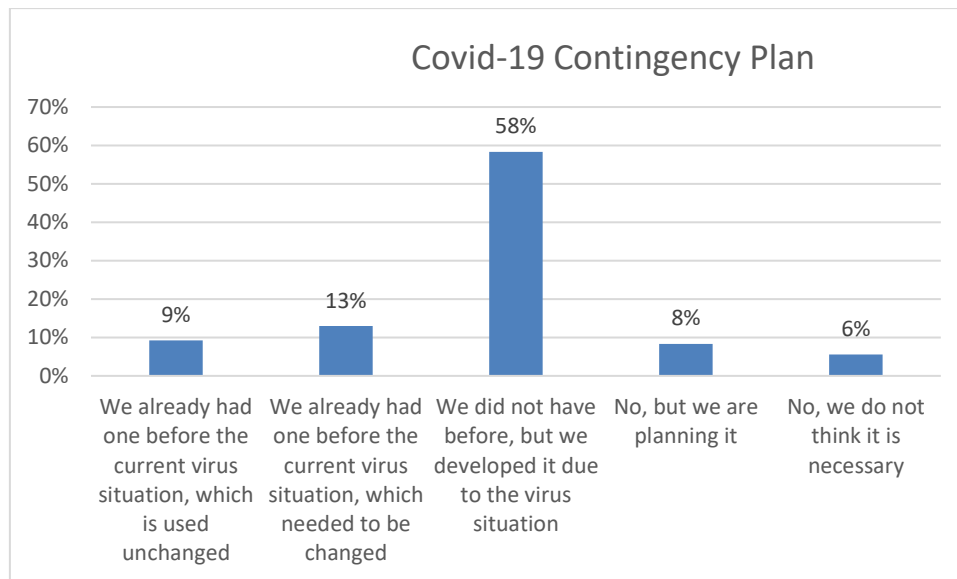


Fig. 1 COVID-19 Contingency Plan

It is obvious that many companies were unprepared and needed to create exclusively their anti-crisis measures (58%). Others (13%) did a good job before and have already created working models that were adapted to the COVID-19 situation and still some 9% decided not to make any changes to what they have. There were also organizations that do not have at all a plan for such pandemic and extraordinary situations. A few of them (8%) start considering the need and benefits of it while around 6% of the respondents point this as useless.

Furthermore, there is an interesting tendency. Many of those companies are international or do have an international exposure. Based on the data gathered, 57% acted locally and developed their strategies on their own. The focus were the specific cultural and national reactions to the pandemic. The approach applied were more country-centric. On the contrary, 31% decided to follow the model of the mother company. Measures and actions were aligned on a very high level and information was communicated internally. The central approach chosen ensured the consistency in the international policies of those organizations.

Despite all the measures taken, however, in many countries there was a very high unemployment rate due to mainly the COVID-19 crisis. Some industries had to fully shut down (e.g. tourism, entertainment, etc.). The recovery measures take time to be implemented and more time is needed for the real results to be visible. 2020 was the year of chaotic and desperate actions to save what can be saved. 2021 was supposed to be more business-wise in those directions. When asking the respondents how they see the economic aspects of the crisis, more specifically the unemployment rates, 35% predict a slight increase while 23% think that the increase of the rates will be higher. 20% of the professionals are sharing the view of a stabilized unemployment rates and no change compared to 2020. Optimism is visible for 14% of the respondents. They believe that the peak of the crisis is already over and the numbers will be better. People feel more secure and are even open to search for new opportunities. Recent researched also showed the change of trends in recruitment and digitalization of these services. People can apply for jobs and to be interviewed via the different online platforms with the same high productivity effect [9] (Fig.2).

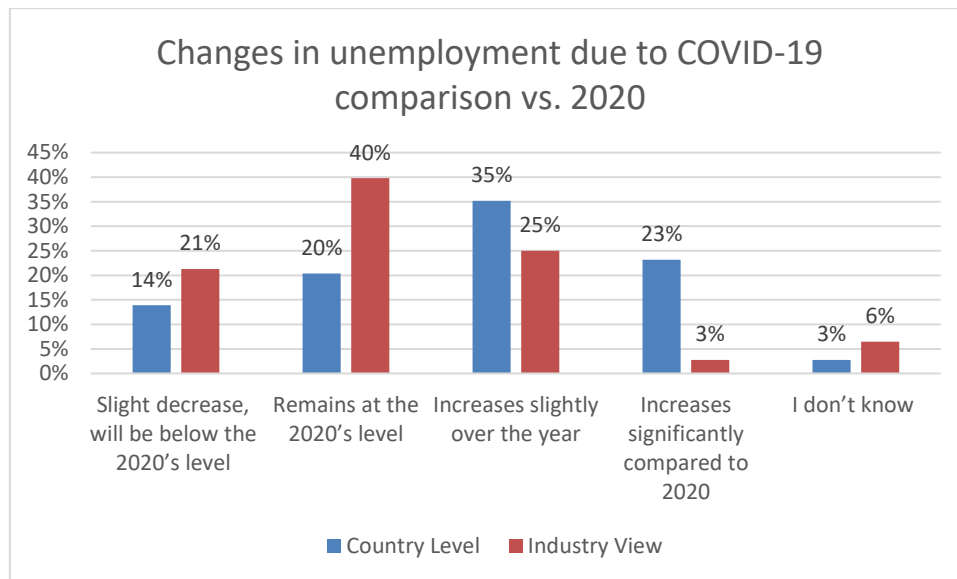


Fig. 2 Unemployment rates on country level and industry view

If we deep dive in the results, we will unveil the inside industry perspectives where the percent differs a little bit. The rates of unemployment on country level and in particular industry were influenced by HR governmental regulation. 40% of the HR people believe that their business sector has already stabilized and the unemployment rates will remain the same as in 2020. Another 25% believe that the pandemic is not over and the effects are still there. This will lead to more people left without jobs in 2021. The remains on the same level for 20% of the companies. They have not only stabilized but managed to reduce the turnover rates and see the light of the full post-pandemic recovery.

As a continuation of that, the participants in this survey were asked how the number of the employees in their organizations changed in 2020 (during the COVID-19 pandemic) compared to now. A very promising results is that for 49% of them there was no change. This is a strong evidence that the HRM strategies in place have managed successfully to retain and ensure career stability for their employees. For 19% the increase or decrease is slight (additionally for 7% the increase is significant and for 3% the decrease is significant) (Fig.3). This can be analyzed in two directions. For the first, they benefitted from the circumstances and most probably expanded their business to support others to manage the crises. For the second, the workload was ceased and the headcounts underwent revision.

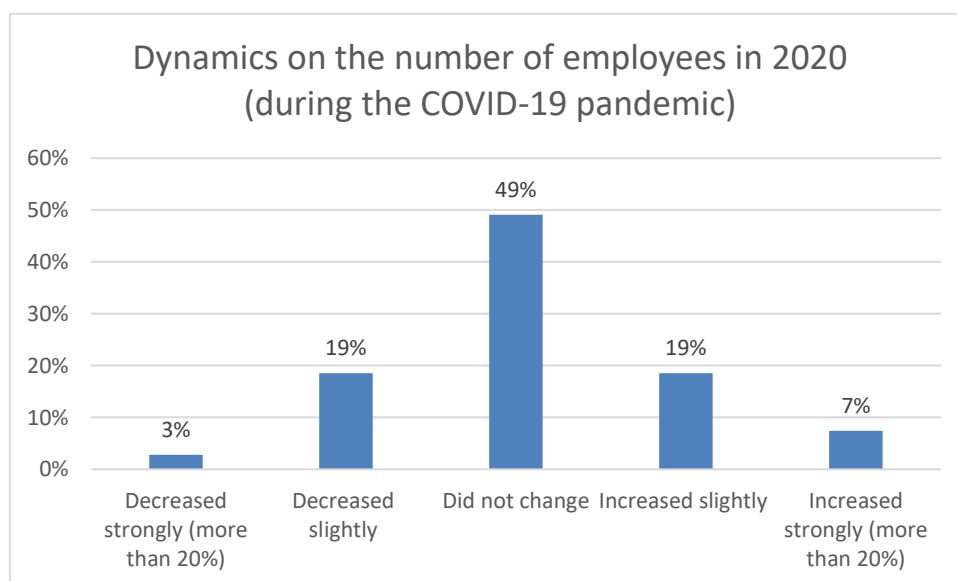


Fig. 3 Dynamics on the number of employees in 2020 (during the COVID-19 pandemic)

One of the key impact factors of the crisis was the business operation mode. 67% of the professionals share that they stopped working for a few days. 19% of the business were fully operational and weren't impacted. For 9% of the organizations the work was suspended between a week and a year (Fig.4). This is a very informative result because it shows the direct effects of the crisis. It is obvious that for more than 70% of the companies COVID-19 created an extraordinary circumstance that required revision and adaption of the crisis management strategies. More important, some time was needed for current status evaluation and taking the right measures. The governmental support and recommendations were really helpful. Wage substitutes, rent freezes, loan moratorium, soft loan borrows were ones of the widely spread and well accepted by the employees.

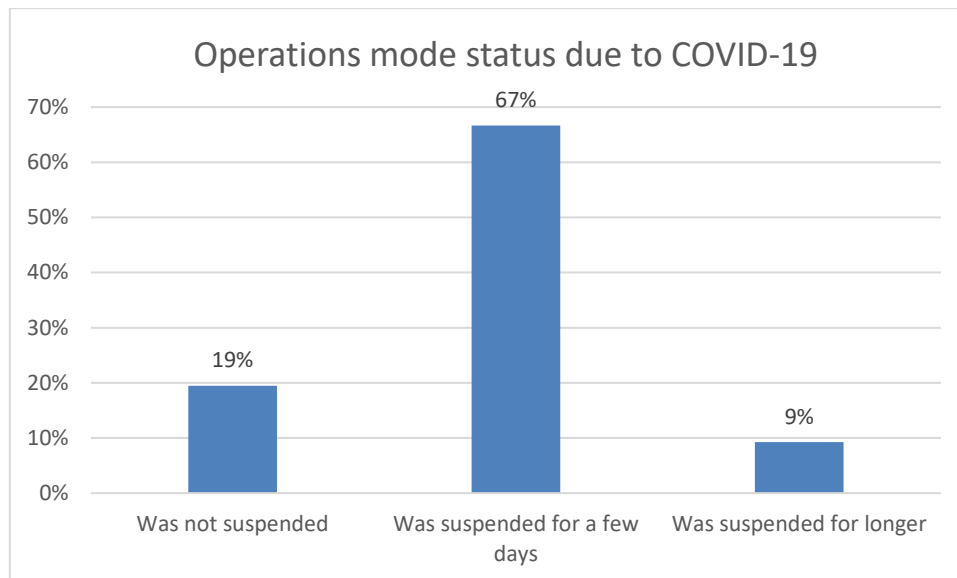


Fig. 4 Operations mode status due to COVID-19

And last but not least is how the HR function was impacted itself by the COVID-19 crisis. Trade unions have always been an important part in the relations between the employees and the employers. In the current survey 69% of the organizations do not point the presence of such. Which to a great extent may have impacted the unemployment and the adequate care for the rights of the employees. Where the trade unions are present, for 22% of the respondents their impact didn't change.

And here come the expectations for the efficiency and effectiveness of the HR department. 46% of the HR professionals say that those expectations increased and the pressure for them is higher. 31% do not see a big change. But it is still valid to say how important the role if the HR is. The HRs are the "first line warriors" when it comes to information sharing, stress management, building solid relationships, taking care of employees' well-being. In the same time, they need to meet the business requirements and goals and balance between the two. And this comes with a high increase of responsibilities and work load (49%), though for 27% of the respondents the change is not significant.

CONCLUSION

In conclusion we may say that despite the challenges of the COVID-19 crisis, it has also been an opportunity for positive change, growth and development (67% of the respondents). All of organizations are facing unprecedented changes due to external factors during the COVID pandemics. The situation is the same for each one organization but the managerial approaches and decisions taken to react to the COVID crisis have varied. Most of the organizations have started to apply anti-crisis measures to their staff when the crisis became to seem as long-term and they use some adaptive approaches to cope with negative consequences.

As results pointed out during COVID crisis the role and functions of HRM department increase and the expectations both of managers and employees are higher than before. The data shows that about half of the respondents that took part in this study perceive the increasing responsibilities and pressures on HR department in comparison with the period before COVID. Based on the findings it is possible to recommend several actions for strengthening the HRM strategies for effective COVID-19 crisis management. It is necessary to develop more flexible approaches on organizational level to reduce the

turnover and to ensure the retention of the staff and provide a compensation to maintain the employees' motivation. The cutting of personnel seems to be good short-term strategy to cope with COVID restrictions but it is not valuable in long term perspective when it would be difficult to attract and select well-qualified, competent and experienced employees. That is why HRM should re-evaluate the current crisis management measures and policies and to be prepared for a "new normal" after COVID time. The most of HR managers and experts participating in this study share their optimistic view about overcoming the negative outcomes and to reorganize the work process for maintaining the effectiveness.

The COVID crisis revealed the need for strategic human resource management and requires the development of a humanistic approach to people management that is based on organizational values and believes and goes beyond the economic rationality and efficiency. Dealing with the consequences of the COVID crisis is possible by integrating the efforts of management and human resources specialists and taking into account the "human side" of the organization as a key factor for short-term survival and long-term development.

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MEASURES AND GOALS FOR IMPROVEMENT OF INDUSTRIAL ZONES IN AUTONOMOUS PROVINCE OF VOJVODINA

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Abstract

Countries with developed industrial zones achieve: a significant inflow of foreign direct investment and new technologies, an increase in living standards and an increase in employment. Countries that develop industrial zones have a greater competitive advantage, achieve faster economic development and are more efficiently involved in international flows. Whether industrial zones will be successful depends primarily on the state's attitude towards industrial zones and the way it affects their development, as well as on the new industrial policy, its goals and instruments. The subject of our research is the analysis of the condition of industrial zones in terms of their infrastructural equipment. The aim of the research is to provide guidance and recommendations to decision makers regarding the financing of public projects related to industrial zones. The task of the research is to identify key issues that are essential for improving the level of development in this area, which problems are directions in defining the measures for achieving goals.

Keywords: measures, goals, improvement, industrial zones, industrial policy

1 INTRODUCTION

In every national economy, one of the basic generators of development is the development of business infrastructure. The competitiveness of a nation depends on the ability of its industry to improve and innovate [1]. The essence and direction of modernization of industry and society should go in the direction of the process of ensuring technological progress in the field of economic development, but also maintaining a safety environment [2]. Analyzing the interdependence of infrastructure and economic development in developing countries, Luu, et al. concluded that the improvement of infrastructure has a constant positive impact on the economy. Further, they conclude that the positive effect is even stronger if there is stricter government supervision of the construction and delivery of infrastructure projects [3].

The planned business infrastructure should be one of the basic generators of economic growth in Vojvodina. Industrial zones provide great opportunities for the establishment and development of small and medium enterprises and contribute to the improvement of their overall business. Land, tourism, agriculture, energy and other potentials provide unique opportunities for development of Vojvodina. Considering the business infrastructure in Serbia, Vukmirovic et al. argue that in order to enhance growth, it is necessary to establish a unique register of business infrastructure as a precondition for creating a responsible development policy. Also, they believe that it is necessary to develop mechanisms for assessing the justification of investments and based on the obtained results to revise the development policy for certain segments of business infrastructure.[4]

The general goal of the study is to help in the faster realization of sustainable, economic and social development in the area of AP Vojvodina. The economic and spatial priority is to break the negative development tendencies and establish economic balance by encouraging the development of entrepreneurial infrastructure.

Defining the basic development priorities of economic development of APV in a consistent and comprehensive manner and the ways of their realization in the coming period with goals and measures to achieve the set goals is priority. The primary development goal is to improve the condition of industrial zones on the territory of APV, for the sake of sustainable and dynamic development of industry that can fit into the single market of the European Union. Improving the condition of industrial zones contributes greatly to attracting both foreign and domestic direct investment, which, in addition to fresh capital, enables the creation of new jobs, introduces modern technology, efficient management and a new

corporate culture. Milošević and Đorđević emphasize that positive examples from other cities such as Milan, Budapest, Bucharest, Maribor and Zagreb should be emulated. Solutions that have been implemented are: relocation of industrial zone, the establishment of new industrial zone, transformation of certain industrial facilities within them, or even transformation of entire industrial zone [5].

Once large business systems that were the foundations of the economic development of Vojvodina and employed a large number of workers, today they are mostly devastated and unable to find their own ways of revitalization. On the other hand, the newly formed private sector has not yet reached the scope of business activity that would absorb a larger number of employees, mitigate the consequences of the collapse of large business systems, and open perspectives for new, balanced, self-sustainable and dynamic development.

Transition, as a global and general social process, must take place in the minds of the people who make up the local authorities. Countries in transition are facing the problems of establishing their own national economies and take part in the world market. They also face problems of restructuring old industrial branches as well as rehabilitating depressed industrial zones [6]. It is necessary for local governments to understand the new global market and show the initiative for active involvement in the struggle for a part of global capital as active participants - initiators and creators of the process of economic development. As Kostadinović and Petrović-Randelović observe, foreign investors when making investment decisions give a great importance to that element of the investment climate, which refers to the legal and political stability and security [7]. Currently, the development potentials of Vojvodina, such as: people, natural resources, energy, infrastructure facilities, etc. are underused or used at minimal capacity.

The geo-traffic position of Vojvodina has exceptional benefits and a positive impact on its future development. Located at the crossroads of major European transit routes (Pan-European Corridors X and VII) in the direction of the main transit connections of Western Europe with Eastern Europe and Asia, it is one of the exceptional regions for positioning production and business of various companies.

The development of service activities in the headquarters of municipalities where industrial zones are set, greatly contributes and has a significant impact on the costs of functioning of economic capacities, since it enables efficient functioning of communal infrastructure, payment operations, business connections, and in the non-economic sphere employees, conditioned by the modern way of life and work.

The Law on local government from 2007 gave local economic development its own legal framework, and local government units were given the opportunity to independently create local economic development policy in accordance with their capabilities and interests. Since then, local governments have become increasingly important drivers of their own economic development. In order to improve the investment climate and ensure the inflow of fresh capital for the development of economic entities and infrastructure in their area, local governments recognize the development of industrial zones as instrument of economic development.

2 LITERATURE REVIEW

The beginning of the industrial development of AP Vojvodina and the city of Novi Sad starts with the construction of the first textile factory in the first half of the 19th century [8]. After the World War II, the opening of new factories has intensified. In the '80s, 27% of the population of the city of Novi Sad worked in the industrial sector, and in 1994. there were 56 factories on the territory of the city [9]. Initially, the industry occupied the central part of the city surrounded by residential buildings, which had a very negative impact on the urbanization process. In order to provide conditions for the rapid development of the city and the expansion of industrial capacities, it became necessary to relocate industrial facilities. The problem was addressed with the Master Plan of 1950. According to the plan, industrial facilities were planned to be relocated on the right bank of the Savino Selo - Novi Sad channel and on the northeastern part of Petrovaradin. But, after 10 years the plan was revised, because the originally planned area for industrial facilities became insufficient. After that, the spatial plan for the creation of industrial zones was proposed [9].

Industrial zones are a part of the city area that is intended for industrial production and on which many facilities are built. Industrial zones are also the most important form of concentration of industrial facilities in the city. Within the industrial zone, facilities often share a complete infrastructure. (traffic, water supply, sewerage, electricity, telecommunications). Therefore, the industrial zone is more a spatial than a functional concept. Industrial zones rarely arise spontaneously, but are most often planned. [10]

Industrial zones emerged as an idea in the United Kingdom and the United States of America, respectively, in 1896 and 1899; however, their implementation occurred around 1950s. First industrial zone practices in the USA were carried out by the private sector with the aim of profit; on the other hand, with the Second World War, industrial zones were organized as public investments to contribute for the development of SMEs in the developing countries. In Turkey, the first OIZ was established in Bursa province in 1962. According to the Ministry of Industry and Trade, OIZs can be defined as settlements which meet the necessary physical requirements for the foundation of factories of a specific economic scale, provide an environment for the improvement of networks among industrial enterprises, and direct entrepreneurs to the appropriate areas. Within this context, it would not be wrong to accept OIZs as a means of development and space arrangement [11]. Having enterprises of similar economic scales and activities in the same settlement has many positive effects on firms. At this point, since firms are located together, they can create synergy and increase their productivity; and through the networks they have built, they can increase their capacity for innovation [12].

On the other hand, Morgan and Hunt emphasized that it is necessary to establish network connections, which can provide competitive advantage among enterprises, to help them increase their competition capacity in the global economy [13].

The project of an industrial zone implies that certain land on the territory of the city or municipalities (local self-government) arrange so that its infrastructure and other parameters it will be attractive for private companies to set up their production and other plants there. The industrial zone therefore consists of land and accompanying real estate that is organized (or is covered by the plan) in such a way as to meet the needs of the industry (primarily lake). The establishment of industrial zones is one of the most powerful tools for municipalities, cities and regions to attract industry to their areas. It provides government or local authorities with simplification of procedures and a guarantee of applicable zoning, development planning and environmental protection [14]. It should be borne in mind that many built industrial zones have not come to life in a way as planned. There are many reasons for that. Effective management of an industrial zone is a problem in itself and requires a management entity able to resolve conflicts of interest between private and public interest (public-private partnership) and between political interests and economic interest (preservation and increase of invested resources). In addition to the primary goal of attracting an investor to the territory of local self-government (domestic or side) the good side of industrial zones is that the center of production and accompanying business activities is moved outside the urban place, which achieves a positive effect on the population and environment [15].

3 METODOLOGY

For the purpose of this research, a modified definition of industrial zones was used, which was used in the research by the Republic Statistical Office [16]. The term industrial zone means city, municipal or publicly owned land, intended for accommodation of industrial capacities and attraction of investments, financed with public funds, which is or could in the following period be capable of attracting investors and performing business activities. The necessity for this research arose for the reason that by comparison the data from the records of various institutions dealing with industrial zones in their domain (Republic Statistical Office, Public company Institute for urbanism of Vojvodina and Development agency of Vojvodina) differences were noticed in terms of number and degree of equipment of industrial zones in Autonomous province of Vojvodina. A special questionnaire was created and sent electronically to all local government units on the territory of Vojvodina.

The data were most often provided by mayors, chief for construction and urbanism, heads of LED offices, heads of departments for urbanism and construction, head of local economic development departments, heads of investor relations services, construction inspectors. The response for this research was 100%. The data obtained in this way were used in the analysis of the situation. The analysis was supplemented by qualitative data obtained by the research conducted by the Republic Statistical Office.

The key criterion for including an area as industrial zone was to list the areas that have economic potential and that can be used in the coming period as a resource for attracting investment and economic activity. However, by checking the submitted information through filed visits and previous experience, it was determined that a number of local government units submitted data on parcels that do not meet the set criteria, ie on parcels that are not likely to be economically activated in the future. Additional data verification was performed by conducting telephone interviews with persons employed in local government dealing with development and investments.

4 DISCUSSION OF RESULTS

The analysis of the obtained answers determined that 42 local government units in Vojvodina have one or more industrial zones, and that the total number of industrial zones in these local government units is 104. Among business entities operating in industrial zones, the most common activities are Motor vehicle production trailers and semi-trailers, Manufacture of rubber and plastic products, Manufacture of food products, Manufacture of electrical equipment, Manufacture of leather and leather products, Manufacture of electrical equipment, etc. The total area occupied by industrial zones in AP Vojvodina is 10,666.86 ha. Of that, 4,245.13 ha are in use. Currently, 6,421.73 ha are available in industrial zones. Industrial zones, both in number and size and in the degree of equipment, differ in each of the municipalities. Availability of areas in industrial zones is that 40% is in use and 60% is available.

The largest industrial zones are located in Vršac (3,314.05 ha) and in Stara Pazova (2,079 ha), while, observed in terms of the area it occupies, the smallest industrial zone is located in Novi Kneževac (3.4 ha). The conducted research, in addition to questions about the size and utilization of industrial zones, also includes questions about infrastructural equipment. For the purposes of this analysis, the equipment was observed according to the following factors: 1) construction of roads, 2) connections to power lines, 3) gas installations, 4) water supply, 5) sewerage and 6) existence of optical cable.

Terms:

Fully equipped zones are considered to be those zones in which all the observed elements of equipment exist (level of equipment 6).

Partially equipped zones are those that lack at least one of the listed equipment criteria (equipment level 1-5).

Unfurnished are those zones in which there is no element of equipment (equipment level 0).

The obtained research results show that local self-government units assessed 32% of industrial zones as fully equipped (equipment factor = 6), ie that they have developed road infrastructure, connection to power lines, gas pipeline, optical cable and water supply and sewerage. 54% have partially equipped industrial zones. Unequipped zones are those that do not have any of the above, and of the total number of industrial zones in AP Vojvodina, 14% of zones fall into this category.

According to the level of equipment, there are significant differences between local governments. Fully equipped zones are located in the Zapadnobačka and Severnobačka areas.

The analysis of the infrastructural equipment of the industrial zones in AP Vojvodina was done according to each of the individual factors, ie the type of infrastructure.

Road infrastructure is of great importance for the development of industrial zones. Appropriate roads and an adequately developed traffic network are necessary both for the functioning of the business of industrial zones, and for the use of the possibilities of their expansion.

The analysis of the answers obtained in the research shows that 79% of industrial zones have a developed road infrastructure, which indicates that there is significant room for improving the road infrastructure of existing industrial zones and that there is a need to increase the capacity of the existing transport network.

Electricity supply is another indicator of the development of the industrial zone, and according to research data, 66% of industrial zones have an extensive network of power lines, which indicates the need to improve this segment of technical infrastructure of industrial zones.

65% of industrial zones have a connection to the water supply network. For the successful functioning and further development of industrial zones, it is necessary to provide adequate access to the water supply network to a large number of industrial zones.

The gas network in AP Vojvodina can be defined as developed, with a tendency for further expansion and modernization. The analysis of the obtained results showed that the connection to the gas pipeline has only 57% of industrial zones, which is an insufficiently high degree.

Only 38% of industrial zones have access to the sewerage network. This data indicates that sewerage is the most present shortcoming when it comes to industrial zones in Vojvodina. Insufficient or poor

quality communal infrastructure is a significant problem and obstacle in the development of the regional infrastructure of AP Vojvodina and therefore it is necessary to carry out activities aimed at improving the quality of the sewerage network, as well as expanding capacity.

Telecommunications and electronic communications are the bearers of the development of a modern information and communication society and a significant factor of economic growth, with a fixed telecommunications network showing a decreasing trend due to the emergence of new services, and mobile telephony and Internet services recording expansive growth in the previous period. The analysis of the obtained answers shows that optical cable exists in 53% of industrial zones, which indicates their insufficient equipment and represents an aggravating circumstance for future development and attraction of new business entities.

Table 1. Missing infrastructure in industrial zones, according to local government unit

Local government unit	Number of Industrial zones						
Ada	1						
Alibunar	3	2	2	2	3	2	
Apatin	3		2				
Bač	2	1	2	1			
Bačka Palanka	6	4	3	2			
Bačka Topola	1						
Bački Petrovac	4		2			1	
Bela Crkva	1						
Beočin	1				1		
Bečež	1	1				1	
Vrbas	5	5			5		
Vršac	4	1			1		
Žabalj	0						
Žitište	2	2	2	2	2	2	
Zrenjanin	2	1				1	
Indija	2						
Irig	1						
Kanjiža	2	1		2	1		
Kikinda	2			1			
Kovačica	2	1			1		
Kovin	2	1			1		
Kula	2				1		
Mali Idoš	1	1			1		
Nova Crnja	6			6			
Novi Bečež	3			2			
Novi Kneževac	1						
Novi Sad	6	2	4	4	5	4	
Opovo	1	1			1		
Odžaci	1						
Pančevo	2	1			1		
Pečinci	7		2		3		
Plandište	1				1		
Ruma	5	2	2	2	3	2	
Senta	2						
Sečanj	1	1			1		
Sombor	1						
Srbobran	3	2	2	2	3	2	
Sremska Mitrovica	1	1		1	1		
Sremski Karlovci	0						
Stara Pazova	8			5			
Subotica	1						
Temerin	1	1	1		1		
Titel	2	1	2	1	2	2	
Čoka	0						
Šid	1					1	
		road	electricity	water	gas	sewage	optical cable

Source: Authors

In table 2. gives a brief overview of basic data on the area, number and equipment of industrial zones and the most common activities in active zones by areas. Data on the most represented activities were taken from the research of the Republic Statistical Office.

Table 2. Basic characteristics of industrial zones according to the areas of AP Vojvodina

• South Banat Region	
Total area of industrial zones: 3,751.09 ha Number of industrial zones: 16 Zone equipment factor: 2.85 / 6 The most important industrial zones: Industrial zone North - Vršac, Southern working zone - Vršac, Northern working zone - Vršac	The most common activities: - Other manufacturing - Production of chemicals and chemical products - Production of coke and petroleum products - Manufacture of motor vehicles, trailers and semi-trailers - Manufacture of leather and leather goods
• North Banat Region	
Total area of industrial zones: 480.50 ha Number of industrial zones: 8 Zone equipment factor: 4.90 / 6 The most important industrial zones: Industrial zone South - Senta, Industrial zone - Ada	The most common activities: - Production of food products - Manufacture of wearing apparel - Production of base metals - Manufacture of other machinery and equipment nec - Manufacture of leather and leather goods
• Middle Banat Region	
Total area of industrial zones: 807.38 ha Number of industrial zones: 14 Zone equipment factor: 2.37 / 6 The most important industrial zones: Working zone "Southeast II-D" - Zrenjanin, Working zone "Exit" Novi Becej, Working zone Jaksicevo - Srpska Crnja	The most common activities: - Manufacture of motor vehicles, trailers and semi-trailers - Manufacture of wearing apparel - Manufacture of fabricated metal products, except machinery and equipment - Textile production - Land transport and pipeline transport
• North Backa Region	
Total area of industrial zones: 102.06 ha Number of industrial zones: 3 Zone equipment factor: 4.00 / 6 The most important industrial zones: Economic zone "Mali Bajmok" - Subotica	The most common activities: - Manufacture of electrical equipment - Manufacture of rubber and plastic products - Manufacture of wearing apparel - Manufacture of other non-metallic mineral products - Manufacture of other products and machinery
South Backa Region	
Total area of industrial zones: 1,297.84 ha Number of industrial zones: 31 Zone equipment factor: 1.88 / 6 The most important industrial zones: Industrial zone plot - Bečej, Industrial zone Bački Petrovac, Block 8 - Temerin	The most common activities: - Manufacture of motor vehicles, trailers and semi-trailers - Production of food products - Manufacture of wearing apparel - Agricultural production, hunting and related service activities - Manufacture of electrical equipment
West Backa Region	
Total area of industrial zones: 461.01 ha Number of industrial zones: 7 Zone equipment factor: 5.21 / 6 The most important industrial zones: Work zone Odzaci, Industrial zone Sombor	The most common activities: - Textile production - Manufacture of wearing apparel - Manufacture of leather and leather goods - Production of chemicals and chemical products - Manufacture of rubber and plastic products
Srem Region	
Total area of industrial zones: 3,766.98 ha Number of industrial zones: 25 Zone equipment factor: 4.23 / 6 The most important industrial zones: Central work zone Nova Pazova, Southern work zone Krnješevci, Northeast work zone Indjija	The most common activities: - Manufacture of motor vehicles, trailers and semi-trailers - Manufacture of rubber and plastic products - Production of food products - Manufacture of electrical equipment - Manufacture of other machinery and equipment

Source: Authors

Local governments have the most important role in the management of zones. The efficiency of local self-government in the management of zones largely depends on the instruments available to local self-government. The range of measures applied by the local self-government is very wide, starting from legal regulations and planning acts, through budget and other incentive funds and facilities, all the way to infrastructure management and the creation of public-private partnerships.

In order to create a basis for the implementation of IZ, local self-government units must provide for planned investments in industrial zones in their budget. However, in addition to the legal basis for the

establishment and management of the industrial zone, local self-government must have the support of the central government on the way to attracting direct investments.

Out of a total of 105 industrial zones on the territory of AP Vojvodina, based on the data submitted to us by the representatives of the municipalities, only eight municipalities planned funds for equipping industrial zones in the budget for the current 2021. Of these eight municipalities, some have planned up to three projects in one zone. Out of a total of 12 planned projects, six refer to the construction of a road (value of 1,000,000.00 - 100,000,000.00 RSD), two for the construction of water pipes and one project for the construction of sewers, project documentation and public lighting.

As support, local self-government units receive financial assistance from the central level and from the level of AP Vojvodina. The subject of some future analyzes may be whether and to what extent higher-level assistance weakens local-level initiative and to what extent local governments rely on external sources of funding to fund such projects.

5 CONCLUSIONS

- Industrial zones are a significant resource of local self-government with the potential to generate economic development through attracting investments and developing public-private partnership projects
- Keeping records at the level of local self-government on industrial zones, their area and infrastructural equipment is in most cases inadequate, data are often inaccurate and unreliable, which makes it difficult to manage and plan this resource
- Out of 45 local self-governments at the level of AP Vojvodina, 43 local self-governments have at least one industrial zone on their territory
- The total number of registered industrial zones, which according to the assessment of local actors could be enabled to attract investors and to perform business activities, is 104
- The total area of all industrial zones on the territory of AP Vojvodina is 10666.86 ha. About 40% of that is in use. The largest zones are located on the territory of the municipalities of Vrsac and Stara Pazova, while the smallest zone is recorded on the territory of the municipality of Novi Knezevac
- According to the infrastructural equipment, most of them are partially equipped zones, ie zones that have an equipment factor of 1-5. The type of missing infrastructure differs in each of the local governments. A positive fact is that there are more fully equipped zones than fully unequipped ones (33 and 15, respectively).

Based on the analysis of the current situation and existing support measures aimed at industrial zones, it is possible to identify key issues that are essential for improving the level of development in this area. These problems actually represent guidelines for defining the goals that are to be achieved, ie specific changes that are to be produced. When defining goals and measures for their achievement, it is necessary to rely on the competencies of local self-government and higher levels of government, ie decision makers, as well as on possible and existing support measures.

The first step in planning the improvement of the situation in the field of attracting investments and economic activation of industrial zones is to focus on human resources that exist at the local level in the direction of their greater sensitization on this topic and improving their motivation and level of information. Furthermore, it is necessary to work on providing a planning basis for construction, ie preparation of technical documentation, since without an adequate plan there is no basis for construction, ie. arrangement or equipping of work zones, and thus no development.

Only equipping and infrastructural improvement of industrial zones is possible only when the previous conditions are met, ie when there are people and when the project technical documentation is provided. With that in mind, goals and measures should be defined around these pillars.

Goal 1:

1. Improved capacities and motivation of employees in local self-governments for the management of industrial zones and for attracting investments, as well as for the use of available sources of financing projects in the field of industrial zones

Measures:

- Establishment of a single register and protocol for keeping records of industrial zones at the level of local self-government units
- Trainings for local self-governments on the topic of presentation and attracting investors
- Trainings for local self-governments on the topic of public-private partnerships
- Trainings for local governments on the topic of industrial zone management

Goal 2:

2. Improved planning bases for construction and equipping of industrial zones in local self-government units

Measures:

- Development of criteria for allocation of funds to local self-government units for co-financing of projects for the preparation of project technical documentation (eg projects planned by local self-government units in the budget)

- Competition for co-financing the preparation of project technical documentation

Goal 3:

3. Improvement of the existing and construction of new infrastructure in industrial zones in local self-governments

Measures:

- Development of criteria for allocating funds to local self-government units for co-financing projects for the improvement of existing and construction of new infrastructure in industrial zones

- Competitions for co-financing projects for the improvement of the existing and construction of new infrastructure in industrial zones.

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STRATEGIC ASPECT OF INNOVATION

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ABSTRACT

Every organization has the internal capacity to innovate, the only question is whether it will use that capacity or not. Unfortunately, most ideas are never realized. Managers are the ones who need to create a working environment, i.e. an organizational culture that encourages and supports a high-level innovation of employees, because competitiveness and market recognition today are built on this particular ability of the organization.

Therefore, the paper discusses the strategic aspect of innovation of economic entities by size in the Republic of Serbia, in terms of: the trend of innovative activities; the share of innovators; rank of the Republic of Serbia within the Global Innovation Index; the most significant shortcomings of the innovation policy in the Republic of Serbia; as well as desirable innovation policies. Special emphasis is placed on the importance of learning for innovation and the role of managers in that, with a focus on lifelong learning and strengthening the culture of learning and application of acquired knowledge.

Key words: organization, innovation, strategic management, employees, education, Republic of Serbia

1 INTRODUCTION

The business of modern companies takes place in conditions that require constant struggle in order to survive. The market has thus become like a battlefield where organizations are constantly fighting for survival and competitive advantage.

Strategic management is a modern approach to corporate governance and refers to the process of constantly adapting the organization to hypercompetition and frequent changes in the environment. The environment has a permanent impact on the organization, and on the other hand, the organization itself has a certain impact on the environment in which it exists and to which it adapts.

The chance to maintain their position in the market, or to improve it, is primarily given to organizations that encourage innovation, introduce changes and continuously work on improving the quality of products or services they offer. It can be said that in the twenty-first century, the question of the survival of modern organizations is actually a question of their readiness to be innovative. In other words, the organization that nurtures the status quo in business today is not in a state of stability, but rather stagnation, and such a business philosophy can seriously jeopardize its survival.

The term "innovation" was first used by the economist Joseph A. Schumpeter "to describe the conversion of ideas and knowledge into new and commercially successful products and services" [1]. The same author said that, "Innovation is the production of a new product or a new quality that the consumer has not yet met" [2]. According to Jovović D. (2018) "new ideas commercialized into innovations represent a key premise of economic success of companies and countries" [3]. Ravić & Gavrić (2016) express their opinion "In order to make sense, innovation should be sustainable in the long run and bring a certain benefit to the company, i.e. better performance" [4].

The phenomenon of innovation has gained in importance in recent decades with the development of globalization and the tightening of market conditions, and it is believed that this importance will only further increase in the future.

The paper applied the methodology of desktop research of literature sources and the research results were entered directly into the manuscript text and discussed in the text itself.

2 INNOVATION IN SERBIA

When we talk about innovations, we mainly mean innovations in the field of production, i.e. a new product or service, although according to Jovičić & Jovičić [5] "innovation is a much broader concept and is related to the entire management process." In other words, being innovative does not include only the creation of a new or significantly better product or service, but also of a new process or method needed in business, work organization, or the organization's relationships with the environment.

Innovation is, according to the definition of the Center for the Development of Innovation Management in Brighton, profiting, in some way (economically, socially or environmentally), from the latent potential of ideas that are new to your organization (Centrim [http // centrim.mis.brighton.ac.uk](http://centrim.mis.brighton.ac.uk)) [6]. It is important to note that it is not just about money. Many organizations do not work for profit (government sector, non-profit organizations), but again they have to be innovative. The profitability of their innovations is reflected in the improvement of services, finding better, more efficient ways of working, etc., in everything that brings positive results to the environment, economy or society.

When introducing changes, i.e. innovation, managers and society will always face problems. Employees are generally afraid of change, and society is often such that it does not take people who are innovative seriously, considering them dreamers and enthusiasts. The Eiffel Tower, for example, would never have been built if it had been up to the prominent citizens of Paris in 1887. This innovation was not accepted with enthusiasm. On the contrary, it provoked a lot of protests. Famous artists, such as the composer Charles Gounod, the writers Emile Zola, Leconte de Lisle, Guy de Moupasant and Alexandre Dumas, but also the architect of the Paris Opera, Charles Garnier, composed a protest letter against "... the construction of an unnecessary and terrifying Eiffel Tower in the heart of our city ..." When the tower was built, the aversion soon grew into admiration. But you, as a manager, cannot expect one such reversal from initial aversion to final enthusiasm in your organization when introducing innovations [7].

Failure to accept innovation as an imperative of modern business can cause serious damage to the organization. Nokia lost its leading position in the mobile phone market precisely due to the fact that they had not paid enough attention to innovation. The Nokia case served as a lesson and warning to all companies. The CEO of Apple, Tim Cook, after the events with Nokia, said that "innovation is a central part of Apple's plan for the future." The opposite, positive example, is the one of Amazon. Their work is marked by a continuous effort to achieve the greatest possible benefit for the customer by constantly placing innovations. Amazon has become one of the world's leading e-commerce platforms (Amazon.com) thanks to the fact that it has offered book lovers around the world the opportunity to browse and buy books from the comfort of their armchair, choosing from more than a million titles [8].

According to the data of the Statistical Office of the Republic of Serbia from 2010 to 2016, there was a continuous decline in innovative activities carried out in organizations (Fig. 1). According to the data shown in the picture, it can be clearly seen that the situation in 2018 has started to improve with the hope that this trend will continue in the future.

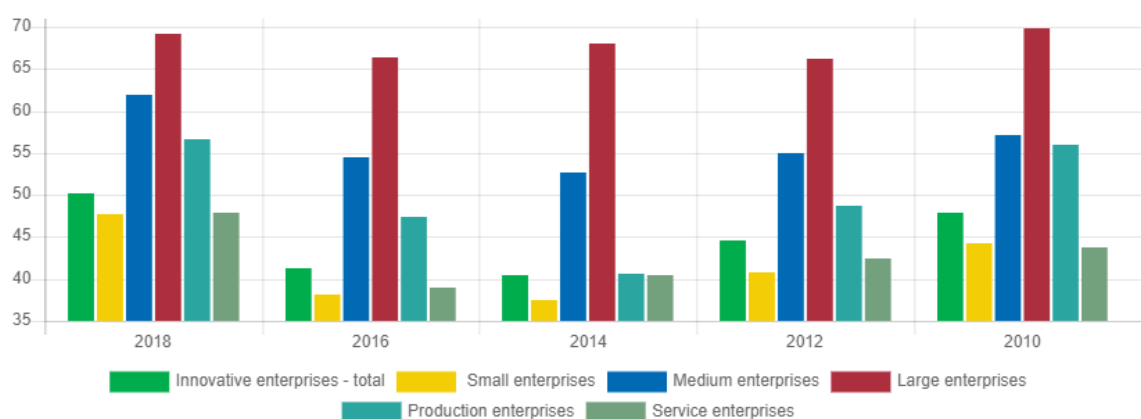


Fig 1. Indicators of innovative activities of companies in the Republic of Serbia, 2010-2018. year [9]

More detailed data on the innovation of organizations in the Republic of Serbia according to the size and activity (production or service) for the period 2016-2018 are given in Table 1.

Table 1. Business entities by innovation and size, 2016-2018, Republic of Serbia [10]

Business entities by innovation and type	Total	Innovators	Business entities that didn't innovate	Share of innovators (%)
Total	19 011	9 546	9 465	50.21
Small enterprises	15 878	7 566	8 312	47.65
Medium enterprises	2 544	1 573	971	61.83
Large enterprises	589	407	182	69.10
Production enterprises	5 039	2 854	2 185	56.64
Service enterprises	13 972	6 692	7 280	47.95

According to the data shown in the table, it can be seen that only half of the total number of companies in Serbia innovates. Most innovators are among large companies, followed by medium-sized companies, while small companies innovate the least. Amongst the already introduced innovations, the largest share is that of product and service innovations, 39.7% [11].

Small and medium-sized companies are seen as superior to large ones, because they are more flexible, easier and faster to adapt to consumer demands, rapid changes in the environment and business conditions in the global market. The ability to quickly and easily adapt to change, the so-called ability to adapt, is today one of the most desirable features of a company, and it is precisely this that is one of the basic features of small and medium organizations. Given that SMEs are the most vital part of our economy, it is safe to say that measures should be taken to encourage innovation that would positively impact their business and prosperity.

Also, according to the presented data of the Statistical Office of the Republic of Serbia, companies engaged in production innovate more than service-oriented companies.

Further available data on the innovation of our organizations show that, according to the Global Innovation Index, Serbia was in the 55th place in 2018 (out of 126 countries), which is an improvement of seven positions compared to 2017 and the best ranking in the last five years. However, according to the Global Innovation Index, Serbia lagged significantly behind most of the surrounding countries in this period and was ranked better only than Bosnia and Herzegovina, Albania and Macedonia [12]. In 2019, Serbia fell on the global list. Namely, according to innovative performances, Serbia was ranked 57th in the world in 2019, which is 2 places lower than the year before, and which still puts it close to other countries in the region – Croatia, which is 44th. Montenegro, which ranks 45th, and Northern Macedonia, which ranks one place below Serbia [13]. Of course, this is not a positive thing and requires a serious approach to introducing changes in the management of organizations in Serbia.

According to Nikolić (2014), the most significant shortcomings of the innovation policy in the Republic of Serbia are [14]:

- Lack of cooperation between political institutions and lack of engagement of business organizations in determining priorities and instruments of the innovation policy;
- Research is rarely the basis for the development of innovation in enterprises;
- The contribution of the economy to research funding is low, including the private sector;
- Lack of cooperation between domestic and foreign entities in the field of innovation development.

Ravić & Gavrić (2016) emphasize that the innovation policy of our country should include activities aimed at [4]:

- promoting the importance of innovation for strengthening the competitiveness of enterprises,
- creating awareness of the need to innovate in modern business conditions, stimulating and encouraging entrepreneurs to innovate more,
- creating an economic environment that will encourage and motivate entrepreneurs to innovate;
- providing financial support to small and medium enterprises by developing the domestic financial market;
- providing systemic support to small and medium enterprises by changing the legislative framework;
- education of entrepreneurs in order to acquire the necessary knowledge and skills;

- encouraging cooperation of small and medium enterprises with large enterprises, faculties and research and scientific institutions, because only synergies can ensure the strengthening of the competitiveness of the domestic economy;
- easier access to information;
- creation of science and technology parks, business incubators, innovation clusters that will enable fast and efficient dissemination of research and innovation results, etc.

Launching these activities would certainly contribute to the innovation of small and medium-sized companies in our country as a sector identified to introduce less innovation, and they are also useful for large companies where there is also room for improvement.

The starting point in improving the innovation of organizations in the Republic of Serbia is certainly raising awareness of the importance of innovation, encouraging their innovative efforts and educating employees so as to have a platform on which innovation is built.

3 LEARNING AND INNOVATING

Innovation is based on knowledge and in order to develop it, the support of managers is necessary. Namely, we can say that every organization has the internal capacity to innovate, but unfortunately, there is often a lack of support essential to make ideas see the light of day. Managers are tasked with encouraging their employees, supporting their innovation and using it for the benefit of the organization. We can say that "the essence of modern management is to uncover and recombine the ideas and knowledge of its employees in order to generate solutions that did not exist until then" [15].

Learning and innovating in modern business conditions must not be the obligation of only the top management, but of all employees in the organization. This is the secret of the success of many companies. One of them is Toyota, which is completely focused on innovation, which is considered the crucial thing that has contributed to their great global success. According to available data, Toyota employees create and propose thousands of new ideas a year to raise the quality level of the final product (for example, in 2005, Japanese workers came up with about 540,000 ideas for some improvement in the organization). Of course, not all the ideas of the employees will be implemented, but it is important that people are motivated and participate in the work of the company. In the case of Toyota, innovation does not only refer to the participation of people in product improvement, but the entire management process. Toyota is said to be a "thinking system", because their managers believe that even the most ordinary workers can solve even the most complex problems. This is just another confirmation that innovation brings the organization a competitive advantage and provides it with the extra profit necessary for survival, further growth and development.

In recent decades, both economically advanced economies and developing countries have focused on advancing innovation, competing globally to attract the most capable individuals and increase market shares [17]. Simply put, in the period of cognitive capitalism, knowledge workers, who, thanks to the strength of their intellect, achieve high results for their companies are extremely valued [16].

Today, employees are expected to be innovative every day and create ideas that will be transformed into valuable and useful products and services. By encouraging the potential of employees, organizations create creative capital, i.e. creative thinkers whose ideas can bring numerous benefits to the organization.

The more modern the knowledge that employees possess, the better the quality of innovative activities in the organization. Therefore, the development and nurturing of a lifelong learning culture should be at the very top of the activities and priorities of strategic management of modern organizations that are thinking about their future. Managers should always keep in mind that "each new learning enriches the existing knowledge base of the organization, which is useful because the knowledge base of a company is its greatest unique resource for radical innovation development" [18].

The fact is that formal education today, no matter how much work is done on its flexibility, is not able to accompany all changes, so we have the phenomenon of decentralization of the education process and the trend of strengthening non-formal and non-institutional forms through the concept of lifelong learning. Experience shows that about 85% of today's activities require education after regular schooling [19]. Non-formal education is a supplement to formal and enables everyone to access those contents that are inaccessible during formal education, and which are useful for quality business and private activities (e.g. specific skills courses, practical business knowledge, personal training, etc.). There are different types of non-formal education, such as: seminars, trainings, courses, workshops, scout programs,

volunteer programs, projects, conferences, lectures, forums, etc. In the Republic of Serbia during 2016 [20], as a type of non-formal education, instructional courses at work were most often used, which were held during working hours and for which the costs were paid by the employer.

According to the same source (the Statistical Office of the Republic of Serbia), almost half of the employed respondents (47%) wanted to participate in some form of education, but were prevented primarily due to the cost of education / training. So, we can say that people's interest exists, and it would be useful for the state to create policies and programs for the development of organizations, especially small and medium, which will enable them to do better business and make bigger profits, part of which they will certainly start investing in their employees. Investing in employees is the best and smartest investment, considering that knowledge is the most important value of the modern organization, the basis for innovation and a source of competitiveness.

4 CONCLUSION

This paper discusses the relevant issues of the strategic aspect of innovation in economic entities in the Republic of Serbia concerning the implementation of innovation activities, innovation, the rank of the Republic of Serbia within the Global Innovation Index and innovation policy.

In addition, the paper discusses the role of managers in the innovation process, and in this sense the impact that could have on the innovation process of lifelong learning and organizational culture.

Based on the share of innovators (50.21%), the paper states an insufficient level of innovation activities, especially when we keep in mind that most innovators are in large companies (69.10%).

The paper concludes that the Republic of Serbia, when it comes to The Global Innovation Index, shows a decline from rank 55 in 2018 to rank 57 in 2019, which can be assessed as an unfavorable trend.

The paper points out what innovation policies should be in order to improve the state of innovation.

When it comes to innovation, special attention should be paid to education, especially when we have in mind the great interest of employees in economic entities, and in that sense the implementation of lifelong learning is especially important, where the role of managers comes to the expression.

Based on the results of this research, it can be concluded that it would be useful on this topic to conduct a survey in economic entities based on employee surveys.

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THE IMPACT OF HUMAN CAPITAL ON THE DEVELOPMENT OF INNOVATION

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Abstract

Innovation plays a very important role in the survival of an enterprise and has been identified as a key driver to its growth and productivity. For a company to create and develop innovations, it is necessary that it define its competencies and knowledge that it possesses, which would distinguish it from the competition. Human capital plays a very important role in this. We can say that human capital represents the ability of employees to meet customer expectations and represents a combination of knowledge, skills, innovation, and ability of the employees to fulfill assigned tasks. High-capacity human capital means greater learning capacity which can improve the innovation amplitude of the company. An increase in human capital can cause an increase in the number of innovative products, which indirectly encourages economic development through innovation.

Keywords: human capital, knowledge, innovation, innovation

1 INTRODUCTION

The capacity of an organization to innovate largely depends on the intangible assets and knowledge it possesses. This intangible asset is commonly referred to as intellectual capital and most authors consider intellectual capital to consist of three elements: human capital, structural capital, and relational capital. Intellectual capital can be said to represent the sum of the collective knowledge, experience, expertise, abilities, and skills of a company on how to achieve greater results, provide better services or create other intangible values for companies. Figure 1 shows the parts of intellectual capital: human, structural, and relational capital.

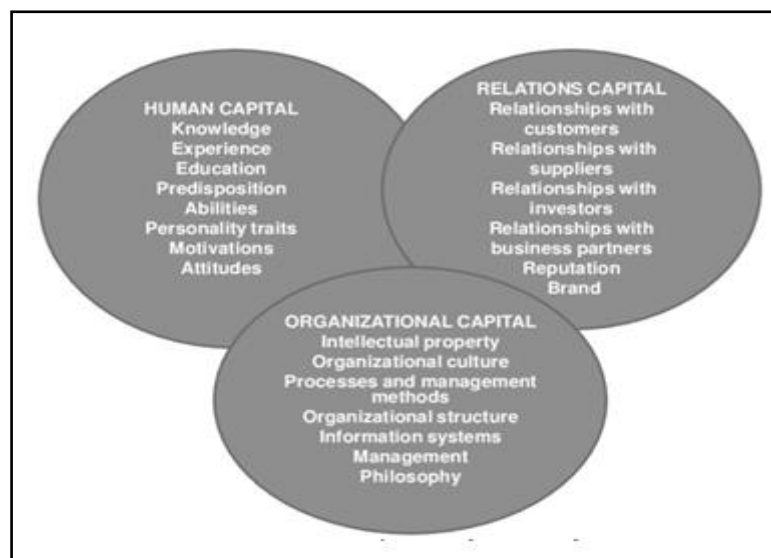


Figure 1: Parts of intellectual capital [1]

Many organizations today point out that the people who are employed by them are their greatest asset. Human capital, i.e., human with his potential as a resource, is a necessary part of every business process. Employee potentials include knowledge, skills, competencies, motivation, and contacts, which

actually represent a competitive force [2]. Consequently, many authors have pointed to the fact that in today's world characterized by rapid and radical change, only those organizations that are willing to change, that encourage their employees to continuously learn and that radically change their "mental models" can survive and develop, and their way of thinking.

The fact is that formal education and training are vital tools for improving the production capacity of any organization. There are different definitions of human capital, and each of them emphasizes the characteristics of human capital differently. Weatherly [3] defines human capital as the sum of qualities, knowledge, creativity, innovation, and energy that people invest in their work. Human capital, as part of intellectual capital, is one of the most important sources of innovation and strategic development [4] [5] [6].

5 INNOVATION

We can say that innovations represent an opportunity for organizations to improve their business performance through better market positioning. The ability to innovate has always been one of the factors of success of any organization. Many authors in their works have tried to point out the importance of innovation for enterprise development [7] [8] [9] [10]. Innovation is at the heart of every organization's success [11], as it enables the organization to improve product quality and reduce costs, increase efficiency, and increase sales. We can say that innovations are the basic source of growth and development of companies and the economy based on knowledge [12]. The ability to innovate is the ability to use knowledge to realize ideas. The innovation process is very complex and multidimensional due to the action of many factors. The ability to innovate is the ability to continuously transform knowledge and ideas into new products, processes, and systems [13]. Innovation, as well as the knowledge that enables them, is the most important source of market success and competitive advantage. Improving company performance is closely linked to innovation. Innovation helps organizations in five main ways [14]:

- Products and services, considered by the consumer to be better than those offered by rivals, may be offered. This is a strategy of differentiation.
- The activities that the organization undertakes can be performed cheaper, thus reducing the cost structure of the organization. This is a cost leadership strategy.
- Processes within the organization and within the supply chain can be made more reliable and are delivered faster, allowing the organization to be flexible and provide opportunities. This is a strategy of agility.
- New ways to sell a product, brand or organization can be found. This increases or changes the market awareness and position of the product so that it is perceived as particularly valuable. This is a market position strategy.
- Sometimes a new formula for starting a business can be found. For example, the Internet offers an opportunity for banks to work outside the branch offices. In this case, the innovation was in the fundamental business model. New ways of forming an organization can open many possibilities. This is a strategy of paradigm shift.

Becker and Matthews [15] point out that the contribution of human capital to innovation can be viewed from two perspectives: first, employees create new and creative solutions and ideas, and then implement them, creating products, services and processes that will provide a differential advantage to other organizations.

To ensure the creation of human capital that will lead to innovative ideas, appropriate human resource management practices are needed. The objectives of human resources policy that must be accomplished to achieve the desired organizational results are [16]:

1. Strategic integration: HRM is integrated into strategic planning,
2. Commitment: employees are part of the organization, which is shown by their attitude towards performance,
3. Flexibility: the structure of the organization is flexible,
4. Quality: high quality workers provide high quality goods and services.

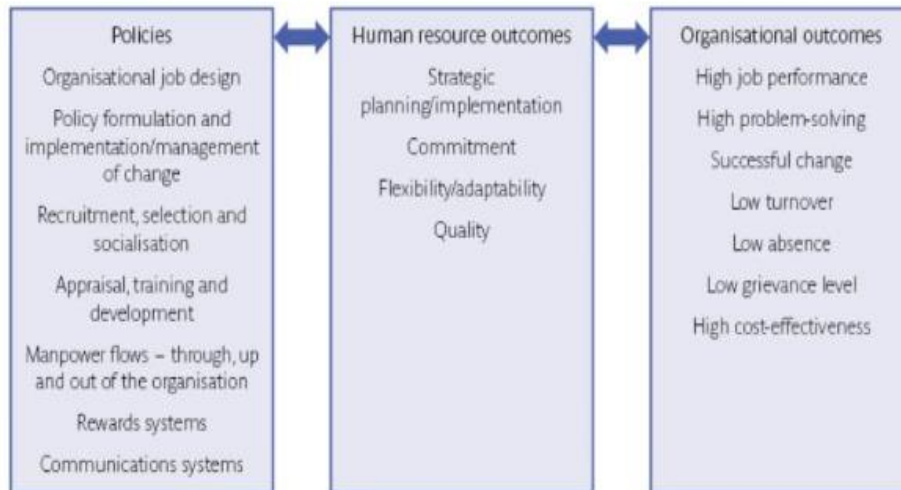


Figure 2: Human resource policy objectives [16]

To achieve the goals stated before, it is crucial that there is an awareness in the organization that the staff who are in it must be properly motivated in order to achieve the goals of the organization. Understanding employees, their needs and their ideas are just some of the things that organizations need to consider.

6 HUMAN CAPITAL

Human capital usually refers to a combination of intangible assets possessed by individuals within a company. The authors [17] [18] [19] believe that human capital is the capital of all employees in the company, and we could say that it includes knowledge, experience, skills, attitudes, problem-solving ability, teamwork ability, learning ability, innovation, creativity, flexibility, tolerance, satisfaction, and loyalty of employees.

Drucker believes that traditional resources, such as natural resources (land), capital, and labour, are of secondary importance because they can be easily acquired if knowledge is possessed. Figure 3 shows the components of human capital: human ability and learning ability. People's ability includes professional experience, training methods, management education and levels of education and skills, while learning ability includes knowledge exchange, problem solving ability, management ability, training groups, entrepreneurship, and leadership.

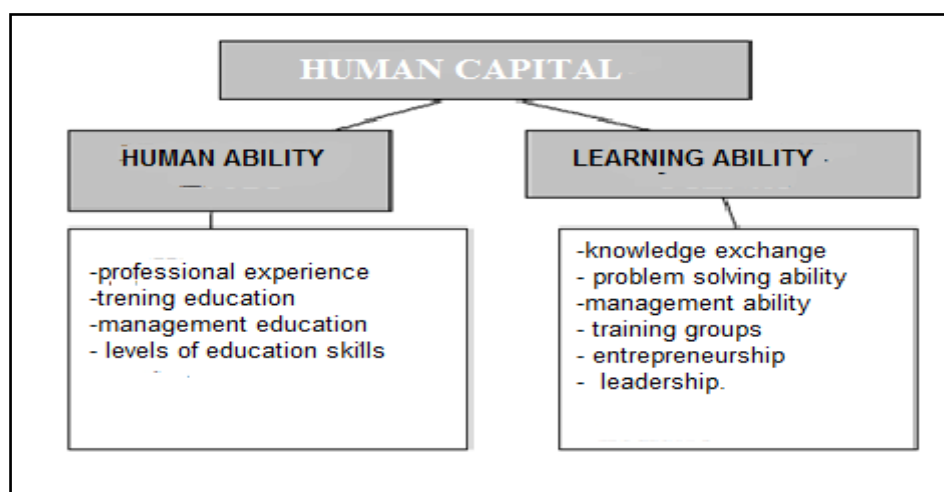


Figure 3: Human capital components [21]

Human capital represents the total value of the organization's human resources and is directly related to its performance and competitive advantage and includes all experience, skills and assessments, abilities, contacts, risks taken and the wisdom of individuals.

Becker [22] believes that the economic success of individuals and the economy as a whole depends on how extensively and effectively people invest in themselves. He clarifies the understanding of the place of human capital in the modern economy with several conclusions:

1. Human capital is of the greatest importance in the modern economy,
2. The importance and value of human capital has especially increased in the last two decades, human capital is of crucial importance in the international division of labor,
3. It is important that companies care as much about the cost of investing in knowledge and education as they do about their "capitalization",
4. It is necessary for people to invest in their development throughout their lives,
5. Distance learning will be crucial in teaching and the learning process, and
6. Human capital encourages technological innovation and the high technology sector.

7 THE INFLUENCE OF HUMAN CAPITAL ON THE DEVELOPMENT OF INNOVATION

For human capital to be used to develop innovation, it is necessary for employees to be selected in the right way and to be motivated. It is up to the management of the organization to design the organization so that work is not a compulsion but a pleasure [23]. The basic condition that must be provided in the organization in order to create innovative solutions are education and training, but which in this case must be designed to be in line with the needs of the organization for innovation, i.e., new products, services and processes. Authors Djampagau et al. [24], based on the research of available literature, have in their work developed a conceptual model shown in Figure 3. Based on the model we can conclude that human capital affects the development of innovation and the performance of the organization.

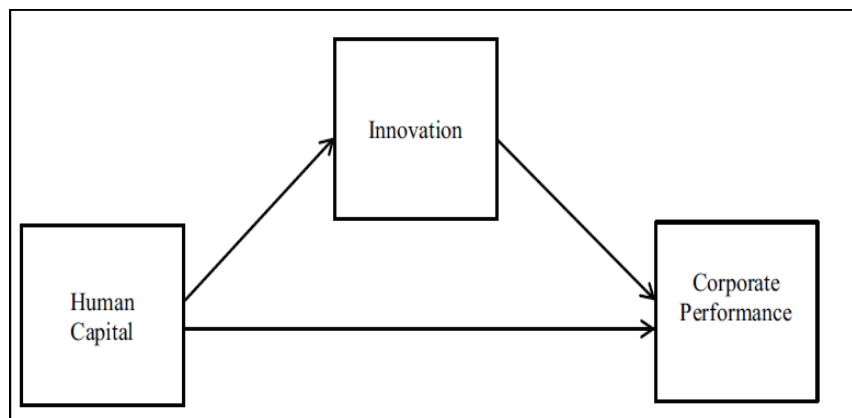


Figure: Model

Source:[24]

Based on the presented model, we can conclude that the relationship between human capital, innovation and company performance is very close. The same authors state that human capital is the main source for the development of innovations, which have an impact on the level of sales due to customer satisfaction. Gaining and maintaining a competitive advantage requires knowledge, creative and innovative thinking, and continuous improvement of quality. Human capital development can make a positive contribution to organizational innovation activities. Good human resource management influences the innovative behavior of employees to have a significant impact on innovation.

8 CONCLUSION

The modern concept of innovation propagates the view that innovation represents any introduction of a novelty into the structure and functioning of any organization that contributes to increasing its economic efficiency and effectiveness.

In today's conditions of functioning, every day we become more aware of the fact that man as a resource is the most important factor in business, that the value of organizations is based on quality human capital that directly affects the creation of greater competitiveness of one organization over another. their creativity, innovation, resourcefulness in the sea of constant changes in business conditions.

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COMPARATIVE ANALYSIS OF TOURIST INVESTMENTS

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Abstract

The basis for making management decisions of an investment nature is the assessment and comparison of the volumes of the expected investments and the future cash inflows. The general logic of the analysis using formal criteria is generally quite obvious. It is necessary to estimate the amount of necessary investments with the projected income. Because the indicators being compared relate to different points in time, a key issue is their comparability. It can be approached differently depending on the existing objective and subjective conditions: inflation rates, amount of investments and revenues, forecasting horizons, level of management qualification, etc.

Keywords: management, decisions, investments, risk, conditionals,

1 Introduction

The development of an investment strategy includes the distribution of assets by type - for hotels, restaurants, service outlets, etc., determining the share of different types of assets in the portfolio, determining the tactics of the services market, assessing the periodicity of reviewing company data, markets and strategy in general.

The basis for making management decisions of an investment nature is the assessment and comparison of the volumes of the expected investments and the future cash inflows. The general logic of the analysis using formal criteria is generally quite obvious. It is necessary to estimate the amount of necessary investments with the projected income. Because the indicators being compared relate to different points in time, a key issue is their comparability. It can be approached differently depending on the existing objective and subjective conditions: inflation rates, amount of investments and revenues, forecasting horizons, level of management qualification, etc.

The critical moments in the process of evaluation of individual tourism projects or the preparation of the investment budget include:

forecasting the volumes of sales taking into account the possible demand for tourist products;

the estimation of the cash inflow by years;

assessment of the availability of the necessary sources of financing;

assessment of the acceptable values of the price of borrowed capital.

The most important is the analysis of the possibilities of the tourist market and the forecasts for realization of the tourist product in the specific conditions, as its underestimation can lead to loss of a certain market share, and its overestimation - to inefficiency of the production facilities built in the site. .e. to inefficient investments.

1.1 Risks in investment process

Regarding the inflow of funds by years, a major problem arises for the future, because the greater the horizon of its planning and implementation, the more uncertain and risky are the revenues in individual years. Therefore, several calculations can be made in which in terms of the significance of revenues in the last years of the implementation of the tourism project can be introduced reduction factors or due to significant uncertainty to be excluded from the analysis.

As a rule, companies have a variety of tourism projects available for implementation and the main limitation is the possibility of their financing. The sources of funds differ significantly in the degree of their availability. The most accessible are the own funds, then the credits, the loans, etc. It should be noted that the cost of capital raised to finance the project may change in the process of its

implementation. This means that a project accepted under some conditions may become unprofitable for others.

When evaluating the investment decision for a tourism project, it is necessary to take into account inflation. This requires compliance with the rule that investing only makes sense if the return on investment exceeds the rate of inflation.

The investment process is always associated with risk, and the time factor increases its uncertainty. The longer the return on investment, the riskier the tourism project. Therefore, when making a decision, the manager must take into account the time, ie. to assess the costs, income, profit and economic profitability of one or another object, taking into account the time indicators. Using different criteria and combining them in different combinations, the manager is able to make the right choice in favor of one or another tourism project. However, if he believes that the company's strategy is most consistent with a project that provides, albeit modest, but a stable income for a long enough period of time, he can focus on it. If the main thing for the company is the current profit, then the choice becomes obvious. Therefore, when investing, you can choose not only the most profitable and most risky projects, but also those that fit optimally into the company's strategy.

Risks in tourist processes

The risks in tourism projects can be subdivided into the following types: non-completion of the project; cost overruns; market risks; financial risks.

The risk of non-completion of the project is especially significant for large tourist sites with problems of technical and environmental nature, changes in the economic environment and others. In these cases, it is inexpedient to continue the implementation. Even when there is a reliable guarantee for the completion of the project, the guarantor of the project has to provide guarantees (direct and indirect) in order to repay the amounts provided on credit by the investors.

The risk of exceeding the costs is a result of changes in the initial plan for project implementation or reduction of estimated costs. Taking into account the changes in the initial account, investors can adjust the increased amount of financing compared to the established limit. In order to increase this amount, the borrower should agree to assume the relevant risks, undertaking to cover the unforeseen additional costs with the help of additional (reserve) loans.

Market risks associated with the sale may be the result of an incorrect assessment of the market (volumes, segmentation), a product that does not meet demand, a reduction in expected prices or a deterioration in sales conditions.

The financial risks are associated with a possible increase in costs if the loan is provided at a "floating" rate (with a tendency to increase) or the solvency of the borrower decreases.

Investment process rules

Investing in tourism projects, analyzed in the process of compiling the investment budget, has a certain logic:

First, each investment project is related to cash flows, elements of which are either net costs or net cash inflows. In this case, the net expenditure of funds in a given year means the excess of current cash expenditures for the project over current cash receipts (in the opposite ratio - as net income). Sometimes the analysis does not use cash flow, but the consistency in the projected values of the net annual profit of the project.

Second, most often the analysis is performed annually, although this restriction is not unconditional or mandatory. In other words, the analysis can be performed for equal base periods of any duration (month, quarter, year, etc.). It is only necessary to link the values of the elements of cash flow, the interest rate and the length of the period.

Third, it is assumed that the entire volume of investments is made at the end of the year preceding the first year of the project's cash flow, although in principle investments can be made for a number of subsequent years.

Fourth, cash inflow (expense) takes place at the end of each consecutive year (such logic is completely understandable and justified, because, for example, this is how the profit is calculated - a growing result at the end of the reporting period).

All possible types of investments in tourism can be subdivided into the following types: first, to meet environmental requirements and safety; second, to save on running costs; third, to maintain market positions; fourth, to increase efficiency; fifth, to expand the business; sixth, to create new products.

Credit risks

In recent decades, the greatest attention has been paid to methods for determining credit risk as one of the most important in the implementation of transactions between counterparties in the tourism business, as one of the parties, which has first fulfilled its contractual obligations, becomes a creditor of the other party until the fulfillment of the terms of the contract.

Different models have been developed and used in Western practice to assess credit risk. They are all designed to analyze a potential lender in terms of predicting the likelihood of a downgrade or insolvency. However, none of these methodologies has been recognized as perfect and suitable for use as a basis for developing legislative requirements in the activities of credit and investment institutions. It is acknowledged that it is extremely difficult to create a unified methodology for risk management. First of all, this applies to situations where the business is in crisis (for example, the covid-19 pandemic). Therefore, when planning a business, the risks should be calculated taking into account the peculiarities of both the current situation and the possible development of events in the process of implementation of each tourism project.

2 Risk uncertainty

Within the quantitative approach in the study of decision-making processes, an understanding of risk has been created, largely different from its usual interpretation in the daily activities of managers. The essence is in the following.

Quantitative theory connects risk with mainly fluctuations, changes in indicators. The identification of risk with the variance of indicators is especially characteristic. The calculations of the characteristics of the type of dispersion assume a combination of the possible values of the result and their probabilities. In addition, the meanings of the indicators and their probability are equally important for calculating the nature of the variance. At the same time, research in the framework of the descriptive approach testifies to the fact that managers, when assessing risks, practically give different weight to the possible meanings of the final indicator and their probability. The values of the final indicator are much more important than their probability.

The second fundamental difference of quantitative theory from practice is in the fact that in it the deviations of the final indicator (for example, profitability) in the greater or lesser direction are equally considered a manifestation of risk. In practice, managers in most cases have a different approach. Only deviations in the negative direction (low profitability, large losses, etc.) are considered risk. This is due to the fact that in most companies (for example, in tourism) managers have a completely different responsibility for losses and lost profits.

For virtually every operation related to economic activity, the opening and closing balances have a monetary valuation and the purpose of its implementation is to maximize profits - the difference between the closing and opening valuations (or some similar indicator). As a rule, such operations, especially financial ones, take place in conditions of uncertainty and therefore their results are impossible to predict in advance. These operations are risky. In their implementation, both profit and loss are possible (or not very big profit compared to what the managers hoped for). The operation is risky if there are several unequal outcomes. The decision-maker and interested in the success of the operation is also responsible for it.

Risk management in tourism

The species diversity of the risks and the ways for their manifestation is large enough. However, whatever the form of manifestation of the risk due to the uncertainty of the economic situation, its content is a deviation of the actually established data from the typical, sustainable, average level or alternative significance of the assessed feature.

The risk necessarily implies a risky entity to which the care and responsibility for the outcome of the operation refers. The risk itself arises only if the operation can end with an outcome that is not equivalent to it, despite (possibly) all his efforts to manage this situation.

For many business tasks in tourism, arising in conditions of market uncertainty and risk, the classical methods and models prove to be insufficient.

First, in the system of market relations, the business is faced with the need to study very complex objects and processes, for which there is no comprehensive methodology that allows to apply the available methods and models. Risk and uncertainty in market relations arise as a result of the interaction of numerous sites, intra-company and between company processes. The way of interaction and the number of objects to be analyzed are very often determined in the course of the process itself. Second, even if some models can be built and there are methods for their solution, in many cases they remain unusable due to the huge volume of different operations that need to be performed. Third, there are situations when at first glance a model is good, but the processes in the real economic environment can not be formalized.

There is no consensus on what methods should be used in choosing a solution or method of determining acceptable risk. Existing approaches can be divided into two groups - process-oriented and strategically oriented. In the first approach, the decision-maker takes as a basis the process that will be used to make the risk management decision. Once this process is chosen, no justification of the rules under which the decision-making process takes place is required. Strategically oriented approaches are more reasonable, centralized and public and have a clearer logic.

3 Conclusion

The tourism market can be seen as a clear process-oriented approach. It assumes that the interaction between companies and consumers will lead to such risk solutions in which the product and the "too risky" actions will not be competitive compared to the best alternatives. The cost-benefit balance can be seen as a typical strategically oriented approach.

All decision-making methods are based on purely formal assessments, regardless of the nature of the problem under consideration. The models are formed in such a way that all possible consequences are clearly described, and the choice is measurable and all possible solutions are clearly identified. Adherents of the methods of formal analysis offer decision makers their logic and rigor of approaches, their understanding of the possibility and accessibility of the initial information. However, there is always the question of whether all the considered possibilities can actually be realized, to what extent this analysis is accessible and convenient for the decision makers, whether all possible events and consequences can be taken into account.

In conclusion, it should be emphasized that critics of these approaches often question the ability to adequately assess organizational barriers to implementing the recommendations and fear the bias hidden in the seemingly impartial assessments underlying such methods.

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MAIN RISKS IN TOURIST BUSINESS MODELS

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Abstract

The main goal of any travel company is to create values that are most often defined as profit and sometimes as public goods. Accordingly, the development of the business model begins with a description of how the company creates values. The typical profit formula includes three parts.

Keywords: travel company, business model values, profit, analysis, risks, innovation

1. Introduction

The main goal of any travel company is to create values that are most often defined as profit and sometimes as public goods. Accordingly, the development of the business model begins with a description of how the company creates values. In the business world, there are few managers who dispute the claim that every company needs to know its profit formula. However, some companies use the terms "profit formula" and "business model" as interchangeable. Although historically there was a time at the height of the Internet boom when many experts argued that only income or the "number of subscribers to Internet services" mattered and profits appeared in the future, a sad end awaited them.

2. Structure

The typical profit formula includes three parts.

Income model: Price Market volume Additional sales
Cost structure: Direct, indirect costs Economies of scale and expanding the range
Resource turnover: Rate of value creation Deadline for preparation, turnover, productivity, utilization factor

The formula for profit is obvious - the company receives income (the price of the product multiplied by the number of sales), makes costs (material, labor, equipment) and to varying degrees absorbs resources.

Ways to change the profit formula

There are several relatively easy ways to change the profit formula: change of the model for receiving income with payment options;

changing the income model by exiting a more expensive market sector or a cheaper market sector. In both cases it is necessary to adjust the cost structure accordingly;

simple cost reductions by relocating production processes abroad to lower-cost countries or even full business virtualization [1].

Innovation, which can also be carried out by increasing the productivity of resources, either by doing more with the same resources, or by producing as much but with less consumption. As a rule, this is achieved through reengineering or simply targeting additional search sources.

Tourist management features

All these potential innovations, as a justified way to improve business models, do not have to be qualitatively new. Travel companies are still working in this direction, which allows others to copy their experience, as a result of which such measures are rarely sustainable in the long run. The profit formula set in this way, although it has merits, lacks a detailed analysis of the risks. Taking into account the uncertainties inherent in demand, supply, product quality, labor availability, the pace of market acceptance of the product, technical progress and the impact of other factors, it becomes increasingly difficult to make reliable forecasts.

3. Management risks in the tourism business

The main risks in the tourism business, which are key sources of inefficiency in business models and arise from differences in decision-making, are information risk and the risk of inconsistency of motivations. Most of the problems in the existing tourism business models are related to these risks. Information risk is a product of uncertainty, when many business decisions are made on the basis of incomplete and insufficient information. It is the result of the fact that decisions are made long before the information needed to make them is made. Consumers also face information risks, which is why the models work inefficiently for them as well. Therefore, there is only one way to reduce the information risk to zero - to wait until you receive complete information when structuring a tourism business model. However, most companies cannot afford this luxury. The maximum they can hope for is to reduce the gap between divination and knowledge.

The risk of inconsistency of motivations

The risk of inconsistency of motivations leads to a conflict between the parties, which must cooperate in order to create a tourism product. Each business model includes in its structure certain motivations, which, however, can contradict each other and block the achievement of common goals. This is due to the fact that travel companies (and their employees) very often base their decisions on their own interests, rather than on what will better serve the overall goals of the entire value chain. [2]. It is worth noting that this type of risk is contextual. Incentives that provide good business results within the case for which they were designed often cause problems in crossing many different motivations. For example, a surprisingly inconsistent motivation emerged between the hotel and restaurant business under covid-19. This requires recognizing these inconsistencies and regulating processes to rule out inefficiencies for these reasons. Leading should be the motivation of all countries to correspond to the common interest in the creation of tourism products in general. In the case of hoteliers and restaurateurs, the solution to the problem should be sought in the comprehensive provision of mutual interests.

The risks of inconsistency of motivations in the tourism business can be dangerously intertwined. The more fragmented the relationship with the partners, the more necessary is the constant control for risks caused by mismatch in motivations.

Methods for assessing the consequences of informational and motivational risks

The analysis of the two main types of risk - informational and motivational - helps to reveal the inefficiencies caused by them. There are various methods for assessing the consequences of these risks.

The risk of mismatch of motivations in the tourism business both within a company and in a group of companies arises when this mismatch creates a conflict between the desired and actual goals and results. In these cases, it creates inefficiencies in the chain of creating tourist products, forcing it to work unproductively.

The question arises how to assess this type of risk? Management experience shows that, first, the key players involved in decision-making that are related to symptom and conflict points must be identified. For each of these important decisions it is necessary to determine the magnitude of the discrepancies between the set goals and the actual results. In other words, it is necessary to understand how far the results are actually obtained from the results in the ideal version, in which all decisions are made by altruists, seeking only to maximize the common values created by business models. Another way to reveal the risk of inconsistency of motivations is to see the motives of those who make key decisions in the travel company. This can be done by taking into account those dominant goals that are highly valued. In this way it is possible to ask two questions:

First, how do the goals of one decision maker differ from the goals of another?

Second, if the two entities have to work together, how do these differences lead to the inefficiency of the business model and what can be done to eliminate the discrepancy?

Usually, it is these two factors that determine the scale of motivational inefficiency: first, the discrepancy between the dominant goals of the subjects and second, the importance of the decision made. When decisions are critical to a company's strategic orientation, but are made in a context of motivational mismatch and inefficiency, this will often be particularly dangerous, and is therefore a paramount issue to be addressed. [3].

Information risk becomes urgent when the associated inefficiency becomes most significant. The assessment of the extent of information inefficiency consists in understanding the nature of three main properties of a decision made in the conditions of insufficient information.

The first - are the consequences of the decision. When the decision concerns large investments in tourism, any of its information inefficiencies will be much more expensive than the inefficiencies of some small investments.

The second - is the degree of regulation or finality of the decision. Solutions that are not so easy to cancel or cancel are highly ineffective.

The third and most important feature is "awareness" in the absence of information related to the decision. The main hot spots in information inefficiency are likely to be solutions when many are known to be unknown. Often, the level of awareness in the absence of information is closely linked to the time interval between the moment of the decision and the moment when information relevant to the decision becomes known. An example of such solutions was observed in the setting of covid-19.

The consequences for the tourism business from such decisions ranged from insignificant to catastrophic for some tourism companies.

Analyzing like way to risk prevention

After assessing the impact of risks on the effectiveness of the business model, it is necessary to assess which of the existing levers should be used to modify or create a more sophisticated tourism business model. The purpose of analyzing each business model is to prepare for the revision of existing business models in practice or to create completely new ones. An audit should be seen as a process, not an event. The analysis is not a one-off event to resolve an existing crisis. It should be assessed as an opportunity for general strategic hygiene of the tourism business model of the company in order to identify emerging problems or to seek new directions for activity. These may be aspects that are not mandatory for immediate action, but which need to be monitored. [4]. Inefficiency in the tourism business is clear enough and often signals possible risks. Some of them are manifested through:

- frequent and significant deviations from the indicators set in the budget (sales volume, use of resources, etc.);
- wide fluctuations in the results from year to year;
- high dependence on prices and activities that are not under the control of the company (for example,
- the price of energy, the behavior of partners, etc.);

- the dependence of the results on several large-scale decisions taken in conditions of uncertainty;
lengthy complex forecasting and planning procedures;
- business models that have not been reviewed for a long time, so that some decisions are made on the basis of habits rather than logic;
- loss of income due to shortages in supplies, capacity, resources, labor, etc .;
- expensive and often irrationally used assets;
- inability to master a technology or business model that has proven its effectiveness;
lack of effective evaluation criteria for partners or employees;
- discrepancy between those consequences that the company faces and those that the partners (employees) face;
- availability of solutions that are successful in the short term but cause damage in the long run;
frequent conflicts between the company and its partners.

4. Bulgarian business model and opportunities

From a theoretical point of view, tourism consists in the effective use of all geographical, natural, cultural, historical resources in order to increase the competitiveness of the region. This would have a beneficial effect on the economic development of the country.

Sustainable use of resources is essential for the longer-term provision of goods for future generations. If we talk about trends, we must take into account the increased interest in health services, and in combination with tourism there are prospects for the development of health, spa tourism, mountain, rural tourism, culinary or wine.

About 1600 mineral springs are known in our country, and their healing properties are known since Roman times. Healing mud has also been known for centuries. There are known deposits of healing mud near Varna, Balchik and Pomorie. Regarding the climate in our country there is a great variety of 5 climatic areas, which have their own specifics and healing nature. Rural areas are also quite unknown space for Bulgarian tourism, in my opinion. They provide an opportunity to combine culinary, wine, sports, mountain and cultural tourism. They provide privacy and competitive prices, attractive to foreign tourists. As opportunities, I believe that the combination of different types of tourist services can meet the demand at close range. Our country has a long tradition in crafts and food production. These traditions are preserved in rural areas and could be attractive to tourists. The Rural Development Program (RDP) is a tool to unleash this potential by providing investment measures for tourism development. The local initiative groups in different districts of the country help the population to benefit from the targeted funding, both in business and in raising the qualification of the population. This is necessary in order to be able to realize a sustainable business, including tourism. The problem with the labor force is a fact in Bulgaria and in other European countries. Another problem is the corona crisis, which has reduced the tourist supply. Nevertheless, the Ministry of Tourism paid more than BGN 5.6 million to 86 companies performing tour operator and travel agency activities. The funds are allocated from the state budget and amount to a total of BGN 51 million. This is one of the measures taken by the Ministry of Tourism to support the sector to overcome the effects of COVID-19.

The development and survival of the tourism industry requires the monitoring and integration of new technologies and the search for ways to meet the changing consumer demand. At the same time, the tourism manager must consider creating added value and tackling growing competition. The problems of the industry are also a growing challenge - the lack of skilled labor and the risks associated with the dynamic epidemic situation, natural features and phenomena. Skillful management of tourist resources presupposes proactivity, adaptability and maximum independence from these risks. [5].

Investments in the tourism industry

Investments are one of the most important factors for the development of the tourism industry, as their volume and structure depends on:

- the dynamics of the development of the industry in the long run;
- financial and economic indicators for the future work of the industry;
- the qualitative characteristics of the tourist sites and the companies in perspective;
- the capacity of the production capacities and the capacity of the tourist sites;
- the structural proportionality of the industry (interrelation between the development of hotels, transport, restaurant network, communication system, etc.);
- the general conjuncture of the tourist demand and supply in territorial aspect (competitive environment [6]. What is marketing? Harvard Business School Publishing Corporation.
- Investments are the most important lever for managing the development of tourism at both national and regional levels. They should be analyzed and forecast:
- in the development of projects for the formation of the material and technical base of tourism;
- in the development of schemes for location and development of tourist sites;
- when forming the database for tourist investment projects;
- when conducting events for standardization, certification of the tourist product, licensing of the tourist activity;
- when planning employment and income of the population;

in the development of infrastructure, research and development, etc. [Marinova, N., Bliznakov A., Gargarov, Z. "Ecology and Economics - Economics and Ecology", NBU, Sofia, 2011, p. 316] .

In order to attract private, including foreign, investments in the tourism industry, the activity of local authorities in advertising and information activities, liberal administrative and tax policy at both local and national level, encouraging private investment initiative, are very important, the effective antitrust and anti-corruption policy of the local government, aimed at supporting a healthy competitive environment between tourism companies.

A key element in the analysis and forecasting of investments in the tourism industry is the determination of their economic efficiency, which ultimately determines the overall attractiveness of each tourism project for the investor.

The investment risks

The investment qualities of the securities are related to the assessment of their liquidity and risk at a stable exchange rate and the extent to which they are able to bring income at levels not lower than the average market bank interest rate. The following types of risk need to be considered [7]

- capital - when the investor is not able to recover his funds without incurring losses;
- liquid - when losses are possible in the sale of securities as a result of changes in assessments of their qualities [8].;
- selective - when the securities are incorrectly selected during the formation of the portfolio (incorrect assessment of their investment qualities);
- credit (business) - when the issuer, which has issued the debt securities, finds itself unable to pay the interest on them and (or) the principal amount of the debt;
- market - when there are losses from the reduction of the value of securities as a result of a general market decline;
- inflationary - when in case of high inflation the incomes received from the securities are depreciated;

- interest rate - when market interest rates change (as is known, an increase in the market level of interest rates leads to a decrease in the exchange rate of securities, especially fixed interest rate bonds);
- time - when the purchase or sale of securities is at an inappropriate time, which inevitably leads to losses;
- foreign exchange - when the investments are in foreign currency securities and an unfavorable change in the exchange rate of the foreign currency follows;
risk of legislative changes.

In conclusion, it should be noted that investment values are determined by their ability to quickly and without loss of price to become cash. The risk is associated with the possibility of circumstances in which the investor suffers losses caused by investments in an asset, as the liquidity of investment values is determined by their ability to quickly and without price losses to become cash. The risk is associated with the possibility of circumstances in which the investor suffers losses caused by investments in the tourism industry.

5. Conclusion

As a result of these circumstances, the following conclusions can be drawn:

First - constantly monitor for symptoms. Symptoms of inefficiency may be obvious to all or may be hidden in personal destinies, common business practices or other masks.

Second - to examine the symptoms. The symptoms can take different forms. They need to be investigated until the root causes of the critical points that relate to information inefficiency or inefficiency due to inconsistency of motivations are identified.

Third - to monitor and take into account the interests. The most ineffective decisions and with the most important consequences are made with the maximum discrepancy between the actual and the ideal motivation.

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TOURISM AND AIR TRANSPORTATION INTERCONNECTION – SMALL TOURIST PLACES PERSPECTIVE

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Abstract

Tourism as one of the lead world industries has a positive impact on world and national economic growth. According to the World Travel and Tourism Council, tourism services contribute over 10% to world GDP and generate 1/10 of global employment. Stimulating tourist travels and tourism growth is highly connected to the development of transportation industry. Tourism expansion on the other side has a great positive impact on the transportation, particularly on air transportation. Link between these industries is vital and organic.

United Nations World Tourism Organization (UN WTO) data indicate that traveling by air dominates international tourism. Air transportation has a main role in inter-regional movements of tourists, which normally entails travel over long-distance. Growth rates of international air transport make fast with growth rates of international tourism. Experts highlight that attractive package tours and competitive airfare attract more and more tourists day by day, therefore the industry is expanding rapidly.

This paper aims to measure the interconnection between air transportation and tourist overnights in small tourist places, with an overview of Ohrid as most important tourist destination in Macedonia. For that purpose, the degree of correlation of these two variables was calculated to indicate the contribution of air travellers on tourist overnights.

Keywords: tourism, tourist overnights, air transportation, correlation, Ohrid, Macedonia

1 INTRODUCTION

Tourism is considered as one of the most important industry for world economic development. Prior to the pandemic, Travel & Tourism including its direct, indirect and induced impacts accounted for 1 in 4 of all new jobs created across the world, 10.6% of all jobs (334 million), and 10.4% of global GDP (US\$9.2 trillion). Meanwhile, international visitor spending amounted to US\$1.7 trillion in 2019, which is 6.8% of total exports and 27.4% of global services exports [13]. The number of tourist arrivals and tourist overnights are one of the most important indicators for tourism growth and development. Quality of the passengers transport in a country implies on the quality of tourist offer and therefore on the number of tourists visiting the country [2]. UN World Tourism Organization (UNWTO) declares that tourism growth in pre-pandemic period has been driven by a strong economy, affordable air travel, increased air connectivity and visa facilitation [10].

Strong demand for air travel in the recent period is caused by low cost carriers and increased air connectivity. Over the past two decades, the number of unique city pairs connected by air transport has more than doubled, reaching more than 20,000 at ever lower costs [11]. Low cost carriers are also underlined by the World Bank as a stimulator of aviation market with a broad positive effect on tourism [7]. Today, traveling by air dominates international tourism. The share of air travel has increased from 46% in 2000 to 59% in 2019, while land transport has decreased from 49% to 35% in the same period [12].

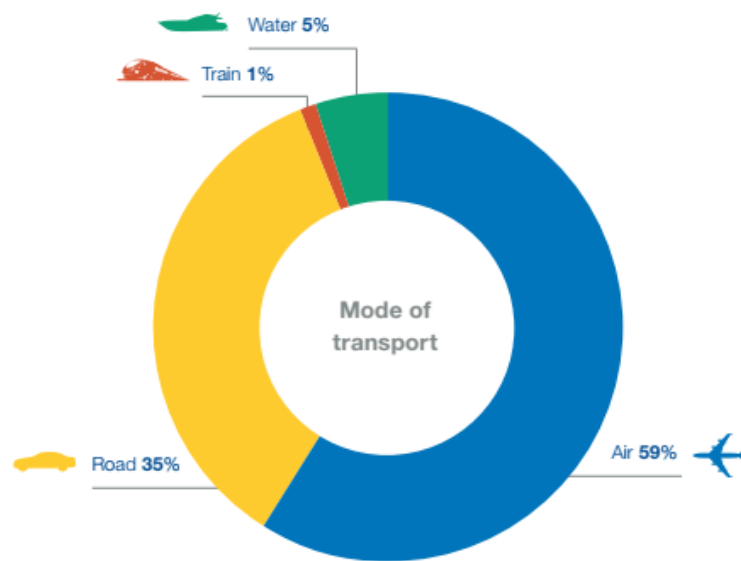


Figure 1. Inbound tourism by mode of transport, 2019 (% share)

Source: (UNWTO, 2021)

Interconnection between air transportation and tourism has been interesting for many reliable international organizations, experts and researchers. Certain authors notice that the future development of the tourism industry depends on a gradual increase in air services. Travellers need to consider safety when looking for new destinations and places – both aircraft travel and a destination. Ensuring a high level of service quality on both sides will contribute to the further development of the tourism industry and air transportation [14]. Other researchers denote that for the strategic development of destinations, a clear airline policy and air access strategy seems to be necessary. For airlines an assessment and understanding of the business models of destinations is essential [1]. Also, air transport provides a truly global “catchment zone” for country’s tourism sector as aircraft are able to pass over all types of terrain and into major hub airports which multiply the demand for a particular route as individual demand is combined [3]. Air transportation has a main role in inter-regional movements of tourists, which normally entails travel over long-distance. Growth rates of international air transport make fast with growth rates of international tourism [5].

Following research refers to the importance of air transportation for increasing the number of tourist overnights in small and landlocked touristic places. Proper modelling of the correlation between these important sectors can show strong interlinks and can lead to further national economic development through suitable policies and actions undertaken by policy creators. Ohrid, as a most important touristic destination in Macedonia was considered as representative for small tourist destinations that are connected with international airport. All data for the research are from the official reports of the State Statistical Office and International airport “Apostle Paul”

2 MEASURING THE CORRELATION BETWEEN AIR TRANSPORTATION AND TOURIST OVERNIGHTS (CASE OF OHRID)

Tourist industry has both, direct and indirect impact on transportation. Previously conducted research for the economic impact of tourism in Municipality of Ohrid revealed that for the period from 2015 to 2017, Transport sector had a direct inflow of 6.7 million dollars from the sector Hotel and Restaurants, while the indirect effect is estimated at \$ 20.5 million. Combined, the total effect of the sector Hotels and restaurants on the Transport sector calculates revenue of about \$ 27.1 million, or more than \$ 9 million a year on average [8]. Analysing the estimated data, it is obvious that the indirect effect of the Hotels and Restaurants sector on the Transport sector is greater than its direct impact. As a reason can be determined that a large part of the revenues generated in the transport sector are influenced by the activities in the Hotels and restaurants sector, especially in foreign tourist travel. Foreign tourists most often use organized air transport when visiting Ohrid, which affects the increase of revenues in this sector. In order to confirm this hypothesis, an Analysis of the connection between the number of

transported passengers at “Apostle Paul Airport” and the number of realized overnight stays by foreign tourists in Ohrid was made.

One of the important segments that appear as a condition for tourism development is the good road connectivity, and especially the connection and the number of transported passengers through the Apostle Paul Airport near Ohrid. Foreign tour operators such as “Corendon” and “TUI” bring foreign tourists on charter flights through the airport, but there are also other scheduled flights at the airport, through which foreign tourists can arrive. For that purpose, the degree of correlation between these two variables was calculated.

Fig. 2 shows the number of arriving passengers at the Apostle Paul Airport for the period January 2017 - October 2019 and the number of overnight stays by foreign tourists in the same period.

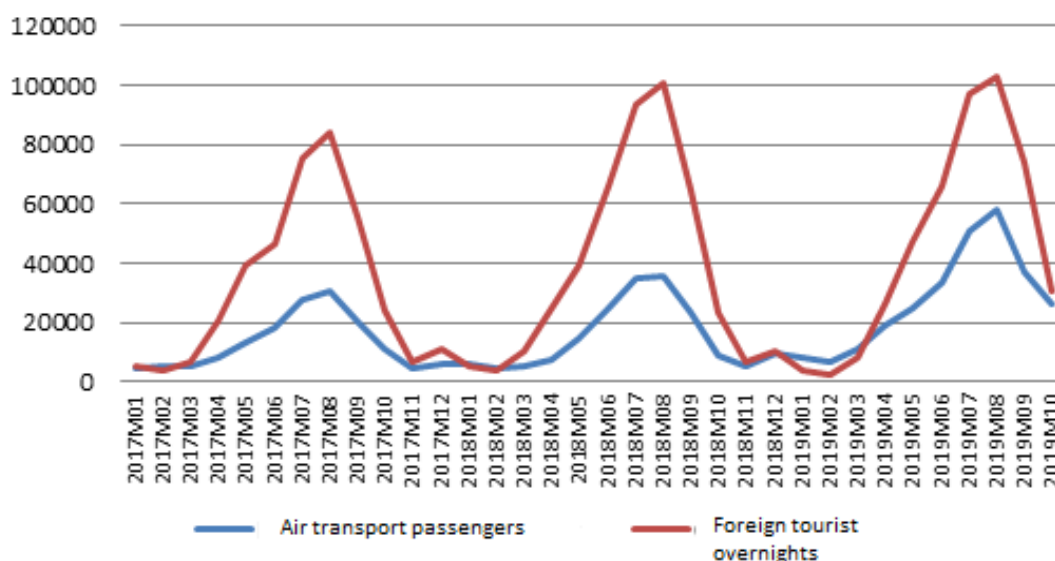


Figure 2. Number of transported passengers at the Apostle Paul Airport and number of realized overnight stays by foreign tourists in Ohrid.

Source: own illustration created from the data taken from (State Statistical Office, 2021)

As seen from the Figure 2, the series has an evident seasonality, which is expected for Ohrid as it is recognized as a tourist destination with a seasonality caused by natural factors [9]. The degree of correlation between the two series is 0.933093, which means a high and positive degree of correlation, i.e. the increase in the number of passengers directly ant with high degree affects the increase the number of realized overnight stays. In addition, a regression analysis was made where the number of realized overnight stays is a dependent variable, and the number of transported passengers is an independent variable.

The first regression analysis is by taking as independent variables, the constant, number of transported passengers also. The results are given in Table 1.

Table 1: Regression analysis of the number of realized overnight stays and number of transported passengers

Dependent Variable: OVERNIGHT STAYS
Method: Least Squares
Sample: 2017M01 2019M10
Included observations: 34

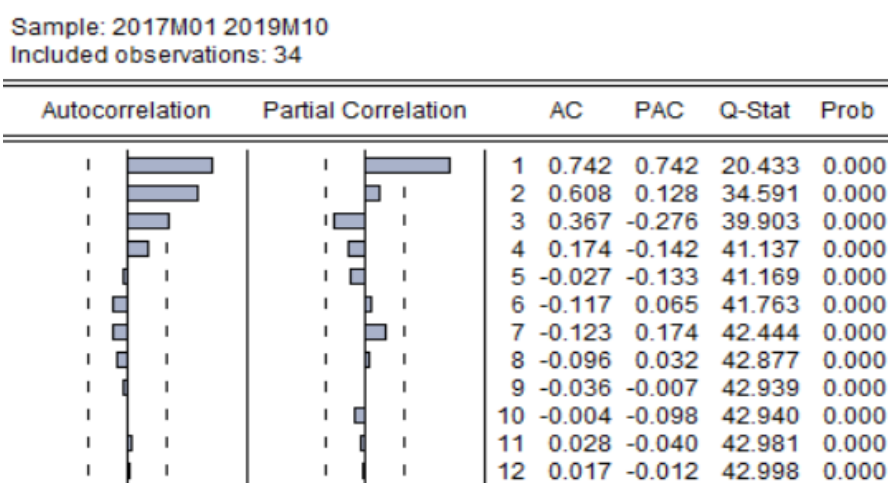
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1857.431	3413.028	-0.544218	0.5901
PASSENGERS	2.204150	0.150177	14.67698	0.0000

R-squared	0.870662	Mean dependent var	37880.35
Adjusted R-squared	0.866620	S.D. dependent var	33177.85
S.E. of regression	12116.95	Akaike info criterion	21.69962
Sum squared resid	4.70E+09	Schwarz criterion	21.78941
Log likelihood	-366.8936	Hannan-Quinn criter.	21.73024
F-statistic	215.4137	Durbin-Watson stat	0.384223
Prob(F-statistic)	0.000000		

Source: own calculations

It can be concluded from the results that the constant is not a valid parameter in the regression analysis. More important is that in the model also occurs a serial correlation of residuals, i.e. Durbin - Watson statistics have a very small value. At the same time, the regression model follows the original series to a degree greater than 86%. The correlation analysis of the residuals is given in Table 2.

Table 2: Correlogram of residuals for the model



Source: own calculations

The table shows the serial correlation of the residuals from the model, which means that at least one other independent variable is missing in order to obtain a good regression model. In the absence of another/others independent structural variable, we included an autoregressive article (element) to eliminate the serial correlation. The results are given in Table 3.

Table 3: Regression analysis of the number of realized overnight stays and number of transported passengers with additional autocorrelation parameter

Dependent Variable: OVERNIGHT STAYS
Method: Least Squares
Sample (adjusted): 2017M02 2019M10
Included observations: 33 after adjustments
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PASSENGERS	2.308753	0.160159	14.41542	0.0000
AR(1)	0.894786	0.113268	7.899704	0.0000
R-squared	0.951498	Mean dependent var	38866.67	
Adjusted R-squared	0.949933	S.D. dependent var	33182.21	
S.E. of regression	7424.711	Akaike info criterion	20.72171	
Sum squared resid	1.71E+09	Schwarz criterion	20.81240	
Log likelihood	-339.9082	Hannan-Quinn criter.	20.75222	
Durbin-Watson stat	1.927738			

Source: own calculations



















From the results it can be noticed that this model describes more than 94% of the model, there is no serial correlation of the residuals, the value of the information criteria is lower than the previous model which indicates that this model is better than the previous one. The correlogram of the residuals is given in the following table.

Table 4: Correlogram of residuals for the model

Sample: 2017M02 2019M10

Included observations: 33

Q-statistic probabilities adjusted for 1 ARMA term(s)

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	-0.090	-0.090	0.2914	
		2	0.048	0.041	0.3787	0.538
		3	0.068	0.076	0.5563	0.757
		4	0.178	0.191	1.8142	0.612
		5	-0.219	-0.201	3.7909	0.435
		6	-0.242	-0.329	6.2981	0.278
		7	-0.024	-0.107	6.3243	0.388
		8	-0.018	0.023	6.3393	0.501
		9	0.052	0.253	6.4719	0.595
		10	0.029	0.196	6.5153	0.687
		11	0.135	0.047	7.4745	0.680
		12	0.047	-0.156	7.5943	0.749

Source: own calculations

From the correlogram it can be noticed that all the values of the delays are within the confidence limits, and there is no serial correlation between them.

This means that only the arrival of foreign tourists is a reason to promote Ohrid as a tourist destination, both by tour operators on the one hand and by tourists who have visited Ohrid on the other.

3 CONCLUSION

Tourism is considered as one of the most important industries for world economic development. Prior to the pandemic, Travel & Tourism including its direct, indirect and induced impacts accounted for 1 in 4 of all new jobs created across the world, and 10.4% of global GDP. The number of tourist arrivals and tourist overnights are one of the most important indicators for tourism growth and development. Stimulating tourist travels and tourism growth is highly connected to the development of transportation industry. Tourism expansion on the other side has a great positive impact on the transportation, particularly on air transportation. Link between these industries is vital and organic.

Strong demand for air travel in the recent period is caused by low cost carriers and increased air connectivity. Today, traveling by air dominates international tourism as the share of air travel has increased up to 59% in 2019, while land transport has decreased up to 35% in 2019.

The future development of the tourism industry depends on a gradual increase in air services. Ensuring a high level of service quality on both sides will contribute to the further development of the tourism industry and air transportation. For the strategic development of destinations, a clear airline policy and air access strategy seems to be necessary. Air transportation has a main role in inter-regional movements of tourists, which normally entails travel over long-distance. Growth rates of international air transport make fast with growth rates of international tourism.

Tourist industry has both, direct and indirect impact on transportation. Total effect of the sector Hotels and restaurants on the Transport sector in Ohrid calculates revenue of about \$ 27.1 million in the period 2017-2019, or more than \$ 9 million a year on average. Analysing the estimated data, it is obvious that the indirect effect of the Hotels and Restaurants sector on the Transport sector is greater than its direct impact. As a reason can be determined that a large part of the revenues generated in the transport sector are influenced by the activities in the Hotels and restaurants sector, especially in foreign tourist travel. Foreign tourists most often use organized air transport when visiting Ohrid, which affects the increase of revenues in this sector. In order to confirm this hypothesis, an Analysis of the connection

between the number of transported passengers at “Apostle Paul Airport” and the number of realized overnight stays by foreign tourists in Ohrid was made.

One of the important segments that appear as a condition for tourism development is the good road connectivity, and especially the connection and the number of transported passengers through the Apostle Paul Airport near Ohrid. For that purpose, the degree of correlation between these two variables was calculated. Ohrid as it is recognized as a tourist destination with a seasonality caused by natural factors. The degree of correlation between the two series is 0.933093, which means a high and positive degree of correlation, i.e. the increase in the number of passengers directly and with high degree affects the increase the number of realized overnight stays. In addition, a regression analysis was made where the number of realized overnight stays is a dependent variable, and the number of transported passengers is an independent variable. From the correlogram it can be noticed that all the values of the delays are within the confidence limits, and there is no serial correlation between them.

It means that only the arrival of foreign tourists is a reason to promote Ohrid as a tourist destination, both by tour operators on the one hand and by tourists who have visited Ohrid on the other.

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GOOD GOVERNANCE AND PRIVATE SECTOR

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Abstract

Good governance represents an administrative doctrine, which is developed as an institutional answer to new public management doctrine, with a specific approach to the functioning of the political and administrative system. New public management is characterised by some specific features such as liberalisation, deregulation and privatisation of the public sector. On the other side, at the focus of good governance is participation, inclusion and openness in the functioning of public institutions. This article uses a methodological framework which includes descriptive analysis of basic aspects of good governance. This helps to determinate the position and role of this doctrine in a modern political and administrative system in the context of global challenges such as climatic changes, pandemics or changing of the political and economic balance of international relations in a contemporary world. The main question of this contribution is how good governance doctrine can improve the relation between the public and private sector and contribute to the economic and social development of society.

Keywords: public administration, good governance, private sector, development

1 INTRODUCTION

Good governance is an administrative doctrine in contemporary public administration, which has been especially developed in international public institutions in the last 30 years. This doctrine is created as an institutional answer for the rebuilding and reshuffling of administrative structures in modern society. In the European Union, “good governance” is one of the main approaches to the reform of public administration and building of political and administrative institutions [1].

There are several documents and policy papers which analyze “good governance”. One of the most important documents is “European Governance – A White Paper” by the European Commission [2]. This policy document has detected the main directions in the development of public institutions in the European Union, which is important for harmonizing administrative systems across Europe and their convergences in European administrative space [3]. In that sense, the term “good governance” is important as a tool for the harmonization of administrative standards and procedures across Europe.

As a contemporary administrative doctrine, “good governance” is determined by the influence of economic, social and political processes in Europe, which lead European integration processes. This doctrine is established as an institutional answer to the methodology, procedures and results of other modern administrative doctrines – new public management [4]. This doctrine represents a different approach to public governance in European institutions.

The European Commission stipulates “good governance” as a model of administrative behavior which includes openness, participation of the citizens, responsibility, effectiveness and coherency [5]. The main value is proportionality, as a relation between administrative activity and goals for realization of and achieving public services. As a new approach in the functioning of public administration, good governance has an important role to influence other subjects in society: citizens as the main actors, civil society and activist association, local self-government units and local public institutions and other forms of interaction in local society. This doctrine defines citizens as partners in the functioning of public administration. Because of that, citizens must be better informed and consulted in managing different public policies and other administrative procedures. Other important institutions, which are developing the doctrine of “good governance”, are the United Nations and International Monetary Fund, and World Bank. The United Nations has a similar approach to the development of good governance as does the European Union. They also have an increasing role in the development of this administrative doctrine.

According to the UN Agenda, good governance must ensure standards such as the rule of law, protection of human rights and strengthening of democracy. To implement these goals, the United Nations has introduced eight principles, important for establishing "good governance". These principles are participation, rule of law, consensual behavior, equity and inclusiveness, efficiency with effectiveness, responsiveness, transparency and accountability. All of them are important for developing this approach to modern public governance in contemporary European administrative and political systems. "Good governance" determined citizens as partners of public administration, who must be well informed and consulted in creating public policies. New public management is mostly oriented to results and efficiency, while good governance is focused on the position of citizens in the community and achieving public good. This paper wants to explore relations between the doctrine of public governance and its impact on the private sector, especially in the light of different administrative reforms and measures in contemporary society.

Main point of analysis in this article is good governance in European institutions, because it represents one of the main doctrines in development and maintain of public institutions and public policies in European Union. As administrative doctrine, good governance can be efficient tool for developing of public administration and political institutions in democratic states. Member states of EU and common European institutions and organizations use this administrative tool to improve regulatory framework in harmonization of EU integration processes. In this article good governance will be analyzed in main elements, which define basic aspects of this administrative doctrine, with possibility to improve public administration true implementation of this instrument in public institutions. Private sector depends on efficient government institutions, and doctrine of good governance can improve that efficiency and contribute to synergy between public and private sector. Developing of implementation good governance doctrine can strength political institutions and assure more transparency in implementation of various public policies in contemporary society.

2 METHODOLOGY

The methodology in this article is based on descriptive analysis of the main aspects of good governance as a new administrative doctrine, developed by the United Nations, European Union and OECD, which shows the potential influence of the contemporary political and administrative system.

The second method which will be used is comparative analyses of new public management and good governance. This comparison will show differences between these doctrines in the influence on contemporary public administration. This is an important matter in light of the situation that good governance usually represents modern doctrine which is a form of institutional answer to administrative reforms inspired by liberal doctrines which are market oriented, such as new public management in the United States and Westminster countries.

The synthesis of this methodological approach will show how good governance can influence institutional framework which builds the administrative system and creates a platform for the higher development of the private sector in modern society. This influence can determine the role of public institutions and public services in generating prerequisites for the development of education, employment and management in modern society.

3 RESULTS

3.1 Main aspects of good governance

"Good Governance" is a doctrine, developed to organize a new organizational and institutional framework for reforms to public administration and public governance. It was developed in the nineties at the end of the past century, and represents a new direction for building the public sector [6].

Administrative reforms, which had been inspired by the doctrine of "new public management", were oriented towards establishing a neoliberal model of "lean state". This type of administrative approach was oriented towards creating a reduced public administration system with a minimal role of state institutions in the functioning of society and economic activity. This reinvented type of public governance was oriented towards reducing social institutions and services, and liberalization of management of commercial public services, such as telecommunications, energy sector, public transport, and utilities, etc., with aims to privatize some of them. In opposition, the "good governance" approach to public administration in a way tries to reach the best standards and practice of administrative procedure [7]. These standards and practice are incorporated

into the basic principles defined by international organisations such as the United Nations, OECD and European Union. Besides the economic aspects of “good governance”, other important elements are democratization, openness in the activity of political and administrative institutions, transparency in managing administrative and political processes, participation and inclusivity of citizens and more present engagement of citizens and their associations in the social and political life of the community. There are several elements which usually define governance, as a form of public engagement in political institutions and administrative bodies: autonomy of self-governing networks which participate in public activities, collective actions of the different institutions involved in administrative, economic and political activities, redefining responsibilities in managing and performing social and economic measures, inclusion of social actors and authorities in activities of the Government, as specific centres of powers in society, which emerge from different levels and sides in society, and the ability and responsibility of different social subjects in society to activate tools and techniques for steering and guiding public affairs [8]. The Commission on Global Governance defines governance as a sum of many different forms of individuals and institutions, which manage their common affairs and interests [9]. These interests arise from different affairs and sometimes are diverse and in conflict among themselves. They need harmonisation and adjustment for further collective action. That includes formal institutions and regimes to empower them, and also the informal engagement of different institutions and subjects to support them. In that sense, governance represents formal and informal procedures for the strengthening of public institutions. The main point of governance is in the coordination of different subjects and actors in the implementation of different public policies, without subordination and a hierarchical approach [10]. That involves subjects in the private and public sector which are in continuous interaction in implementing different programs of public policies. Governance is distinguished from the traditional concept of “government”, which includes a traditional approach to the administrative and political capacities of state organization and its institutions. As in traditional administrative and political systems, “governance” requires authority and power to maintain its activities and programs. On the other hand, authority and power do not necessarily originate from government, but also, they are established as a result of cooperation between public institutions and institutions of civil society. This cooperation can be voluntary or mandatory, and it is mainly characterised as the equal social contract and relationship of interested parties. The main elements of this cooperation are decentralisation in political and administrative decision making, administrative flexibility of the state, public management created by the influence of principles which are marked as oriented cooperation between the public and private sector in the process of fulfilling of public needs. The difference between governance and government in administrative theory is always in the approach to the organization and functioning of the political and administrative system. Classic government organization and activities always lay down hierarchy and subordination. Governance develops a concept of decentralization, coordination and inclusion.

Good governance, as a specific model of governance and new political and administrative doctrine, usually includes some essential element which specifies influence on the organization and functioning of the political and administrative system. These elements are transparency, accountability, responsibility, openness, effectiveness and rule of law. Transparency assures availability of political information and possibility of controlling political processes and administrative procedures in public institutions and political and administrative bodies. In that sense, the activities of different actors are at the public's disposal and controllable by citizens and civil society organizations. Accountability is one of the elements which emphasises the responsibility of public actors for the effects of their public activity and decision making in political processes. Subjects in public sector, as holders of political responsibility and jurisdiction for some relevant public obligations have different types of accountability: political, legal and moral. Political accountability is established as a result of the election process, legal depends on the regulatory framework which determines the behaviour of actors in public space and moral depends on the ethical principles in society. Responsibility is direct repercussion of accountability, which is primarily visible as a political and legal responsibility where political inconsistency can be punished by lack of support of citizens in elections, and legal nonconformity can be sanctioned by legal institutions. Openness is an element of good governance which depends on the preparedness of institutions to include the public community and citizens in the decision-making process in political and administrative matters. Effectiveness depends on organizational aspects which refer to public management efficiency. Usually, it is determined by the organizational structure of administrative institutions with specific administrative procedures and administrative activities determined by the legal regulatory framework. This framework is usually a tool for developing and strengthening public institutions, but it can also solidify structures and relationships, which leads to a lack of effectiveness of administrative bodies. It is hard to assure rule of law according to the principle of legality, and, at the same time, create a system which will be able to redefine itself according to the changes and new advantages in contemporary society.

3.2 Determining good governance from international organisations

Many international organizations stipulate good governance as a fundamental administrative and political doctrine for sustainable economic growth, political stability and security [11]. In opposition, weak governance includes difficulties in the functioning of political and administrative institutions, such as corruption, criminal activity, nepotism, problems with transparency and insufficient legal activity. However, the main question here is how to determine good governance in the context of the development of other administrative doctrines. The main international organizations, which try to define good governance, usually determine elements characteristic for the functioning of good governance [12]. These elements usually are decentralization in processes of political and administrative decision making, deregulation, coordination instead of subordination, participation of citizens in the decision-making process, inclusion in political administrative activities in society, accountability for taken measures, not only for results of action. The important element of good governance is taking responsibility for all phases in decision making process. That is much different from the idea of management by results, which is a specific part of new public management, as administrative doctrine from eighties and nineties in last century. Accountability for all phases of the decision-making process is the main characteristic of “good governance”, which creates the framework for the participation of many different actors in society, not necessarily only the public institutions and organizations responsible for fulfilling certain public needs and jurisdiction to maintain public services.

The Organisation for Security and Co-operation in Europe (OSCE) provides measures for strengthening the mechanism of good governance [13]. Some of them advocate the recruitment of multi – stakeholder cooperation, providing technical and capacity building support, inter-agency co-operation and coordination, supporting authorities' efforts against corruption, supporting anti-corruption strategies and action plans, promoting the integrity of the public service through the development and implementation of codes of ethics and improving relevant legislative framework, supporting regulatory reform and simplification and introduction of e-governance solutions. These measures are oriented towards stimulating economic growth, political stability and security. The Council of Europe has determined 12 principles of good governance [14]. The first principle is related to the organization of free and fair elections, according to international standards and domestic legislation. Citizens play the central role in this process and are involved and participate in different ways in public life. People participate in the process of decision-making, directly through the election process or through intermediary bodies that represent their interests. Elections must be organized in a way that all citizens' voices must be taken into account in the decision-making process. Other principles define standards for organization and functioning of political and administrative system, such as accountability, implementation of sound financial management, protection of human rights, cultural diversity and social cohesion, sustainable development, innovation and openness, ethical principles and competence. One of the most important is sound financial management, which determines the financial aspect of the functioning of public institutions. According to this principle, multi budget plans are prepared in consultation with the public. Financial risks are properly estimated and managed. According to this, citizens' charges do not exceed the costs of delivering public services. Other principles define elements which are necessary for responsible conduct in public affairs including the provision of various public services to citizens and other subjects in society. Other principles help to develop the inclusion and participation of citizens in the democratic process.

In the public community, there are various interests which must be taken into account in the process of decision-making. Good governance includes permanent mediation between various interests of subjects in the community [15]. Decisions are usually made according to the will of many participants in the process of decision-making. The second important element is responsiveness, where rules, procedures and structures are adopted in legitimate expectations. The combination of different interests, according to the implementation of the principles of good governance is the key element to maintaining political and administrative decisions.

The Economic and Social Commission for Asia and Pacific of United Nations (UNESCAP) defines governance as a decision-making process and process by which decisions are implemented or not implemented [16]. This definition of governance administration is important, because it splits governance into two important parts: the first is focused on decision-making processes, which includes political aspects and elements such as democratic participation, inclusion, ethical principles and social cohesion. The second part includes implementation of political decisions in the daily life of the community, where decisions can be implemented or not implemented. Good governance has a political, but also a technical dimension, which depends on the organizational structure and administrative procedures of public institution, which has the obligation to apply decisions in the daily life of community and citizens. In that

sense, government is one of the actors in the decision-making process, with other actors, such as civic society, political organizations, non-governmental institutions and organisations, citizens with their initiatives, etc. Other actors are usually included depending on the level of government. According to the principle of subsidiarity it can be expected that local political units, which are close to the citizens and local community, would be placed with stronger participation of the citizens and their initiatives in the decision-making process at local level. Good governance represents a specific part of governance, which includes some major characteristics. Those characteristics are openness, accountability and transparency in formulating policy politics and decision-making process important for maintaining public services in the community [17].

These characteristics are similar to the principles developed by the OSCE, but with some specific elements. The main characteristics are participation, accountability, transparency, responsiveness, effectiveness, efficiency, equitability, inclusion and consistent application of the rule of law [18]. Their role is in consequent application of decisions created in the political process, according to the elements which defined governance. They must assure that corruption, nepotism, or other forms of negative social behaviour are minimised. Also, they must assure that voices of minorities or vulnerable groups in society have to be taken into account. The next important thing which they must assure is responsiveness to societal needs. Probably the most important characteristic which determines good governance is the rule of law which requires a fair legal framework which can assure permanent application of the law. That includes strong and independent public institutions, administrative bodies and an independent judiciary which can provide enforcement of law. Other characteristics contribute to the creation of the institutional network important for the standardisation of administrative procedures which are important in the implementation of good governance as administrative doctrine [19].

The European Union maintains the concept of good governance as administrative doctrine, which establishes the institutional framework for the functioning of administrative institutions, and keeps them separate from some basic democratic principles, such as rule of law and human rights [5]. Administrative institutions in member states and the Union were created on common principles which need to assure an effective and efficient administrative system separate from the political system [20]. Those principles are governed by technical regulations which define procedures and standards for providing public services. According to this, good governance defines new standards for developing public administration. An important part of developing good governance is the strengthening of institutional capacity and public services at local, regional and national level, where local social partners and non-governmental organizations have become the major priority in social and economic development, which induces structural adjustments and reforms [21]. There are several factors of good governance which impact on administrative capacity building: cultural and organization processes, involvement of civic society, a clear political and methodical approach, political commitment, a clear definition of responsibilities, exchange of the best practices, monitoring and evaluation of techniques, continuity and stability of the reforms [22]. Good governance supports an innovative approach in the public sector, which includes listening to and monitoring citizen's needs, opinions and proposals, analyzing citizens' feedback and preparing proper measures for efficient public policy. Developing a performance framework promotes result orientation of applying measures in public services activities. Activities in developing and promoting good governance as an important administrative doctrine, establishes new standards for the modernisation of administrative institutions in member countries. Those standards are referred by two theses: countries with worse governance than the EU core are likely to be refused full integration; the membership grade of refused countries is likely to increase as their governance improves [23]. The core principles and standards of good governance in the European Union are accountability, efficiency and effectiveness, openness and transparency, participation and rule of law [24]. Those principles are developed as typical framework characteristics for good government doctrine applied for the development of public institutions.

3.3 Good governance principles and private sector

Good governance principles are the main point for the analysis of public administration in the context reforms of the contemporary political and administrative system. Prerequisites for the development of the private sector and strengthening of economic activity are rule of law and functioning of political and administrative institutions. Without political or technical support which political and administrative institutions provide, it is difficult to expect higher development of the private sector and significant economic activity [25]. One of the main problems in that context is how to harmonize these aspects and provide a framework for stimulating development of the private sector. Good governance doctrine provides the possibility to improve the quality of public services and functioning of various administrative institutions important for the daily functioning of different administrative activities which various

administrative bodies provide. Principles of good governance are oriented towards achieving two different goals. The first is establishing an institutional framework for the functioning of various public services important for organizing and maintaining economic activities. The second is creating conditions fundamental to the development of an efficient and effective public sector, which will ensure the prerequisites to support economic and social development. Dynamic interaction in society with the role and impact of political and administrative institutions depends on economic, political and social aspects. In some periods, the focus of influence in the dynamics of social community development is the strengthening of public institutions and their public authorities. In others, the focus is on reforms to the public sector, which include rationalization, privatization and other neoliberal policies and measures oriented towards the organization of an efficient, flexible and relatively small public administration. Principles which defined good governance doctrine create the conditions for a regulatory framework important for a new approach to managing public services and the functioning of administrative institutions. In new circumstances, the role of public administration and governmental institutions has become more significant. New challenges, such as globalisation, changes in the balance of political and economic power in the contemporary world and emerging global threats such as pandemic disease and completely new economic and social challenges creates the need for a new approach to public affairs. These changes in democratic countries induce the need for a redesigned approach to the role and influence of the state and public institutions in contemporary society [26]. State institutions take over responsibility for the normal functioning of daily life, managing of public services and fulfilling of public needs. The emergence of the global pandemic initiates new understandings of the role of the state in modern society. Principles of good governance help to create a new paradigm of public administration in changed circumstances. New circumstances in social and economic life initiate needs for a new concept of public administration. This concept is based on good governance principles such as accountability of political and administrative institutions, participation and inclusion of the citizens in public affairs, strengthening of democratic standards which include openness and publicity in the functioning of public institutions, engagement of non-governmental institutions in maintaining public needs, transparency, responsibility and sustainable development with the strengthening of ethical principles and professional competences. Good governance as doctrine can help in the transition of public administration to be responsive to the new challenges such as climatic changes, global pandemics and changes in economic paradigms. Transition must take into account cooperation between different political, social and economic subjects at a national, regional and global level. This approach must assure multi-level governance with strong participation of public institutions. These circumstances induce a new environment for the dynamics of economic relations in contemporary society [27]. Principles of good governance represent a good base for the adaptation of public administration to new requirements from contemporary social challenges. In modified circumstances caused by the Covid-19 crisis and global economic and social changes, good governance principles can represent one of solutions for reform of public administrations and rebuilding of public institutions frameworks for developing the private sector and stronger economic activity.

One of the main elements of good governance is principle of subsidiary, which is the main principle in functioning of European Union institutions. Principle of subsidiary main focus in managing of public services locate on political and administrative bodies which are closer to the citizens, and that initiative contribute to political participation of the citizens, transparency and openness to the public. These elements are the key points for understanding how functioning good governance in democratic society [28].

Principles of good governance need to be specified for application in administrative institutions of contemporary states, as possible answer to global challenges. Doctrine of good governance can be useful tool for strengthening quality of public institutions and providing of public services. This doctrine is relevant for building of European institutions, but it also can be applicable for improving of public administration of national states and harmonization of various administrative systems across Europe, regardless of whether they are member states of European Union. Principles of good governance can provide better public services, and they can be useful for further democratization of national administrative systems. That can contribute in construction of new political and regulatory framework, which can be useful for stimulating development of private sector.

4 CONCLUSION

Good governance is a contemporary administrative doctrine which defines reforms and development of modern and quality public administration. It has developed in the last twenty years, as an answer to the other administrative doctrine such as new public management. This doctrine has been developed by various international organisations to strengthen decentralization processes in society, assure participation of the citizens in managing public affairs and to help reform the administrative system to one based on openness and transparency. Good governance doctrine incorporates the principle of subsidiarity as a main principle of the functioning of the European Union. The main purpose of this doctrine is in its different approach in formulating public policies in various public institutions. As administrative doctrine, New Public Management was based on deregulation, liberalisation and privatisation in the public sector. Good governance is focused on inclusion of the citizens, a participative approach, subsidiarity and rule of law as basic principles in governing the public sector. In that sense, good governance opens up space for action by different economic, social and political participants in society.

Social and economic changes caused by the pandemic empower aspirations for change to the present administrative, political and legislative framework, and creation of a new approach to the organization of public administration at local, national and supra-national levels. These changes are not only caused by pandemic disease, but also other global socio-economic processes that initiate new conditions and circumstances important for the social and economic development of society. Contemporary development of society, with new communication and information technologies impacts on the possibility of the participation of citizens in new governance and administrative processes in society. Public governance has become more visible and closer to the citizens. The possibility of their inclusion and participation in political process and public affairs is much expressed, especially in the local community. Principles of good governance present a significant tool for improving public institutions especially at local level.

Further development of public administration depends on many different objectives, which are the result of economic and social dynamics. Principles of good governance based on openness and transparency can help in the development of conditions for strengthening of private sector and economic development. New challenges, such as climatic changes, pandemics, growing imbalance in the development of all countries have a significant impact on the dynamics of economic and social growth. Good governance can help in transformation the present model of public administration by true implementation of modern information and communication technologies, which are necessary in transparently providing and delivering public services in contemporary society. This approach may stimulate economic development in society and support legal and administrative framework needed for the functioning of the private sector. In that sense, good governance represents an efficient tool for modernization of public administration, with public institutions responsive to support functioning and development of the private sector in society.

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STRATEGY OF PUBLIC RELATIONS AS A PART OF CONTEMPORARY MARKETING

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Abstract

In this paper, the object of consideration is a small company and as a subject and goal is to explore an effective model of introducing and maintaining public relations. In this sense, the methods of analysis and synthesis, ie induction and deduction, as well as abstraction and modeling, have been applied. First, the basic characteristics of small businesses are explored and identified, especially in globalized and dynamic market conditions. The researched data indicate a large participation of small enterprises in terms of employment and social product creation, but also their participation in the dynamization of the national economy. Special attention is paid to public relations and it starts from the scientific assumption that in small companies it is not only a marketing but also a managerial activity. This claim is based on the fact that a small business manager is usually the sole or predominant owner as he performs most of the creative and executive activities in running the business. In that sense, research has been done that has shown that public relations has a broader and more important function and not sales promotion. In addition, the goal is to research the model of introducing and maintaining public relations and defining the process of activities at the lowest possible cost. Therefore, the second hypothesis implies that the development of information technologies enables the setting up of a public relations process via the Internet with the aim of cost and time efficiency. Using scientific methods, IT opportunities provided by new technologies such as portals, blogs, forums, video conferencing and social networks were explored.

Keywords: Public Relations, Small Business, Internet, Information Technology

1 INTRODUCTION

Every company is part of the wider community, so in addition to the market, it must respect and maintain exemplary and mutually beneficial relations with the rest of the public. According to the already established definitions, public relations or English Public Relations (hereinafter also PR) are part of the promotion tool as an element of the marketing mix. The object of consideration are small enterprises, which play a major role, especially in developed economies. For example, in the U.S. economy, there are more than 27 million small businesses that generate about 50% of U.S. domestic product [**Error! Reference source not found.**].

In modern conditions, and especially in small companies, PR is becoming an increasingly important managerial activity because all managerial and creative work in most cases is performed by one person or owner-manager. Therefore, in the mutual interest, it should maintain appropriate relations with the relevant public, such as: customers and suppliers, local self-government and financial institutions, the media, and existing databases and centers of excellence. This is extremely important because the company is an integral part of the social and economic being of the community, whether local or national, so it is obliged to conduct its business in a way that improves the social and economic progress of the community, and not to hinder. [5]. In addition, the PR of every small business must deal with the overall image and reputation of the company as an entity in its environment. [6].

Given the limited costs, but also time, a small entrepreneur does not have great opportunities to establish and maintain relationships with the relevant public. Information technology can help him here, especially the recently ubiquitous social networks. The development of information technologies provides the entrepreneur with the opportunity to achieve all PR goals with a minimum of time and costs. In this sense, the hypothesis is set that by systematic introduction in stages with the aim of establishing and maintaining PR, all business and especially marketing goals can be achieved. Given that the object of this paper is a small company and as a subject and goal to research an effective model of introducing and maintaining public relations, appropriate scientific research methods have been applied. In order to determine the basic characteristics and role of small enterprises in national economies, but also the

function of managers, methods of analysis and synthesis, ie induction and deduction, were applied. These methods have also been used in researching and identifying opportunities offered by Internet technologies as a public relations support. By applying the methods of abstraction and modeling, a phased approach to the introduction and maintenance of public relations in small enterprises is defined. As part of the consideration and research in the text, attention is paid to the special features of a small business as an object of research. The research related to the development of public relations has covered a part of historical development. From a corporate perspective, the first PR department was established in 1889 at Westinghouse for the purpose of promoting a revolutionary AC system. In addition, at Yale University in 1899, the secretary's office was successfully converted into an office for former student and public relations officials. [7].

With the development of information technology, public relations activities have increasingly taken place on the Internet to communicate with potential and current customers in order to provide desirable information about the company, which greatly reduces unwanted comments. Public relations can accelerate and expand the distribution of press releases especially in today's global and highly dynamic market. In addition, interactive two-way and multi-way communication as well as communication mediation can be realized via the Internet.

In most cases, Internet PR aimed to influence the external image of a company or brand with the following tasks: [8].

- Acquisition and retention of new customers
- Communication and information
- Increasing public attention
- Creating a high cost-benefit ratio
- Improving reputation
- Measuring and managing success
- Achieving a high degree of topicality

The main feature of these beginnings of the Internet approach to PR is the asynchronous flow of communications because communication did not take place in real time. Teaching development went in the direction of modeling with the aim of increasing mutual synergy between companies and the public. The analysis of the development of possibilities of information technologies shows that different approaches are possible, and on this occasion the systematic introduction of PR by phases was chosen. Such an approach ensures the gradual introduction of the public relations function on the one hand and the education of entrepreneurs on the other. The discussion with concluding remarks has the purpose of explaining the research and warning about the proposed possibilities arising from the proposed PR model and introduction by stages. From the above considerations, it is clear that PR is a strong managerial activity in a small business that can be performed in an online environment with minimal loss of time and negligible costs. The continuation of this research is aimed at monitoring the development of public relations and especially information technologies and continuous education with the aim of effective application.

2 BASIC FEATURES OF SMALL BUSINESSES

In modern conditions, most, especially developed economic systems, are made up of a large number of small enterprises, but most employees are also in small and medium enterprises. It has long been known that data on small business appeared 4,000 years ago. According to data on the U.S. economy from 30 years ago, 88.9% of employees worked in companies with up to 10 employees and 91.3% in companies with up to 20 employees. To this can be added the indicative data that 99.1% of employees worked in companies that had less than 100 employees. Of course, not all companies are successful because there is data that in the US out of 600,000 new companies established annually, only half will live 18 months, and only a fifth ten years, but a similar number of new small businesses will be reactivated next year. From the previous data, it can be concluded how dynamic such an economy is. Therefore, the success of any economic system is based on the performance and volume of small businesses.

In modern conditions in the Republic of Croatia, according to the Act on the Promotion of Small and Medium-Sized Entrepreneurship, the sphere of small business has been formed, which consists of micro, small and medium-sized enterprises. They vary in size based on the following characteristics: [8].

- Micro small business entities (natural and legal persons)
 - employ less than 10 workers (annual average).

- generate annual operating income in the amount of the equivalent of up to EUR 2,000,000.00, or have total assets if they are taxpayers of profit tax, or have fixed assets if they are taxpayers of income tax, in the amount of the equivalent of up to EUR 2,000,000.00.
 - Small business entities (natural and legal persons)
 - have less than 50 employees (annual average)
 - earn annual operating income in the amount of the equivalent of up to EUR 10,000,000.00, or have total assets if they are taxpayers of profit tax, or have fixed assets if they are taxpayers of income tax, in the amount of the equivalent of up to EUR 10,000,000.00
 - Medium-sized small businesses (individuals and legal entities)
 - have less than 250 employees (annual average)
 - generate annual operating income in the amount of the equivalent of up to EUR 50,000,000.00, or have total assets if they are taxpayers of profit tax, or have fixed assets if they are taxpayers of income tax, in the amount of the equivalent of up to EUR 43,000,000.00.

According to the Report on Small and Medium-Sized Enterprises in Croatia for 2018, the importance of small and medium-sized enterprises is visible. Namely, in the period from 2013 to 2017, the numerical department of micro and small enterprises in the total number of economic entities in their years was 98%. If small and micro enterprises are added to medium, then their percentage is 99.7%. This means that special attention should be paid in the research of smaller economic entities in order to find various innovations whose application can enable the stability of these entities. This is especially important due to the fact that even in developed economies, many small start-ups do not last. In addition to this information, the fact that small businesses have advantages and certain disadvantages should be taken into account. [9].

Small businesses have the following advantages:

- In a small business, each employee feels part of a shared process.
- There is a greater opportunity to highlight personal particularly professional ambitions.
- Every employee feels an appropriate share of responsibility.
- A small business will be more productive and with a greater degree of discipline.
- Almost all interested employees can be involved in development programs.

In addition to the obvious advantages, the following disadvantages should be borne in mind:

- Insufficient knowledge, especially in the field of finance and informatics-
- Patriarchal leadership.
- Insufficient level of group decision making.
- Great reliance on improvisation and intuition.
- Overloaded with a large number of functions.
- Insufficient use of the achievements of the development of technique and technology.

These advantages, and especially the disadvantages of small businesses, suggest that there is considerable scope for researching the way businesses do business and imposing proposals to increase the efficiency of small businesses. As already mentioned in small businesses, the owner is in most cases a manager, so he is responsible for almost all creative and management functions and thus marketing. As part of the marketing mix or promotion as part of sales promotion are public relations. Further research shows that especially in small businesses, public relations is becoming an increasingly important managerial activity. Therefore, in modern online conditions, in order to reduce costs, public relations should be performed with the help of information Internet technologies.

3 PUBLIC RELATIONS AS MARKETING STRATEGY

Figure 1 shows the organizational structure of a small business, where marketing and the place of public relations in it are especially emphasized. Since all marketing activities are usually performed by one person or owner-manager in a small business, this must be supported by information technology. Namely, in a large number of cases, all production and marketing activities are contained in one person or manager who is also the owner of a small business. In this sense, it is necessary to research the market, which means to find a group of consumers who will be similar in their reactions to the products offered and to identify a group that will behave similarly in buying and consuming, which means to determine the market segment. Similar procedures are carried out in the procurement as well as in the sales market. After determining the market segment of purchasing and sales, one constant marketing activity or promotion is needed. Promotional activities can be done in different ways, in the form of advertising, personal sales and sales promotion, what can be seen on Figure 1.

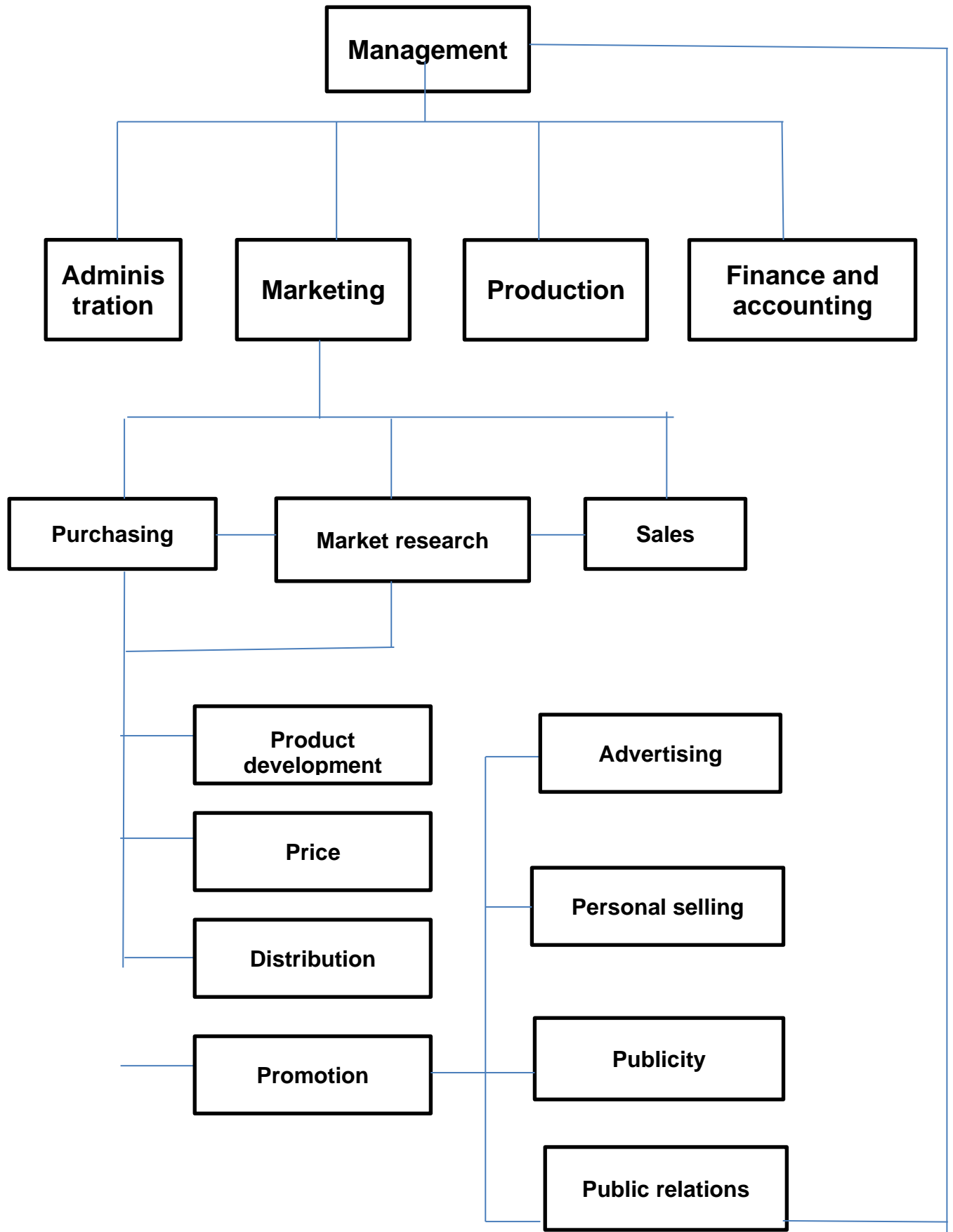


Figure 1. Organizational structure of a small business

Special attention should be paid to public relations activity. There are several definitions of this activity and in this case we have the following: "Public relations is a decision-making practice that has the task of building relationships and interests between organizations and their publics by providing information using communication methods that are ethical and trustworthy." In terms of publicity in the company's environment are: the media, customers and suppliers, financial institutions, local government and databases. In a situation where usually one person needs to perform all management and creative activities, an extremely important factor is cost and time. In addition to limiting costs, there are research results where 60% of respondents-entrepreneurs believe that PR, along with operations, is an important managerial strategic activity. [10]. Therefore, it is proposed in the organizational structure of a small business that PR be, in addition to tools to improve sales, one of the important activities of managers or owners of small businesses.

4 INTRODUCING AND MAINTAINING PUBLIC RELATIONS IN AN ONLINE ENVIRONMENT

After the necessary IT education, a small entrepreneur can gradually approach the introduction of PR, and the Internet is becoming an increasingly important tool. According to Figure 2, it is recommended that this be done in stages, because in this way the process of PR development and IT education of entrepreneurs will take place in parallel, ie how to use new information technologies and different information platforms for their own public relations.

The process in Figure 2 should be correlated with the development of information hardware and software. It all started when a networked hypertext system was developed for CERN called the World Wild Web (www for short) that included HTML language and HTTP protocol, so after installing it on a computer, the first web server was created. After that, the possibility of connecting the www network with other computers was developed and Web 1.0 was developed, as well as connecting commercial and non-commercial networks, which became cheaper.

Opening a web portal or profile on the most famous social networks is the minimum that every new entrepreneur should do. With the help of this, in a short time it will determine the possible boundaries of the market segment and even the group of the most important customers and suppliers. After determining the market segment and the grouping of the most important customers and suppliers, the entrepreneur can move on to the next phase, which is a personalized web portal. The main goal of personalization is to deliver information that is important to an individual or group of individuals among customers and suppliers in a specific form, schedule and time intervals. [11].

At this stage of development, the PR entrepreneur already addresses his public directly, which means that he communicates asynchronously because he can get answers and comments after his information. In this way, conditions were created for other sections of the public to be involved in order to participate in the discussion. This type of discussion is known as a forum which is actually the technological evolution of bulletin boards. From a technological point of view, forums or web boards are applications that manage user-generated content. Early online forums could be described as a web version of an electronic list or newsgroup; allowing people to post messages and comment on other messages. Subsequent developments have mimicked different newsgroups or individual lists, providing more than one forum, dedicated to a particular topic. The team has the opportunity to provide additional information about their own products and services and to reconcile common interests.

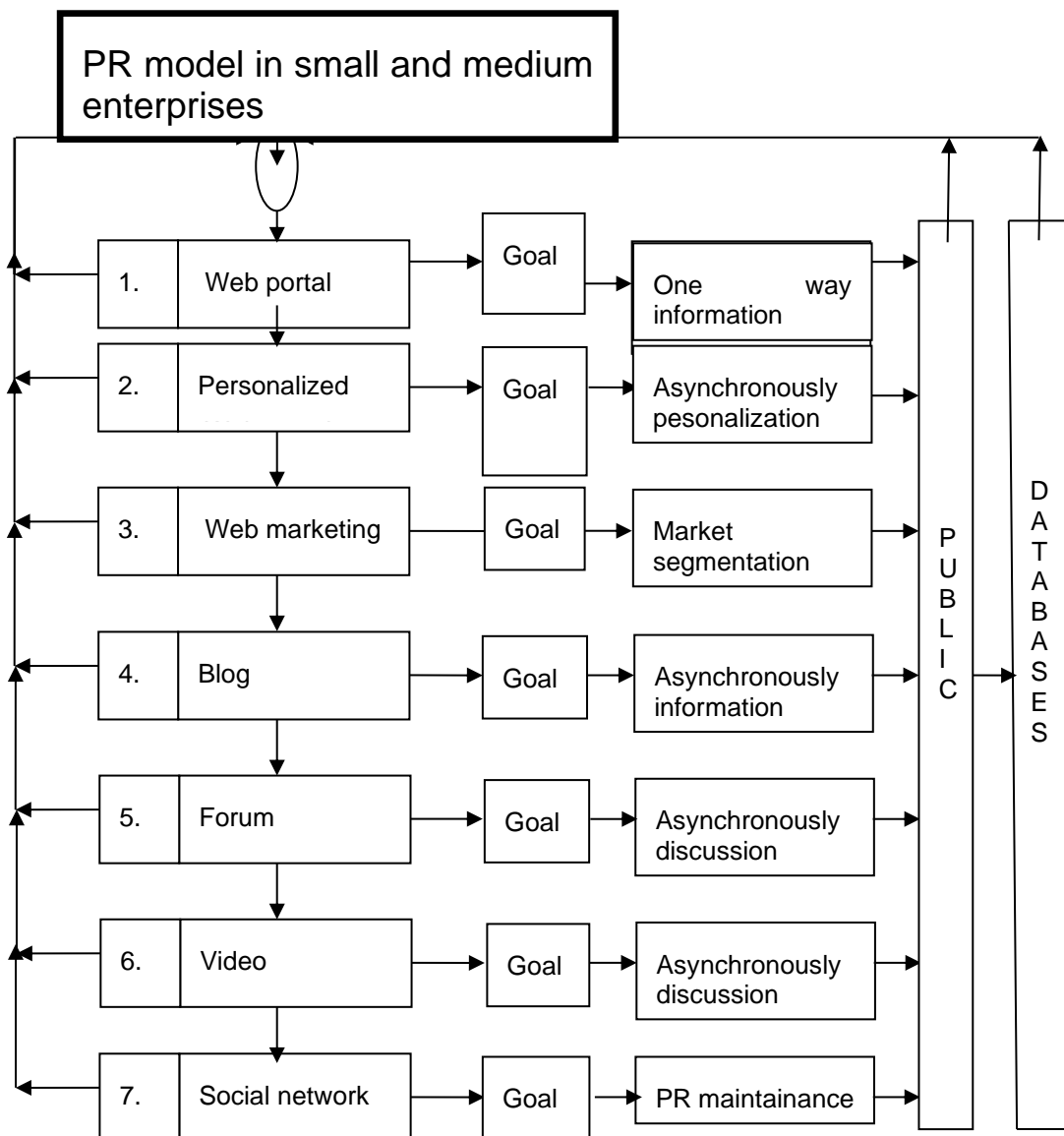


Figure 2. Proposal of PR organizational structure of a small business

The development of information technologies on the one hand and the entrepreneur's education in the next phase enables synchronous communication through video conferencing, which is organized by agreement from time to time with all interested sections of the public. Videoconferencing is the connection of individuals and groups through telecommunications networks and video technology so that participants have the impression of simultaneously attending meetings in the form of a live video link on a computer screen. This type of synchronous discussion provides an opportunity for all participants to inform each other, but also to draw conclusions of mutual interest, what can be seen on Figure 2.

After the establishment of PR with all participants in the previous stages in the coming period should ensure the sustainability and effectiveness of established relationships. Additional features that maintain and refresh PR can be social networks, which in principle can be defined as a web-based service that allows an individual to create a (semi) public profile and within a limited system, articulates a list of other users with whom he shares connections and sees and compares his list. contacts with those made by other users within the system. [12].

There are many ways in which a social network can be used, such as: creating your own profile, areas of interest and preferences, searching for and finding old or making new friends, exchanging pictures and videos, but you can become a member of certain interest groups. There are several types of social networks, and on this occasion, Facebook, Instagram and LinkedIn will be especially highlighted. The concept of Facebook was designed to connect people who already know each other in real life via the Internet. The main feature of Facebook are numerous applications because, for example, it is possible to have virtual pets, receive virtual gifts and greeting cards, solve quizzes and play video games. Facebook offers the possibility of privacy control, so the user can hide their profile and photos and protect themselves from unknown visitors. Instagram is a popular free app for processing and sharing photos via mobile phones on social networks. LinkedIn is a business-oriented social networking service and is mainly used for professional networking especially in recruitment and sales. All these social networks provide the opportunity to personalize each other's information after synchronous discussions. This means that the entrepreneur creates even closer relationships with customers and suppliers, but also with the rest of the public. In that way, a long-term connection is realized with minimal costs and loss of time.

In order to successfully apply the proposed phased approach, positive attitudes and suggestions were made to pay special attention to the following: [12].

- Providing information on the website on aspects such as investor relations, organizational programs and policies, community involvement and employee relations. This could open the door for public participation and debate.
- Creating a forum for comments and suggestions. This forum could function as a chat room where a visitor can enter a message and receive an immediate response from a company representative or another visitor. Such a forum could function like a 24-hour, 7-day focus group.
- Intuitiveness and ease of display is required along with a hierarchical relationship between graphics and text in order to promote efficiency and download speed, as too many graphics can bother users who are short of time. Websites should not be designed to be accessible only to users who have the latest hardware or software but should be interesting, informative and contain valuable information to all visitors. Graphics and sounds must be useful tools, but content should take precedence over aesthetic considerations. Dialogic public relations must create lasting and valuable relationships with your public and therefore the website must not be used just as propaganda, marketing or an advertising tool.

Previous analyzes of the researched possibilities of Internet technologies show that there are numerous possibilities for effective introduction and maintenance of public relations, especially when this activity is contained in one person or manager of a small company. After the establishment of the aforementioned process of establishing public relations, a small entrepreneur should continue to hold synchronous discussions in order to give innovations to all interested parties in one go, and further maintain this through personalization through social networks. In any case, a particularly small entrepreneur at the beginning of the business should organize the process step by step. In conclusion, it can be stated that PR is not only a marketing tool but also one of the important management activities that can be most effectively carried out using Internet technologies.

5 CONCLUSION

Marketing communication is a two-way conversation between the company and potential and actual customers of product and brand, and public relations are part of that strategy. [13]. The accelerated development of information and communication technologies has led to a change in the way the economy sector operates. [14]. First of all, small businesses are an important factor in any, especially developed economic system. This is shown by data obtained from relevant foreign and domestic sources. In addition, PR activities should be given special attention because it is part of marketing but also a managerial activity in small businesses. In particular, it should be borne in mind that all creative and management tasks in a small business are performed by one person. Therefore, it is proposed to use Internet opportunities in the introduction and maintenance of public relations in a small business. After analyzing and defining PR as one of the managerial activities, the phased introduction of PR with the help of the Internet is proposed. In that sense, the steps are listed and their functions are explained. In scientific terms, it has been confirmed that PR in small businesses should also be performed online and introduced in stages. This is confirmed by the analysis of several relevant sources as the fact that PR, especially in small businesses, is not only a marketing tool but also an important managerial activity. In terms of development, PR can be maintained and increase quality in accordance with the

development of information technology. This approach can be effective in the application in small enterprises of the Republic of Croatia and the wider region, especially the part that is even at a slightly lower level of economic development. As a direction and goal of future research on the development of public relations, it can be research on the greater role of centers of excellence and especially scientific research educational institutions

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ENTREPRENEURIAL COMPETENCES AND MANAGERIAL SKILLS NECESSARY TO ADOPT CRM AND IMPLEMENT IT SUCCESSFULLY

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Abstract

The goal of this paper is to try and give an answer to a fundamental question, namely why so many failures with CRM that, on the contrary, according to the latest literature contributions is supposed to be an excellent strategy for companies' success?

We try to demonstrate how the problem is not with CRM in itself but with the incorrect approach of entrepreneurs and managers, which is essentially due to a low level of specific entrepreneurial competences and managerial skills.

Analysing the literature we identify 12 critical factors for CRM adoption and implementation and we describe the research we carried out to demonstrate the strict correlation between them and companies' success.

We finally draw some conclusions and we focus on some suggestions to improve the present situation.

Key words: CRM. Entrepreneurial competences and managerial skills. CRM critical factors.

1. INTRODUCTION

In one of our recent contribution, D'Arconte [1], we made a thorough research regarding the different perspectives about CRM and we concluded how it should be considered nowadays a fundamental and indispensable strategic approach to business. We also explained how this should be put in practice, indicating the two cornerstones to refer to, namely:

- Evaluating and monitoring systematically and scientifically the customer satisfaction level of customers
- Investing selectively in the retention of the most profitable customers avoiding to get involved in a continuous research of new ones.

In this way the CRM adoption and implementation offers substantial financial benefits for companies and in this regard, just to give an example, Gengeswari [2], provides a general quantitative evaluation of the benefits of this approach as he states that "profit can increase by 25% to 95% with a mere increase of 5% in customer retention rates. Thus, it is wise to conclude that a small increase in customer retention rate will further accelerate firm's profits".

Unfortunately, while CRM reasonably seems to be a winning strategy for companies, there is evidence of a lot of failures as indicated for instance in the Gartner-group report, [3], and many entrepreneurs and managers have serious doubts that it can produce good financial results.

It is therefore absolutely reasonable to ask ourselves what may be the reasons for these failures; is it possible that CRM is not producing results because entrepreneurs and managers do not yet have the right approach to it? In turn, may this depend on the fact that among them there is a low level of some specific competences that are essential for the successful CRM adoption and implementation? In the affirmative, what are they and how can we measure them in relation to CRM success?

2. LITERATURE REVUE ABOUT ENTREPRENEURIAL COMPETENCES AND MANAGERIAL SKILLS FOR CRM SUCCESS.

Studying the literature, an important starting point are Mitchelmore's [4] and Chandler's [5] contributions. Mitchelmore reports how most researchers recognize that there is a major dichotomy in entrepreneurial competencies, and differentiate those that are necessary to start a business from those to manage the business through growth. Chandler comes to the conclusion that business founders must assume three predominant roles in their businesses and these are:

- a. Technical-functional role: namely the job-specific technical competences related to a particular business;
- b. Entrepreneurial role: the reference in this case is to individual characteristics or 'personality traits' that are important to be successful;
- c. Managerial role: this regards the skills to run an already established business and therefore they are more technical and to a certain extent more routinized.

Let's analyze them briefly:

- a. Technical-functional role: "To be competent in the technical-functional role, founders must be able to use the tools or procedures required in their specialized field (Pavett and Lau, reported by Chandler [5])."

This seems extremely clear and even trivial: for instance, if we want to run a printing factory, we definitely should know a lot – if not all – about printing. Nevertheless, entrepreneurs as a general rule, do not go any further and, as Antonik [6] states, they invariably have a very good understanding of the processes related to the products or services they offer, but they know little, or nearly nothing, of the scientific and time-honored methods of business management. Unfortunately, the problem is that these technical competences, though necessary and difficult to be acquired, are not sufficient at all to run a business efficiently.

We can then make a first important assumption about entrepreneurship in general, as follows:

First assumption: technical competences, though necessary, are in no way sufficient and entrepreneurs should also refer to general Business Administration principles to start and run a business successfully.

As CRM as its own technical aspects, we can reasonably extend this assumption to CRM, too.

- b. Entrepreneurial role: the focus is here on the 'personality traits' that are important to be successful in case of entrepreneurship; in this regard, after a long study of the literature, we identified 5 fundamental aspects, namely 1) Extraversion 2) Agreeableness 3) Openness 4) Entrepreneurial alertness 5) Adaptability in relationships.

We then tried to spot a common denominator that might substantially encompass all of them and with Ganesini [7], we found out "how the ability to read others accurately, to make favorable impressions, be persuasive, influence the quality of these interactions", seems to be of capital importance.

In fact, to run a business, entrepreneurs must establish successful relationships with customers and also with a lot of other players, namely with all stakeholders. In this regard, Pensieri [8], goes more in depth highlighting the Neuro-Linguistic Programming (NLP) fundamental role for a successful persuasive communication, on the basis of principles such as "Synchronization", "Mirroring" and "Matching". In simple words, the basic NLP underlying idea is that if we find out our interlocutor's particular "communication style" and we are able to adapt ours accordingly, we have more possibilities to create a good rapport.

This particular skill will be for sure fundamental in CRM, considering that this is based on establishing, maintaining and developing good business relationships.

The table below, summarizes very briefly the in-depth study we made regarding the different aspects of Social Competences, to arrive to the general concept of Persuasive Communication Competences.

Table 1. From “Social Competences” to Persuasive Communication Competences

		SOCIAL COMPETENCES		
Extraversion	Agreeableness	Openness to Experience	Entrepreneurial Alertness	Adaptability in Relationships
		PERSUASIVE COMMUNICATION COMPETENCES		

We can then make another important assumption as follows:

Second assumption: communication competences play a fundamental role for CRM success.

c. Managerial role: in line with Chandler's [5] indications, we are here considering the skills necessary to run an already established business, namely the skills that are necessary to manage common, partly repetitive situations to be found in every organization. Substantially the focus is on Business Administration, a discipline based on principles that are a common denominator for all companies, regardless of the particular kind of sector and work. This applies to business in general and now we will try to find out what is necessary in case of CRM.

To start with, we already mentioned in the introduction how in one of our previous contributions, D'arconte [1], we concluded how for CRM success it's fundamental to focus on two external aspects, namely customer satisfaction monitoring and retention of profitable customers. Therefore we can consider both these aspects as fundamental assumptions about CRM, as follows:

Third assumption: companies must systematically and scientifically monitor the customer satisfaction level of their customers;

Fourth assumption: they must selectively invest in the retention of the most profitable customers, avoiding to get involved in a continuous research of new ones.

We then continued our study of the relevant literature and we found three other fundamental topics related to the external environment that unequivocally have a high impact on CRM, namely 1) attention to stakeholders 2) correct promises in advertisement and 3) correct approach to market. Let's analyze them briefly:

- Stakeholders: Companies, especially in a highly competitive environment, should be constantly looking for institutional, economic and social consensus and legitimacy. Their business is based on an ongoing exchange with other players in the context of relationships built up and managed through communication. To put it with Gregory's [9] words, the companies' brand must be “negotiated” and so to say “sold” in a successful and continuous way to all stakeholders.

- *Correct approach to the market:* In the present world where competition is continuously growing, the only possibility to make a high and honest profit is to be able to offer customers products or services that really meet their needs and for this - as Nikitovich [10] states – “instead of trying to persuade customers to buy product already produced, companies should offer only those products for which previous research has proven that customers want them”. Apart from this, according to the market perspective on CRM as indicated by Cambra-Fierro [11], these products should not only satisfy customers' needs but that they should also do this in a better way than their competitors can do.

- *Correct promises in advertising:* in order for customers to be really satisfied – an indispensable condition in case of CRM - companies must make another important effort and learn to be fair with their customers even before the relationship starts, namely when they advertise their products and services. In fact, when promoting them, companies are substantially making a promise, a declaration of this kind: “Buy my product and this will satisfy your needs!” Some slight exaggeration in advertisement may be tolerated but the product will really have to be in line with promises and match the expectations created in customers, otherwise advertising won't only be useless but may also entails a negative “boomerang effect”.

We can now make three other assumptions about CRM important external factors:

Fifth assumption: companies should constantly take care and monitor all their stakeholders and not only customers;

Sixth assumption: for a correct approach to market they should proactively monitor their customers in order to offer, constantly and over time, products and services that really satisfy their needs in a better way than competitors do;

Seventh assumption: they must be fair with their customers, avoiding excessive promises in advertising regarding their products and services.

We have now to take into consideration internal aspects and, greatly summarizing the in-depth research we made, we identified five important factors: 1) Personnel 2) Leadership 3) Technology 4) Organizational integration 5) Corporate culture and climate. Let's examine them briefly.

Personnel: Ernst [12] states how "not only does successful CRM involve the integration of processes and technologies, but it also requires the support of individual members of the organization".

Reinartz [13], posits how "companies should stress to employees that CRM activities are important, structure their organizations to facilitate these activities, and reward employees for engaging in CRM-related activities". Therefore, due to its importance, the recruiting and selecting of the personnel is an extremely important and complicated issue; in this regard, the basic principle is that people should be selected in the most scientifically way for a job that is in accordance with their personality traits and professional skills, because people cannot be changed, as Watzlawick [14] very clearly warns. In case of CRM, the common denominator for the personnel should be a strong customer orientation and a natural inclination to establish good relationships.

Leadership: As Elkordy reports [15], customer orientation must become part of the organizational culture and therefore managers - apart from being themselves perfectly customer oriented - must also be able to pass on to their staff the importance of customer orientation, in order that this may be deeply assimilated into the organizational culture and, for this, an excellent leadership will be definitely necessary.

In this regard Grabo [16], suggests to focus on emotional aspects because leadership is rather different from management as indicated by Bass [17]. In fact, managers are interested primarily in gains and losses and, as for employees, they believe that they should be grateful to have a job so to be earning a living wage and that they are stimulated by their pay-check and the benefits the company gives them. Unfortunately, as the author states, this type of leadership leads normally employees to mediocrity, because they do the required amount of work, but they have no internal incentive to go beyond that.

On the contrary a "Transformational Leader" acts in a way to get better responses from employees because he motivates them intrinsically, giving them an inner desire to do better, rather than just stimulating them extrinsically with salary increases or other monetary rewards.

Technology: Technology is an element of CRM that many definitions have been until recently heavily highlighting, with the consequence that - rather often - CRM has been considered only as an advanced technology; anyway, this is a serious mistake because, as Cambra-Fierro [12] very wisely points out, technology though important while managing CRM, it is not all and technologies alone rarely provide direct value to firms; instead, these technologies are most effective when combined with other firm resources and processes.

Josiassen [18] highlights that there has been an evolution in the way CRM has been viewed, moving from a technological enabler of simple automated processes to a comprehensive approach to managing customer relationships. Therefore, continuing to consider CRM only as a technology, is nowadays not only anachronistic but also misleading and even dangerous. In fact, according to some authors, an excessive focus on technology embodies most likely the main reason for its failure: as Dalla Pozza, [21] states, CRM projects tend to fail if technological investment is the only consideration with no significant attention to, for instance, a clear definition of the customer-oriented strategy or the employee training effort that is necessary to instill a new customer-centric philosophy.

Organizational integration: As Dalla Pozza, [19] points out, the harmonious integration of the different CRM dimensions plays a crucial role in CRM's ability to create value for the customer and the firm. Substantially the management must be able to integrate in a harmonious way the fundamental components of CRM, having in mind that every one of them highly conditions the next one in a hierarchical way. A really customer oriented management is the first indispensable condition that makes it possible to have the right motivated people for every position; in turn the right personnel may proactively contribute to establish the most efficient processes and procedures with the management and this will finally allow to choose and implement the best technology to support CRM and ensure the best data flow for all members of the organization.

The harmonious integration of these three elements, seems to be an extremely important requisite to have an efficient CRM system.

Corporate culture and climate. Another important aspect is the environment where the personnel is going to work; for CRM implementation it will be fundamental to be able to build up an efficient organization with the appropriate organizational culture and climate, concepts that we will now briefly analyze.

The culture, according to Edgar Schein [20], is a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel, in relation to those problems.

The climate, strictly related to corporate culture, according to Pritchard, [21] may be defined as relatively stable qualities of an organization as they are perceived by its members and used as a basis to interpret every situation. Substantially the unique culture of an organization creates a distinct atmosphere that is perceived by the people who work in it; we could say that it is the “air they breathe” when they are within it.

A fundamental point is that, once established, both corporate culture and climate become a permanent characteristic of the organization and they will tend to persist over time resisting to attempts to change it as Ferrante [22] highlights; therefore, before adopting and implementing a successful CRM system, entrepreneurs must be sure to have or to be able to establish the right culture and climate, otherwise CRM will not perform at its best or may even be a failure.

At the end of this analysis we can make five other important assumptions about CRM internal aspects:

eighth assumption: the personnel is a fundamental asset and must be selected and motivated in the best way;

ninth assumption: the management must have a strong leadership in order to spread customer orientation across the organization;

tenth assumption; to adopt successfully CRM, in no case should companies believe that only and advanced technology may be sufficient to be successful;

eleventh assumption: there are three fundamental components to be aligned and integrated by the management along with a precise hierarchy; 1) a management team strictly oriented to customers 2) the right personnel, procedures and processes 3) the right technology

twelfth conclusion: organizational culture and climate are fundamental and cannot easily be modified.

We have therefore 10 other assumptions about managerial role that we can add to the previous two regarding general entrepreneurial competences so that we have a total of 12 assumptions and every one of them entails, for the success of CRM, a specific managerial behavior in every correspondent situation.

In the table 2, we show the general outline of the 12 key drivers, 2 general entrepreneurial competences and 10 managerial skills, that we have analyzed until now and that we reasonably assume to be fundamental to start and run a CRM system successfully. Managerial skills have been divided in two groups, in the first on the left, there are those regarding internal aspects, in the second on the right, those in relation to external ones.

Substantially, we are supposing with this general outline of CRM competences, to have identified the twelve most important factors that in a synergistic way may cause the success or the failure of CRM.

Table 2. General outline of entrepreneurial competences and managerial skills for implementing a successful CRM.

	GENERAL ENTREPRENEURIAL COMPETENCES	
Job-specific Technical Competences		Persuasive Communication Competences
	MANAGERIAL SKILLS	
Internal aspects		External aspects
Human Resources		Stakeholders
Leadership		Promises in Advertising
Approach to technology		Monitoring Customer Satisfaction
Organizational integration		Retention of profitable customers
Corporate Culture and climate		Approach to market

Evidently this is just an hypothesis and its validity had to be tested; for this purpose, on the basis of the same outline, we prepared a questionnaire with twelve statements, each corresponding to every assumption, and we then carried out a research on a sample of companies.

3. CARRYING OUT THE RESEARCH

We used a classic Likert scale with 7 scores, from 1 to 3 for decreasing values of disagreement, 4 as a neutral answer or “I do not know” or “No answer”, and from 5 to 7 for increasing values of agreement; in this way it was possible to give a score to every questionnaire and measure the level of competences.

To evaluate the validity of the assumptions about the twelve critical factors, we introduced in the questionnaire a specific question to ascertain whether entrepreneurs’ business was successful or not, in relation to objective criteria such as an increase over time in market share, revenues and profit. This was done to study the correlation between the score totaled with the questionnaire and the level of success.

We then interviewed approximately 100 entrepreneurs mainly from Italy and Bulgaria; the sample was a convenience one, as interviews were carried out on the basis of the availability of entrepreneurs.

We checked the consistency of the questionnaire with Chronbach’s alfa and we found a value of 0,6983, an indication of a good consistency especially if we consider the low quantity of items involved (twelve).

4. RESULTS OF THE RESEARCH

The total score was 675.4 versus a total possible score of 1,116 (12x93), with a 60.51 % of right answers: and therefore a rather low level of competences and skills with an average of nearly 40% of wrong answers. As for the score of the questionnaire, the lowest value was 0 (only in one case) while the highest 12 (in one case only) with an average score of 7.26 (675,4/93). We also evaluated the results of the single statements in relation to the total maximum total score of 93, and we ranked by increasing values the total value of every statement, as Fig.1 shows, where we can see the different “impact” that the 12 factors seem to have in determining the outcomes of CRM. In fact, according to the table we can identify five classes with a decreasing value of wrong answers:

- The first class, related to Technical Competences, really seems to heavily condition the outcomes of CRM and more in general of a business, because most entrepreneurs (76%) declare to rely only on their technical, business-related knowledge, ignoring completely the importance of general entrepreneurial competences and managerial skills;

The second class, related to Corporate Culture and Organizational model shows more than the half of wrong answers - from 56 to 52 %;

- The fourth class is related to Approach to market, Leadership and Communication skills, with wrong answers between 33% and 28%;

- The fifth class concerning Stakeholders and Promises in Advertising is the one where entrepreneurs perform less badly, with a 14% of wrong answers.

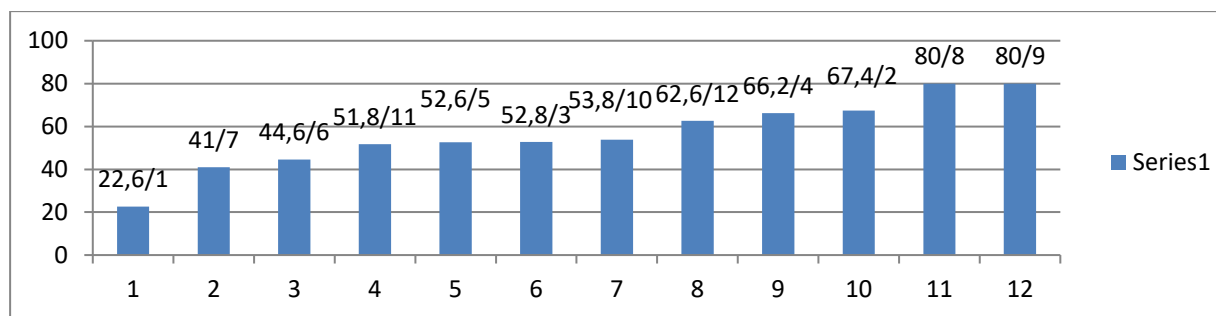


Fig.1. Score per statement ranked by increasing order.

We then used regression analysis to study the correlation between the score totaled in the questionnaire and the level of success of the interviewed companies, and we found a high value of $R^2 = 0.8852$. The relevant adjusted R-Squared is 0,83348 and therefore we have in both cases a high level of correlation. This - at least as far as our sample is concerned – proves that companies with a high score perform successfully confirming the high impact of the 12 critical factors for CRM successful adoption and implementation.

5. CONCLUSIONS AND LIMITS OF THE RESEARCH

The research we carried out shows that companies with a high score in the 12 critical CRM factors are also successful; this, in turn, allows us to conclude how not only we managed to identify the competences and skills that play a fundamental role for starting and running successfully a CRM system, but also that a fundamental reason for the many CRM failures is the very low level of entrepreneurial competences and managerial skills.

In fact, in general, we can say that an average of 40% of wrong answers, in a provocative but also rather impressing way, may be roughly tantamount to making 4 wrong decisions out of 10 and, in business, every mistake inevitably means losing money.

If on top of this we consider that the same mistake will be repeated by the entrepreneur every time he will have to tackle the same issue, it's not difficult to see the serious negative impact that this may have in the long run on the financial outcomes of a business.

More specifically the first class, related to Technical Competences and Skills, really seems to heavily condition the outcomes of CRM, as most entrepreneurs (76%) declare to rely only on their technical, business-related knowledge, ignoring nearly completely the importance of general entrepreneurial competences and managerial skills.

They also do not perform well in the two pivotal items to implement a CRM strategy, namely the focus on a smart retention and customer satisfaction monitoring, with a percentage of 44% and 41% of wrong answers respectively.

It also seems very high the percentage of entrepreneurs (43% of wrong answers) who rely too much on technology, one of the main reasons for CRM failures. They continue to invest a lot of money “enthralled by idyllic possibilities depicted by software vendors”, as Chen states [24], paying little or no attention to other fundamental CRM aspects.

Another important point is that a considerable number of entrepreneurs still have the wrong self-centered old fashioned approach to market (33% of wrong answers); it appears that for them customers are “resources” to exploit rather than people or companies with needs that they should satisfy. Too many entrepreneurs still do not seem to understand that nowadays, in a world where competition is continuously growing, the only possibility to make a profit is to offer products and services that really meet customers’ needs and in a better way than competitors can do.

Markman [23] quoting also many contributions from other authors, points out how in case of equal conditions, the stronger the competencies, the greater is the possibility of success for companies;

unfortunately, this inevitably also means the contrary, namely the lower the competences the higher the mistakes and the worse the results may be. This explains the high number of failures in CRM adoption and implementation.

As for the limits of the research, considering the way, we selected our target, it's more than evident how ours is definitely a convenience sample, namely a non-probabilistic one, because it was taken from a group of entrepreneurs on the basis of their availability rather than on a random criterion.

Apart from this, the samples are definitely extremely limited compared to the total population: for instance in Italy, in March 2018, companies totaled 6,070,000 according to Union Camere [24] and in our sample, out of 93 interviews with entrepreneurs, only 67 are related to companies operating in Italy.

6. FUTURE OUTLOOKS

We believe that we should firstly invest in further research in order to see whether the results we obtained are confirmed. If so, different actions should be taken to make some important optimizations.

In fact, nowadays CRM, according to the latest literature contributions, is an indispensable strategy that companies must adopt to be successful; to put it in clearer words, according to Tohidi [25], CRM rather than a choice or an alternative, is nowadays a 'necessity' and this is substantially due to the high level of competition of the present socio-economic environment, together with customers increased possibility to find very easily satisfactory and even better alternatives to their needs.

We found out with our research that the many CRM failures seem to be caused mainly by a low level of competences and skills among entrepreneurs and managers; now the managerial skills necessary to run an established business, can be studied and learnt; it's just a matter of engaging oneself seriously for some time, better under the guidance of an experienced consultant and possibly leaving aside the presumption to know already everything about business. As for entrepreneurial competences, this is more complicated as they are strictly related to personality traits, which may be difficult to modify substantially but that, in any case, can be significantly improved.

Substantially, it seems fully reasonable that investing resources to spread CRM culture may have a high positive effect, first of all in improving the financial situation of single companies, something that especially in these last times we really badly need.

Apart from this, in a broader perspective, if we imagine that the state makes large-scale investments to spread CRM culture on the whole country, this would most likely give a great boost to the entire economic system, as an excellent economic policy measure. In this regard, we should only wish that the State understands better the role and the importance of entrepreneurs, assisting and supporting them in carrying out their businesses, rather than taking care only of collecting taxes.

As we see, there is a lot that can be done to improve the present situation and, considering the low level of competences and even more the serious degree of illiteracy unawareness among entrepreneurs, we have reason to believe that a little investment in this direction may generate substantial positive results that not only may save many companies and jobs, but also entails significant economic benefits for the whole society.

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THE NEW CHALLENGES AND PERSPECTIVES FUTURE OF WORK

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ABSTRACT

The huge impact of the COVID-19 pandemic is obvious in all sectors of economic activity, so the virus has become as economically "contagious" as it is medically. The crisis caused by the COVID-19 pandemic is one of the greatest crises of civilization, in terms of scope and duration, and the social, social and economic aspects of life are endangered. The negative economic impact of the pandemic is evident in all segments of the industry, because it caused the closure of production facilities, cessation of production, dismissal of workers, reduction of purchasing power and living standards of the population. In response to the impact of the pandemic, companies in all sectors and regions have accelerated the digitization of interactions with customers (clients) and supply chains, as well as their internal operations. Restrictions on personal contacts forced companies to expand work from home, although they feared it would reduce employee productivity. The fact is that a large number of companies plan to use work from home even more intensively in the period after the pandemic. In this regard, working from home has become a "normality" and a daily routine, so companies are finding new ways to increase digital interaction and employee productivity. The issue of future work is not only related to the pandemic, but also to the available digital tools and process solutions that need to be improved and adapted to both organizations and individuals.

Keywords: COVID-19 pandemic, workplace, digital technologies, changes, skills, challenges

1 INTRODUCTION

The COVID-19 pandemic has left much of the world at home. Among the measures taken by many governments is the prevention of social contacts. In this way, an attempt was made to prevent the progressive spread of the virus, so many people worked remotely. However, the basic characteristic of such work and the fight against the pandemic is the great role of digital technologies. The internet is most in demand, whether for work, study, shopping, communication or access to online content for fun. Social distancing has increased the demand for video conferencing applications, both for business and personal use. According to some estimates, the use of applications such as Zoom or Skype has increased by 300%, and for online gaming by 400%. In addition, global internet traffic reached an average annual level in just a few weeks in 2020 [5].

Based on the increased use and traffic of digital content, it is obvious that providers had to ensure that their infrastructure responded to a sudden task with sufficient capacity and ability to provide all services at a high level. Demand for broadband communication services has increased in both mobile and fixed networks, with some operators experiencing as much as 60% higher internet traffic compared to the pre-crisis situation. For example, in Italy, where locking was one of the strictest, data transmission increased by 40%, while in Spain there was an increase in internet traffic of 40% and voice calls by 50% [5].

The impact of COVID-19 on many employees dependent on one question: Can I work from home or am I tied to my job? Quarantines, lockdowns and self-imposed isolation have forced millions of people around the world to work from home. Measures to combat the progressive spread of the virus have forced organizations to quickly introduce new radical ways of working, so teleworking, flexible working hours and business digitization solutions have been quickly implemented. The COVID-19 pandemic was an accelerator of changes in the work environment, and after 18 months of the pandemic, the limitations and benefits of teleworking are clearer. The virus has broken through cultural and technological barriers that have prevented teleworking in the past, triggering structural changes in the place where work takes place. Executives indicated in surveys that hybrid models of work from home for some employees would remain [13].

2 FRAMEWORKS FOR ROLES AND SKILLS

New technologies, demographic changes, and the impact of COVID-19 have radically transformed the way organizations operate and the skills to do so. Three years ago, almost 50% of companies expected that by 2020, automation would lead to a reduction in the number of full-time employees, while more than half of employees had to undergo retraining and additional training [2, 4, 6]. The crisis with COVID-19 has worsened these trends and forced all types of organizations to reconsider their overall business without notice and preparation. What is characteristic of change is that technology has played a key role in those changes.

The digital transformation, automation and effects of the COVID-19 pandemic have resulted in a massive change in workforce skills. The vision of the future of organizations (enterprises, companies) requires skills that are not yet fully present, so even before the pandemic, there was a lack of skills as technology transformed one industry after another.

A McKinsey survey in early 2020 found that 87% of companies currently face skills gaps or expect them to emerge in the next five years [9]. For example, the well-known company SAP predicts increased demand not only in areas of technical skills (such as artificial intelligence and the Cloud, data analytics, business process analysis and web design), but also in "soft" skills such as innovative thinking, decision making or leadership [11].

Many companies are quite successful when it comes to defining business strategies and investment planning, but the implications for employees and their skills are often just an afterthought. This becomes apparent when skills shortages become an obstacle to the implementation of strategies, which must be avoided. Employees participate in the business strategy, support it and implement it, and their skills help to connect the vision and future direction of the company and the strategic planning of the workforce. Therefore, it is necessary to study how a strong connection can be established between the desired direction and the need for learning and skills transformation.

Most companies have established a role framework as the backbone of managing their employees. Each role is characterized by defined responsibilities, task descriptions and a list of skill requirements. Employees are planned for the appropriate roles, they are hired for the roles, and the monthly income is related to the roles. In the digital age, role definitions are more fluid and changing dynamically. Instead of static roles, skills are increasingly becoming the primary planning entity. Also, from the perspective of employees, continuous training in accordance with new requirements and opportunities has become the basis for further career development.

Fig. 1 shows the skills associated with software development.



Figure 1. Skill areas [2]

The basic question in support of business strategy is what skills should be possessed, learned and improved by existing or new employees, so role definitions will "package" each skill into one or, if necessary, several roles.

Defining such a framework of skills and roles is related to the issue of establishing transparency regarding the skills and levels of expertise of employees. The concept of transparency and skills management is usually most present in service companies, where it is most obvious. They are used to adapt skills to operational tasks, such as finding a service technician to repair a machine or personnel to carry out a project. Systematic skills management will take on a much larger, strategic role in the future.

Establishing a framework for roles and skills is a big step for companies and their specific business needs, but many issues go beyond the company's contours. To address this issue, the World Economic Forum (WEF) has begun to develop a common skills taxonomy that can be the backbone of connecting employers, governments and skills providers in a skills-based labor market. From an individual's perspective, managing skills outside the company's boundaries becomes an important issue. Assuming that in the digital economy, company tasks will become more fluid and dynamic, individuals need to transfer profiles of their skills from one company or project to another, and continuously develop them [10, 14].

Even when a skills management mechanism is established, success will largely depend on establishing the necessary organizational culture. To truly embrace skills management, "play it safe" thinking should be replaced by the belief that skills are a driver of innovation and success, that they can be learned, updated and re-learned, sometimes through targeted and guided programs, sometimes experimentation and even failure. Such changes in organizational culture do not happen overnight, but they start from the top of the company. That is why it is very important to invest in the ability of leaders to nurture a culture of learning, encourage agility, perform experiments and encourage curiosity and a desire for lifelong learning.

3 THE FORCES SHAPING THE FUTURE WORK

The future of work imposes the need for the ultimate consideration of the question, what impact will the further development of technologies, automation and artificial intelligence have on where we work and how we work? Most analysts are focused on technology and the role that job automation will play. However, they note that this is more about how people will use these technologies, than about technological innovations and other breakthroughs. In the future, the qualifications and knowledge of employees will be the result of complex, changing and competitive forces. Some of these forces are certain, but their intensity and speed of occurrence are difficult to predict. Given that there are many complex forces at play, linear predictions are too simplistic, so companies, governments and individuals need to prepare for a number of outcomes - possible and seemingly unlikely.

Fig. 2 shows the results of a survey conducted by PwC on what employees think and feel about future job changes [12].

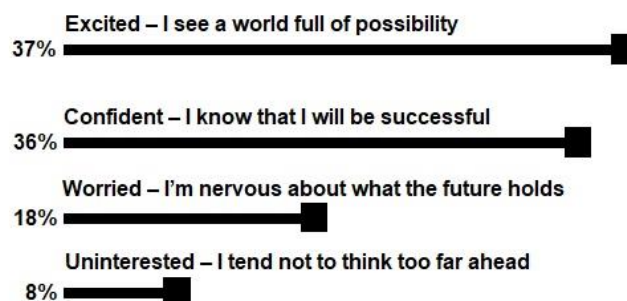


Figure 2. What do you think about future work and how do you feel? [12]

The world of work is influenced by strong forces called megatrends:

- technological breakthroughs,
- demographic shifts,
- rapid urbanization,
- change in economic power,
- lack of resources and climate change.

The rapid advancement of automation, robotics and artificial intelligence is dramatically changing the nature and number of jobs available. One of the undeniable characteristics of the modern age is that the world's population is aging, which affects business, social institutions and the economy. According to United Nations projections, 4.9 billion people will live in cities by 2030, and by 2050 the urban population will increase by 72%, so cities will become important agents for new jobs. Technological advances are causing developing countries to increasingly lag behind developed ones, which is reflected in high unemployment, lack of sustainable investment, and migration will continue to be present. It is predicted that by 2030, the demand for energy and water will increase by 50% and 40%,

respectively, so new jobs will be created in the field of alternative energy, product design, waste management and product re-use.

The COVID-19 pandemic has accelerated the transition to teleworking and virtual meetings, e-commerce and other digital transactions have increased rapidly, and automation and artificial intelligence will be used to adapt to the new reality. Many companies point out that even after the pandemic, they will continue with this form of business and apply more technologies in the future.

The Cushman & Wakefield report states that employees can be productive anywhere, not just in the office, flexibility and choice of work are accelerated anywhere, and the "new normality" will change the purpose of offices into inspiring destinations that strengthen cultural connectivity, learning, connection with customers and colleagues and foster creativity and innovation [8].

4 WHERE DO PEOPLE WANT TO WORK?

The outbreak of the COVID-19 pandemic changed the working environment in any case. Many jobs that cannot be done remotely (or from home) required the physical presence of workers. Due to disruptions in supply chains, many well-known companies in the world stopped working, sent employees on temporary vacations, and some were forced to lay off employees due to problems in production or non-fulfillment of planned activities. The first blow was suffered by the automobile industry, followed by tourism, catering, air and other transport, the services sector, and, specially, education.

Employees who were able to fulfill their obligations by working from home, got used to such a work regime, which proved to be attractive for analysis and expert discussions. Acenture company conducted a survey in which it surveyed 9326 people regarding opinions about their experience of working from home. Fig. 3 shows the feelings of employees [1].

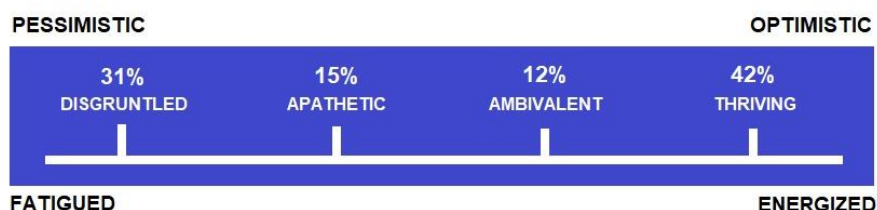


Figure 3. Feeling of employees about work from home [1]

Based on the experience gained, employees are committed to a hybrid mode of operation, which means working from home between 25% and 75% of the time. Of the total number of respondents, 58% worked in a hybrid model during a pandemic, and 83% identified a hybrid model of work as optimal in the future. Those who worked in the hybrid model during the pandemic had better mental health, stronger working relationships and were more likely to feel better. Also, less burnout was observed at work compared to working only in the office or only remotely.

What drives people to work in offices (workplaces) and remotely (from home)? The research notes a different distribution of the importance or significance of individual entities for employees. Fig. 4 shows the preferences in relation to work at the workplace, and Fig. 5 in relation to work from home.

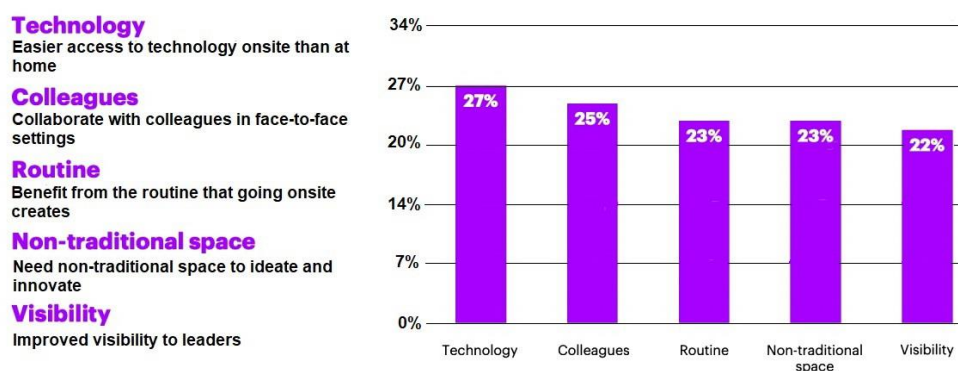


Figure 4. What drives people to want to be onsite [1]

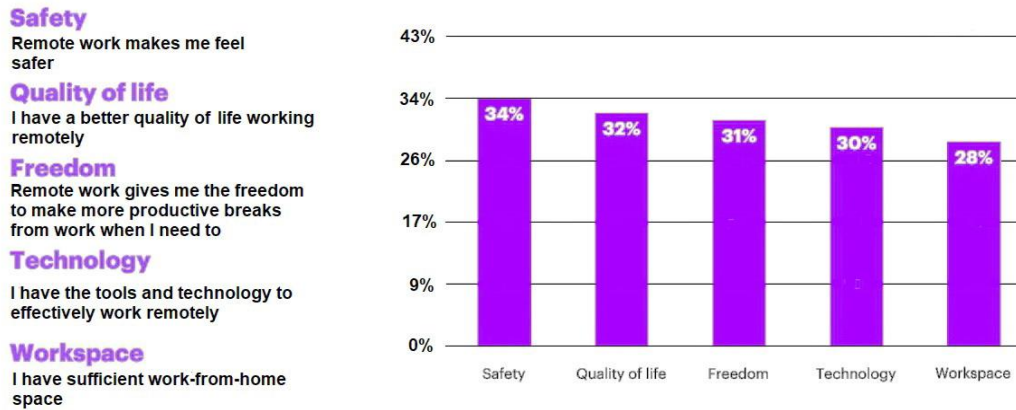


Figure 5. What drives people to want to be remote [1]

In this regard, the question may be wrong: Where do you want to work? It is better to say: What unleashes a person's potential, allowing them to be healthy and productive, no matter where they work?

The current context is forcing organizations around the world to make faster decisions based on better information. Therefore, hybrid work models reflect the type of intelligent business response of individual functions and entire organizations to digitize activities by scope and speed. But hybrid models challenge traditional beliefs about when and how employees do well. That's why thoughtful strategic planning is needed to develop hybrid models in a way that drives business goals and saves costs.

Based on our own and the experiences of others, it is time to set up new pillars where, when and how we work to create sustainable working conditions that maximize employee engagement, collaboration and productivity [3].

In Gartner's vision, these pillars are (Fig. 6):

- human-centric work design,
- reforming the culture,
- managing in a hybrid world,
- digital enablement,
- shifting talent and skills,
- rethinking the workplace.



Figure 6. Work principles in key pillars [7]

Generally speaking, this means that employees need to shape their own work environment, organizations need to shape the organizational culture to get the most out of the hybrid mode, develop

and promote managerial skills in controlling the hybrid mode, prioritize technologies that will optimize hybrid work and in the long run encourage the prosperity of the organization, identify, acquire and develop the skills and competencies of employees that are needed in the digital future and create strategies for hybrid work after the pandemic. Employees have more opportunities when, where, and how to collaborate in hybrid work environments, but organizations and their managers must create those opportunities.

5 CONCLUSION

The COVID-19 pandemic has caused major disruptions in all segments of people's lives and work around the world. Its effects on the number of deaths, illnesses and duration are devastating. At first, supply chains were disrupted, production was suspended in key industries (automotive, aviation, tourism, catering, transport), deliveries of products to end users were delayed, and a large number of employees in all sectors were laid off. However, apart from the medical aspect, the characteristic of the pandemic is general digitalization, establishing interactions with customers and clients, application of mobile applications and work from home. Digital technologies have the potential to reshape the world of work, as they make our ability to do business more fluid and flexible. It seems that the workplace is no longer connected to the office or the factory environment. Therefore, hybrid work is imposed as the primary model to be used in the future. In this regard, organizations need to build a new organizational culture that will be appropriate to this way of working. Research conducted by various companies and organizations points out that over 83% of employees emphasized the hybrid model of work as the optimal model in the future. Those who worked in the hybrid model during the pandemic had better mental health, stronger working relationships and were more likely to feel better. Also, less burnout was observed at work compared to working only in the office or only remotely. Thus, the future of work has specific challenges and concrete perspectives, and it is up to organizations and employees to establish collaborative relationships in order to increase the efficiency and effectiveness of work.

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STRATEGIC EMPLOYEE MOTIVATION AND CREATING PRODUCTIVE WORK

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ABSTRACT

The workforce is aging due to the large number of baby boomer workers world-wide. As this major demographic reaches retirement age there are more senior workers working with younger workers than ever before. The purpose of this paper is to observe the diversity that is around and within different settings. It is necessary for managers to understand the different motivational factors for each generation and how to engage them for different circumstances. In our paper are considered many factors and explored successful ways to motivate employees. It is important to consider different cultures, races, gender, and ages. The authors concluded that being able to find ways to motivate workers will pay off in the long run. Managers and leaders need to adapt to the way that each generation works. In line with this, no matter how old the employee is, if they feel supported, heard, and encouraged, they will put out better effort.

Keywords: Employee Motivation, Baby Boomers, Young Workers, Delayed Retirement

INTRODUCTION

The business environment faces many challenges during the crisis caused by the COVID 19. Significant declining incomes at all levels, rising unemployment, and disruptions in the industrial and transportation sectors are just some of the consequences caused by this virus in the economy[16]. In these conditions, organizations are trying to respond to these changes and challenges. They need to create and develop business strategies that allow them the flexibility to adopt quickly and efficiently to the changes in their environment and, at the same time, to be profitable. Motivation is extremely important for organizations, as it helps the employee to truly get what they want out of a job. When individuals are happy with their company and the organization, they are more inclined to work harder and produce the results that organizations strive for. Productivity will be up, as well as staff morale. Though motivation may seem like an easy task, there are a few barriers to motivating employees. First of all, outdated technology, managers who do not understand the employee or are absent, and lack of funds may contribute to poor attitudes. For example, it can be difficult to motivate an employee if they feel behind since their computers are slow, they don't believe funds will be allocated to help them, and therefore have a poor attitude. If these barriers can be crossed, motivation will improve productivity, build self-esteem within the employee, and inspire career development. Moreover, it is important to note that motivation can be different depending on the age of the employee. Managers and leaders may need to tailor their leading style based on the age of the employee and how to best support them depending on where they are in their career.

This paper will explore some of the different motivational tactics used when dealing with employees of different ages, specifically the baby boomer generation and younger workers. We shall try to reply on the following questions: How can older workers be motivated to be more productive if they simply cannot retire? How do we keep an older worker who is a stellar employee to stay after retirement age? How to motivate younger workers to pick up the slack?

THEORETICAL OVERVIEW

According to Torrington, Hall and Taylor [1] „career path is a sequence of job roles or positions, related via work content or abilities required, through which and individual can move. Traditional pathways were normally presented as a vertical career ladder, emphasizing upwards promotion within a function”.

However, the new style of work and advancement must adapt to the conditions determined by the pandemic.

Motivation, as such, is the process that accounts for an effort made to attain a given goal. It includes the intensity, direction and persistence displayed in achieving those goals. Motivation is a process that makes ordinary people perform outstanding activities[17].

In order to motivate, managers and leaders can do a number of things. Namely, to begin with, a good understanding of organizational behavior is essential. Learning why employees do what they do based on human nature, learning style, personality, and a number of other things will be invaluable to figuring out an effective technique to motivate. However, sadly enough, discrimination in paychecks, fringe benefits, even hiring likelihood and particularly in promotion prospects still prevails in transition countries, yet on a more cheerful note may encourage women to become self-employed. It is supported by one number of research who concluded that women still own fewer businesses than men. Worse even, most of them had worked mainly in those industries which were least profitable to begin with women or had been employed in the informal sector [2]. The explanation for this as well as the performance of female entrepreneurs in terms of traits, motivations and success rates, and its gender-related uniqueness is complex and multifaceted [3],[10].

The oldest generation was born in the 1940's with the youngest generation entering the workplace being born in the 1990's [4]. There are opinions that if several older workers retire, there would be more places for the younger generations [5]. This information by itself should be a strong enough reason for younger employees to stick around because many job positions will be available when the boomers decide to leave the workforce. Although younger employees may feel discouraged now because they have been waiting a long time for promotions, they should keep in mind that eventually the positions they desire will open.

Instead of trying to change the employee and replace older generation with younger one, it is vital that managers should change their way of leading the organization. It is not an easy task, because with so many generations in the workforce, there could be tension between the generations. It is possible that a person in a younger generation is managing people that are older, younger or the same generation as them. These could all create tension in the workplace among the many generations.

The research we did a few years ago related to personal motivation at work on the example of two countries - Serbia and Bulgaria, showed that there are no big differences between these two countries [6],[11]. We have considered the most important factors that affect employee motivation (Figure 1).



Figure 1. The most important factors that affect employee motivation

Source: [depositphotos 13667555-stock-photo-diagram-of-employee-motivation](https://depositphotos.com/13667555-stock-photo-diagram-of-employee-motivation)

The difference is most noticeable in the identification of the most important motivating factors. Thus, in Serbia, the respondents singled out the material factor as the most important, while those from Bulgaria considered that the most important thing was the interestingness of the job. Namely, for the respondents from Bulgaria, material pay itself is insufficient to form satisfaction in the employees (the factor “money” is the third important factor).

Motivation applies to an individual or a group of people. An individual's motivation is influenced by intellectual, social, economic, emotional, and other factors. However, motivation for work is dependent not only on personal characteristics and expectations, but also on the characteristics of the group [6]. There are ways to manage a multi-generational team. It is best to have the team focus on the people instead of the generational differences, that everyone is an important, valued member of the team, and all their skills and experiences are needed. In other words, work on building collaboration and building relationships in the workplace instead of division. This should be accomplished by understanding each employee and create opportunities for the generations to work together toward a goal they all believe in. When using incentive, it is best to know what is important to the employee, so knowing and understanding employees is crucial [7]. In this context, managers can help create an environment that will motivate their employees by giving them praise when it is deserved and by not just focusing on the negative situations that come up at work. This is a great way for the employees to stay motivated because it will make them feel appreciated and like their work is meaningful.

RESEARCH METHOD

Our paper relies on our extensive research, as well as on a review of the literature and the latest results. Primary and secondary literature sources were used. Our intention was to see using comparative methods, what has changed in this domain in recent years, and especially with the advent of Covid 19.

STRATEGY AND WAYS TO MOTIVATE EMPLOYEES

Employee motivation techniques are essential to the success of a company (Figure 2).

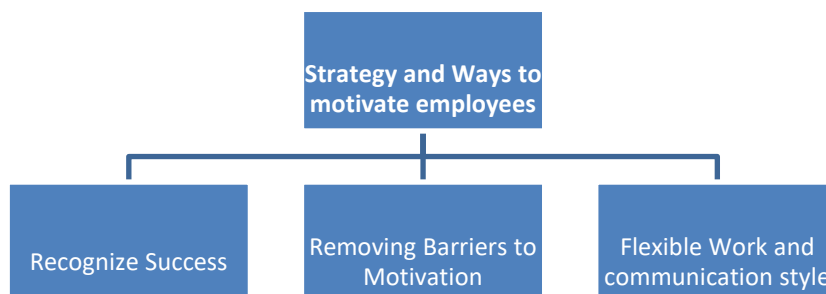


Figure 2. Strategy and ways to motivate employees

Source: Authors

a. Recognize Success

Way to motivate employees is provide recognition for successful employees. Many times, clearly and directly articulating that someone has done a great job is enough to motivate them to continue doing it. For some, employee reward programs are the way to go. Making a point system, posting flyers, and sending emails of recognition about individuals that have gone above and beyond can help employees to see that doing care, passion, and productivity go a long way in the organization.

b. Removing Barriers to Motivation

Moreover, motivation can come from finding out what the barriers are and trying to remove them. For instance, there may psychological barriers to motivation, such as boredom. Speaking directly with the employee, discussing how to make the job more challenging or a different role that they could begin working on is crucial to tearing down this barrier.

c. Flexible Work and communication style

How does a good manager motivate both generations? What happens when the older generation retires and leaves a large gap for the younger generation to fill? When this occurs, managers and organizations need to be ready to provide organizational development and change to better suit the employee. Work and communication style may be different, as well as values and expectations about careers. Instead of trying to change the employee, it is vital that managers apply flexible work and communication style. A manager needs to realize that a younger person may prefer to work from home more in a casual atmosphere, while the older generation would prefer to get the job done from the office. If there is care, hard work, and intelligence put into the product, it will not matter. Managers need to adapt to the way that each generation works.

Due to the drastic changes in the way of working that were conditioned by the occurrence of the pandemic, many employees faced various problems working from home [9]. On the other side, working on the platform has benefit at the same time. Workers felt motivated and productive for a variety of reasons, which we divided into four factors [12].

- a. Work/home environment
- b. Possession of appropriate work equipment
- c. Possession of knowledge and readiness to work from home
- d. Time management abilities

Young people are especially motivated in many ways for the remote work: they got jobs faster, had significantly higher incomes and realized opportunities for faster professional development. For Western Balkans countries, this way of employment has become particularly attractive due to lower wages and high unemployment rates. Therefore, many scientists see a chance to stay and live in the same environment, while earning European salaries.

CONCLUSION

Asking directly what employees want and need, as well as opinions is extremely important. Employee satisfaction surveys are a good way to make everyone in the organization feel heard and will motivate them to speak up to ask for what they need to continue to do the best job possible. Job satisfaction encourages employees to increase performance and commitment to the organization, while reducing absenteeism and increasing interest in the profession, and it is of immeasurable importance to pay attention to the cause-and-effect relationship of job satisfaction and organizational commitment[18]. Both managers and employees will be more willing to work if they are able to speak to each other clearly [8].

Employees can share what is going well, what they need from the organization, if they have any concerns about planning or safety, and if they would like more opportunity. A direct line of communication is perceived as care and support. It is important to point out that managers will need to tailor their style and tactics around the age of the employee. Baby boomers and younger workers are very different and may want different things when it comes to a career. For instance, millennials in general prefer more flexible work schedules and time off, while baby boomers prefer the 9-5 workday. Another difference between the old generation and younger is direct feedback. Millennials tend to prefer feedback constantly and expect career growth instantaneously, while older workers tend to prefer annual or bi-annual reviews. Millennials are used to having everything right at their fingertips in the age of technology. These differences can create big issues when both generations are working together in the same organization. Care by managers and leaders needs to be taken to help both thrive in the work environment by providing challenges, career growth, and tailoring the job to meet some of their expectations. Continuity and regulation in the organization needs to occur, otherwise workers may have the "unfair" mentality if some employees are getting one thing, and others are not. Therefore, the managers must use a variety of methods such as modifying the work environment, promoting employee participation, and rewarding employees [13].

Finally, we can conclude that could be possible to work with people from four generations that are different. For that to happen, it is necessary to manage the age and cultural diversity. They can provide a distinct advantage to corporations that interact on a global scale [14],[15].

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EMPLOYABILITY OF GRADUATES: EFFECTS OF INTERNSHIP ON EARLY CAREER OUTCOMES

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Abstract

This paper examines the relationship between study-related working experience or internship and early career outcomes of higher education graduates in eight European countries. The objective is to test the hypothesis that the odds of getting a first job upon graduation are increased by having study related work experience or internship during the studies. The hypothesis was drawn on the theoretical perspectives of the human capital theory and built on previous research on work-based learning experienced through internship and integrated in the curriculum. The results of the odds ratio analysis, applied on the whole sample and separately on each country participating in the EUROGRADUATE 2019 pilot survey, support the hypothesis.

Keywords: Employability, internship, work-based learning, early career outcomes, graduate tracking.

1 INTRODUCTION

There is a growing interest among policy makers and researchers to examine graduate employability and determine those factors that influence successful early career outcomes. Drawing upon human capital theory [1] governments have been interested in providing sufficient supply of highly-employable graduates to foster economic growth and ensure social inclusion, while looking for efficiency of investments in education and training. Development of human capital has been seen critical to the success of knowledge-based economies in a globalised society (e.g. [2], [3], [4], [5]) while „skills and knowledge of the workforce increasingly become a major source of comparative advantage and economic growth“ [6].

Attention to research employability has increased in the framework of social policy in Europe and in terms of individual skill development and adaptability in the United States [7]. Different employability models have emerged trying to capture the complexity of the construct and to provide theoretical explications to empirical studies on graduate surveys.

There are also increased data available on graduate employment outcomes resulting from institutional, regional or national graduate tracking surveys that provide evidence on models of transition from education to labour market. Responding to a shared ambition of the EU member states to improve availability, reliability and transnational comparability of data on graduates' labour market outcomes, the European Commission launched a pilot European survey, EUROGRADUATE, involving eight countries (Austria, Czech Republic, Croatia, Germany, Greece, Lithuania, Malta and Norway) with the intention to lay the ground for a European wide graduate research [8].

This paper uses the data collected through the first pilot European graduate tracking survey, EUROGRADUATE, carried out over the period October 2018 – February 2019. Although it is not possible to examine the complexity of the concept of employability in details, the contribution of this paper to the employability debate is in its specific focus on a relationship between students study related work experience or internship in the country of study (work-based learning) and early career outcomes of graduates from higher education measured by the first employment gained upon graduation.

2 THEORETICAL PERSPECTIVES AND PREVIOUS RESEARCH

The theoretical framework used in this paper to explain early career outcomes dependant on graduates' appropriate skills and knowledge, developed, in particular, through work-based learning, has been found in the human capital theory developed in the 1960s by Gary Becker and Theodore Schultz. The basic

notion of this economic theory is that education and training are investments that increase productivity of individuals and contribute to economic development (e.g. [1], [9]). Empirical research based on human capital theory aims at establishing relationship between investments in education and training with economic outcomes as private and social returns to education (e.g. [10], [11], [12], [13]). Moreover, empirical research provides the practical application of theoretical models and allows researchers to make predictions in order to test the validity of a theory [14]. The human capital theory puts an emphasis on the individual's abilities to achieve good academic results and perform successfully in the labour market. Nevertheless, many researchers argue that this has been a narrow approach to employability that ignores the impact of external factors to creating education and employment opportunities for individuals with different cultural and social capital (e.g. [15]).

Looking at the development of the construct historically, it can be observed that definitions and models of employability tend to enlarge in time by accommodating different aspects of individual's characteristics such as sectors-specific skills and knowledge of qualifications holders, their transversal (generic) competences and learning attitudes, flexibility, adaptation, etc. (e.g. [16] [17], [18], [19], [20], [21], [22], [23], [24], [25], [26], [27], [28], [29], [30]) as well as introducing in the analytical model external factors such as the demand side of the labour market and characteristics of local economies, family socio-economic background, perception of academic credentials by employers, etc., pointing out the multidimensional character of the employability construct (e.g. [7] [16], [23], [30], [31]).

This paper particularly focuses on working experience related to study or gained through internships during the study, that is perceived to be influential to developing employability skills and consequently, to having better labour market outcomes. It is in line with the assumption that the role of higher education institutions in developing entrepreneurial approach is important to enhance employment perspectives of graduates [32]. Although literature supporting the argument that work-based learning facilitates transitions from education to work has mainly been focused on vocational education and training, there is evidence on positive effects of work-based learning in higher education on the individuals' labour market outcomes (e.g. [3], [4], [5], [28], [33], [34], [35], [36]).

According to the CEDEFOP research paper on the role of work-based learning in VET and tertiary education, drawn on the evidence for the 2016 EU labour force survey, "graduates with a work-based learning experience as part of their studies tend to have statistically significant higher likelihood of being employed compared to graduates without such experience" [37]. This hypothesis has been tested with a simple statistical analysis and results are presented in this paper.

3 HYPOTHESIS AND ANALYTICAL METHOD

Drawing on the theoretical perspectives of human capital theory and building on past empirical studies, the purpose of this paper is to examine whether internships and study related work experience lead to better labour market outcomes upon graduation. The hypothesis established is that the odds of getting a first job upon graduation are increased by having study related work experience or internship (work-based learning) in the country of study. Statistical method of calculating odds ratio was applied on the whole sample and separately on each country participating in the EUROGRADUATE 2019 pilot survey.

3.1 Sample and instrument

The data used for this paper were collected through the EUROGRADUATE – first pilot European graduate tracking survey carried out across eight European countries (Austria, Croatia, Czech Republic, Germany, Greece, Lithuania, Malta, Norway) and over the period October 2018 – February 2019 [8]. The survey included Bachelor-level and Master-level graduates from two cohorts, one and five years after graduation, that is graduates of the academic years 2012/2013 and 2016 /2017.

The final dataset was weighted based on population data and contains responses from total number of 16408 graduates as follows: 2174 (13,2%) from Austria, 5197 (31,7%) from Croatia, 1760 (10,7%) from the Czech Republic, 914 (5,6%) from Germany, 1312 (8,00%) from Greece, 1804 (11,0%) from Lithuania, 963 (5,9%) from Malta and 2284 (13,9%) from Norway. The data set covers graduates that studied as full time or part time students with the exception for Austria and Greece where only full-time students were included.

Table 1 provides description of the total sample and for each country. Empty spaces mean that the data was not available in the dataset mainly because a particular variable does not exist in a country (e.g. study programmes in the field of services in Germany) or data was missing from the survey (e.g. part time students in Austria and in Greece).

With respect to the type of higher education institution, the graduates were divided into two groups: those graduated from a *research university* and those that graduated from a *non-research university*. With respect to the field of study, the data were clustered in ten broad fields applying ISCED-F classification: (1) Education, (2) Arts and Humanities, (3) Social Sciences, Journalism and Information, (4) Business, Administration and Law, (5) Natural Sciences, Mathematics and Statistics (6) ICT, (7) Engineering, Manufacturing and Construction, (8) Agriculture, Forestry, Fisheries and Veterinary, (9) Health and Welfare, (10) Services.

The instrument used in the survey was a standardised online questionnaire, designed to measure different aspects of transition from higher education to labour market. Data were centrally collected and anonymised by the Deutsche Zentrum für Hochschul und Wissenschaftsforschung (DZHW) – German Centre for Higher Education Research and Science Studies that made the data available for further research, all in accordance with the GDPR regulations.

3.2 Variables

In graduate tracking surveys graduates' employability is often measured with the outcome variable described in terms of getting a first employment upon graduation. Although this indicator has its many limitations, and is certainly not sufficient to measure employability, it does give a limited evidence on the potential of an individual to become employed.

The outcome variable in this analysis indicates the status of "having ever had paid work since graduation" with four possible outcomes in the original survey: "1=yes, continued (for more than 3 months) the work already having during study"; "2=yes, started to work"; "3=no, but doing unpaid work in family business"; "4=no.". This variable was recoded into a dummy variable measuring the effect of getting a new employment upon graduation. Therefore values 1,3 and 4 were recoded into a new value "1=no new employment" and value "2=yes, started to work" was kept as such.

The independent variable of interest was a dummy variable measuring whether graduates had been engaged in an internship or study related work experience in the country where the study took place or not, with two possible outcomes: "1=yes" and "2=no".

3.3 Analyses

In order to establish a relationship between the independent variable (internship or study related work in the country where the study took place) and dependent variable (getting a paid work upon graduation), first, a crosstabs descriptive analysis was conducted. Analyses on employment status (being employed versus not being employed) was performed on the whole sample and then separately for each country.

Second, odds ratio analysis was conducted to quantify the strength of the association between the two variables and to calculate the odds of getting a paid work upon graduation in the presence and in the absence of having internship or study related work in the country where the study took place. The confidence intervals were established as a range of values between a lower and an upper interval that indicate the level of confidence for the estimations. The analysis was conducted first for the whole sample and then separately for each country.

4 RESULTS

Descriptive statistics (Table 2) reveal that 3969 (59,1%) graduates that benefit from internship or study related work experience in the country of studies started to work after graduation while 2751 (40,9%) graduates with such experience either continued the work they already had during study, either did not start to work but had unpaid work in family business or for any other reason. In comparison to that, 2287 (46,1%) graduates that did not benefit from internship or study related work experience in the country of studies started to work after graduation while 2670 (53,9%) graduates without such experience either continued the work they already had during study, either did not start to work but had unpaid work in family business or for any other reason. The results do, however, indicate a small effect size. This small effect size may be caused, among other, by the fact that graduates without study related work experience in the country of studies also include graduates who had study related work experience abroad or had non-study related work experience.

Comparative analysis reveals that the highest rate of graduates with paid work after graduation can be observed in Germany, both comparing the graduates with study related work experience in the country of studies (74,6%) or without (65,2%) while the highest rate of graduates with no paid job after graduation

can be observed in Lithuania, again comparing the graduates with study related work experience in the country of studies (58,4%) or without (67,7%). Although this may lead to a conclusion that probably various other factors influenced better employment outcomes in general in some countries rather than in others, irrespective of study related work experience, the results reveal that in all the countries rates of graduates getting a first paid work after graduation are higher for those with study related work experience than for those without.

Odds of getting a paid work upon graduation were calculated in respect of having or not having internship or study related work experience in the country where the study took place. This result holds both for the total sample as well as for individual countries. As shown in the Table 3, the graduates who participated in study related work activities in the country of studies had 1,684 times higher odds (with the 95% confidence interval between 1,564 and 1,814) of getting employment than the graduates without study related work experience in the country of studies. In each country the odds ratio is > 1 which means that the experience of study related work experience in the country of studies increases the chances of getting a first paid job upon graduation.

Looking at the odds ratio separately for each country and comparing results between the countries, the analysis reveals that the highest odds of getting a paid job upon graduation for respondents who had internship or study related working experience in the country of studies are in Austria. The graduates with study related work experience in Austria have 2,247 times higher odds (with the 95% confidence interval between 1,806 and 2,795) to find a paid job upon graduation than those without.

The lowest association is found in Czech Republic where the odds of getting a paid job upon graduation for respondents who had internship or study related working experience in the country of studies are 1.328 times higher (with the 95% confidence interval between 1,062 and 1,661) than for those without such experience. Nevertheless, even in case of Czech Republic, the odds ratio is >1 which points to the statistical significance of the results.

4.1 Limitations and further research

The main limitation of the analysis presented in this paper is in narrowing down the theoretical model for measuring employability both on the side of the outcome variable as well as on the side of predictors. The outcome variable is limited to first career outcomes and measured exclusively with the employment status. Although the first employment outcomes are an important dimension of employability, this leaves out other possible employability indicators such as the quality of the first job, vertical and horizontal (mis)match between qualification and occupation, further career perspectives, satisfaction at work, etc. Moreover, focusing on a single predictor (study related work experience in the country of studies) does not consider the variety of other possible employability predictors such as social and cultural background of individuals, type, quality and reputation of higher education institutions, quality and relevance of study programmes and qualifications, differences in the national education and economic systems, models of transition from higher education to the labour market, etc.

In order to grasp the complexity of the employability construct, a multi-dimensional analytical model would need to be theoretically expanded from the human capital theory to the social and cultural capital theories and more sophisticated statistical models would be needed to explore better the relationship between study related work experience and early career outcomes in particular, and employability predictors in general.

4.2 Conclusions

Having in mind all the theoretical and methodological limitations of this paper, the analytical model used in this paper allows us to establish a positive relationship between work-based learning experience of graduates from higher education in eight European countries, participated in the first European graduate tracking survey, and their positive first employment outcomes. The results of the analysis have shown that there is a positive association between work-based learning, experienced through internship or study related work experience in the country of study, and finding a paid work upon graduation. In other words, the graduates with study related work experience have a higher likelihood of being employed upon graduation compared to graduates with no study related work experience. On the other hand, it is possible to conclude that graduates without work-based learning experience as part of their studies are less likely to be employed upon graduation than graduates with study-related working experience in the country of study. These conclusions stand for the whole sample as well as for each of eight European countries.

Table 1. Data Sample

Graduate Characteristics		Total (n=16408)	Austria (n=2174)	Czech Rep. (n=1760)	Germany (n=914)	Greece (n=1312)	Croatia (n=5197)	Lithuania (n=1804)	Malta (n=963)	Norway (n=2284)
Sex										
Female (%)		10210 (62,2)	1300 (59,8)	1115 (65,6)	419 (45,8)	735 (56,0)	3469 (66,8)	1153 (63,9)	542 (56,3)	1437 (62,9)
Male (%)		6195 (37,8)	873 (40,02)	605 (34,4)	494 (54,0)	576 (43,9)	1728 (33,2)	651 (36,1)	421 (43,7)	847 (37,1)
Cohort										
2012-2013 (%)		5385 (32,8)	1054 (48,5)	745 (42,3)	-	446 (34,0)	919 (17,7)	647 (35,9)	457 (47,5)	1124 (49,2)
2016-2017 (%)		11023 (67,2)	1120 (51,5)	1015 (57,7)	914 (100)	866 (66,0)	4278 (82,3)	1157 (64,1)	506 (52,5)	1160 (50,8)
Enrolment Status										
Full-time (%)		13884 (84,6)	2174 (100)	1202 (68,3)	878 (96,1)	1312 (100)	4218 (81,2)	1528 (84,7)	719 (74,7)	1853 (81,1)
Part-time (%)		2524 (15,4)	-	558 (31,7)	36 (3,9)	-	979 (18,8)	276 (15,3)	244 (25,3)	431 (18,9)
Qualification level										
Short-cycle (%)		232 (1,4)	-	-	-	-	-	-	232 (1,4)	-
Bachelor or equivalent (%)		8768 (53,4)	1170 (53,8)	804 (45,7)	604 (66,1)	998 (76,1)	2509 (48,3)	1256 (69,6)	497 (51,6)	930 (40,7)
Master or equivalent (%)		7408 (45,1)	1004 (46,2)	956 (54,3)	310 (33,9)	314 (23,9)	2688 (51,7)	548 (30,4)	234 (24,3)	1354 (59,3)
Type of HEI										
University (%)		12370 (75,4)	1622 (74,6)	1648 (93,6)	589 (64,4)	1041 (79,3)	3972 (76,4)	1410 (78,2)	749 (77,8)	1339 (58,6)
Non-university (%)		4038 (24,6)	552 (25,4)	112 (6,4)	325 (35,6)	271 (20,7)	1225 (23,6)	394 (21,8)	214 (22,2)	945 (41,4)
Field of Study										
Education (%)		1766 (10,8)	386 (17,8)	296 (16,8)	10 (1,1)	72 (5,5)	438 (8,4)	179 (9,9)	134 (13,9)	251 (11,0)
Arts and Humanities (%)		1731 (10,5)	268 (12,3)	187 (10,6)	47 (5,1)	122 (9,3)	527 (10,1)	191 (10,6)	171 (17,8)	218 (9,5)
Social Sc., Journ. Inform. (%)		1868 (11,4)	326 (15,0)	193 (11,0)	43 (4,7)	236 (18,0)	438 (8,4)	160 (8,9)	68 (7,1)	404 (17,7)
Business, Admin., Law (%)		3376 (20,6)	375 (17,2)	307 (17,4)	103 (11,3)	234 (17,8)	1284 (24,7)	401 (22,2)	217 (22,5)	455 (19,9)
Natural Sci., Math. Stat. (%)		1140 (6,9)	220 (10,1)	154 (8,8)	27 (3,0)	132 (10,1)	393 (7,6)	57 (3,2)	15 (1,6)	142 (6,2)
ICT (%)		850 (5,2)	96 (4,4)	99 (5,6)	95 (10,4)	56 (4,3)	290 (5,6)	78 (4,3)	61 (6,3)	75 (3,3)
Eng., Manufactur., Constr. (%)		2972 (18,1)	295 (13,6)	235 (13,4)	421 (46,1)	350 (26,7)	806 (15,5)	467 (25,9)	116 (12,0)	282 (12,3)
Agric., Forestry, Fish. Vet. (%)		367 (2,2)	29 (1,3)	41 (2,3)	88 (9,6)	39 (3,0)	102 (2,0)	40 (2,2)	8 (0,8)	20 (0,9)
Health and Welfare (%)		1868 (11,4)	157 (7,2)	185 (10,5)	80 (8,8)	64 (4,9)	643 (12,4)	204 (11,3)	165 (17,1)	370 (16,2)
Services (%)		462 (2,8)	22 (1,0)	63 (3,6)	-	7 (0,5)	276 (5,3)	27 (1,5)	8 (0,8)	59 (2,6)

Source: EUROGRADUATE 2019 microdata, own operationalisation

Table 2. Comparative descriptive analysis

		WHOLE SAMPLE			AUSTRIA		CZECH REP.		GERMANY		GREECE		CROATIA		LITHUANIA		MALTA		NORWAY	
		Total	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
WBL	YES	6720	3969	2751	592	271	279	356	288	98	313	214	1380	877	361	507	152	127	624	301
	%	100,00	59,10	40,90	88,80	31,40	43,90	58,10	74,80	25,40	59,40	40,60	60,80	39,20	41,80	58,40	54,50	45,50	87,50	32,50
	NO	4957	2287	2670	281	289	239	405	75	40	192	200	788	895	130	273	167	207	415	361
	%	100,00	46,10	53,90	49,30	50,70	37,10	62,90	65,20	34,80	49,00	51,00	46,80	53,20	32,30	67,70	44,70	55,30	53,50	46,50
Total		11677	6256	5421	873	560	518	761	363	138	505	414	2148	1772	491	780	319	334	1039	662
		1,00	0,54	0,46	0,61	0,39	0,41	0,60	0,73	0,28	0,55	0,45	0,55	0,45	0,39	0,61	0,49	0,51	0,61	0,39

Source: EUROGRADUATE 2019 microdata, own operationalisation

WBL – Work based learning – standing for study related work experience or internship in the country of studies

	WHOLE SAMPLE			AUSTRIA			CZECH REPUBLIC			GERMANY			GREECE		
	Value	95% CI		Value	95% CI		Value	95% CI		Value	95% CI		Value	95% CI	
Odds Ratio	1,684	1,564	1,814	2,247	1,806	2,795	1,328	1,062	1,661	1,567	1,002	2,451	1,524	1,171	1,983
N of Valid Cases	11677			1433			1279			501			919		

	WHOLE SAMPLE			CROATIA			LITHUANIA			MALTA			NORWAY		
	Value	95% CI		Value	95% CI		Value	95% CI		Value	95% CI		Value	95% CI	
Odds Ratio	1,684	1,564	1,814	1,761	1,55	2,002	1,495	1,166	1,917	1,484	1,086	2,026	1,803	1,481	2,196
N of Valid Cases	11677			3920			1271			653			1701		

Source: EUROGRADUATE 2019 microdata, own operationalisation

CI – confidence interval

Table 3. Odds ratio

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TRAINING FUTURE FEMALE ENTREPRENEURS IN THE MENA REGION: FROM TRADITIONAL UPBRINGING TO ENTREPRENEURIAL AWARENESS

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ABSTRACT

The traditional familial, social and cultural upbringing of females in the Arab Region, led to the development of negative attitudes towards being employees or entrepreneurs.

The political, economic, social and cultural changes in the MENA Region helped women to get more freedom and became more open to professional activities and entrepreneurship. These changes require appropriate training on entrepreneurship awareness.

This paper highlights the development of a training model for entrepreneurship awareness, applied in Algerian universities, which may be generalized over the MENA Region.

Keywords: The MENA region, women's upbringing, women entrepreneur, Entrepreneurship awareness, socio-cultural changes

1 INTRODUCTION

Arab societies are similar in terms of cultural values, family education methods, and social influences on their members, since their early childhood. The prevailing culture is characterized by discrimination in the children's upbringing between the sexes. The upbringing of boys is to prepare them to become strong men with leadership characteristics and be able to work in various professions prevailing in society. While girls are raised according to traditional education, to be shy and characterized by the avoidance of mixing with males. They are prepared to become wives, looking after their children in the first position.

There are social mutations within the Arab societies, as they are affected by the expansion of education in its different stages, and the expansion of information and communication technology. However, the socialization of girls in Arab societies remains affected by traditional socialization methods, concentrating on religious values and morale.

What distinguishes women from men is their motivation to change their social status. That is facilitated by their access to higher education, which helped them to occupy leadership positions. yet the process of being influenced by cultural values remains evident and that can be noticed with some of them, through the nature of their dresses, such as wearing the hijab, and their behavior in dealing with male colleagues in the workplaces, and other people in the streets.

To be a women entrepreneur requires several qualities. Singh Ranbir pointed out that "Woman entrepreneur is a person who accepts challenging role to meet her personal needs and become economically independent. A strong desire to do something positive is an inbuilt quality of entrepreneurial women, who is capable of contributing values in both family and social life" [1].

In the MENA region, people are highly affected by local culture. Pailot et al. pointed out that in Arab-Muslim societies, "be born anatomically male or female requires you to play roles codified by society" [2].

Cultural constraints are not always related to religion but can be resulted from poverty and illiteracy. As pointed out by Bukhari and Ramzan, that "Cultural constraints, social norms, lack of awareness, lack of education and poverty, wherever the circumstances will be same the result will be almost same. It is not particularly affiliated with the religion Islam" [3].

Also, cultural barriers are not limited to the MENA Region societies. Singh Ranbir noticed the same phenomenon in India. He listed "the problems that women entrepreneurs encounter are: Limited mobility, family ties, lack of education, male domination society and low risk-bearing ability [1].

Several factors affect entrepreneurship promotion. Harinarayana lists "economic backwardness, lack of familial and community support, ignorance of opportunities, lack of motivation, shyness and inhibition, preference for traditional occupation and preference for secure jobs as the factors that inhibit the promotion of entrepreneurship among women" [4].

That is why the Algerian and most Arab universities are implementing entrepreneurship training programs for all university students and all disciplines.

Any training for girls to become businesswomen requires addressing the repercussions of traditional socialization, through improving student's self-confidence, and their ability in promoting their economic and social status through entrepreneurship awareness. That helps in improving their intention for entrepreneurship, as a way for getting more autonomy and freedom from the social and cultural restrictions prevailing in society.

Entrepreneurial awareness is an important concept for future entrepreneurs which needs to be emphasized in any entrepreneurship training for future female entrepreneurs. As explained by Berntsson and Crossley, Entrepreneurial awareness is a "strategy applied for people not considering becoming entrepreneurs in the first place, and for people wanting to become entrepreneurs but not knowing how to do it [5].

This paper aims to clarify the objectives and methodology of promoting entrepreneurship among female students and the obtained results.

2 WOMEN'S UPBRINGING IN THE MENA REGION

The psychological characteristics of girls in Arab and Muslim societies are determined since their early childhood, through their upbringing, their plays, and the nature of the games in playing with their mates. The girls' toys are different from those used by boys. Thus, families contribute to preparing girls to become housewives who will stay at home once married in the first position and do not occupy professions, or leadership positions within the society nor occupying entrepreneurial activities. It is a socialization process that continues from the family to the street and at school, within the framework of a cultural system that contributes to raising girls in the same way.

From here, we conclude that girls' obstacles in establishing businesses start from their early childhood and their upbringing within their families. As pointed out by Harender Kumar, "there has an autocratic method of family organization, with men as decision-makers and women obliged to obey them" [6]. The socialization of girls in the MENA Region, as pointed out by Rachdi, "does not help to develop their confidence, their independence, sense of risk and taste of innovation: skills which are necessary for any individual who wants to develop and manage their own business " [7].

That leads to a range of repercussions on the attitudes and girls' behaviors.

3 REPERCUSSIONS OF TRADITIONAL EDUCATION ON GIRLS

The traditional socialization of girls and their upbringing has several repercussions, the most important of which are the following:

1. Being used to separation between genders.
2. Feeling weak in front of males
3. Fear of facing difficult situations.
4. The belief in males' superiority over females.
5. The belief is that males are more powerful than females.
6. The fear of failure
7. Feeling powerless in facing problems
8. Lack of self-confidence

9. Absence of entrepreneurial intention
10. Feeling of inferiority
11. Lack of entrepreneurship intention.

These characteristics resulted from the girls' traditional upbringing and desirable values for women in MENA Region traditional culture. That requires appropriate training methods, for attitudes change, and women's promotion of self-confidence and entrepreneurship awareness.

4 THE NEED FOR APPROPRIATE TRAINING STRATEGY

Several characteristics should be developed in female future entrepreneurs, which encourage women to have an independent occupation and stands on their own legs. A sense of independent decision-making in their life and career is the motivational factor behind this urge. [1]

Entrepreneurship training needs appropriate methods for attitudes change and the raise of self-confidence. According to Léger-Jarniou the entrepreneurial culture "promotes personal characteristics associated with entrepreneurship is individualism, marginality, the need for personal achievement, risk-taking, self-confidence and social skills; who also value personal success while forgiving failure; and encourages diversity and not uniformity and encourages change and not stability " [8].

While Singh defined a woman entrepreneur as a "confident, innovative, and creative woman capable of achieving self economic independence, individually or, in collaboration, who generates employment opportunities for others through initiating, establishing and running an enterprise by keeping pace with her personal, family and social life [8].

Besides being self-confident, a woman entrepreneur needs to be aware of the importance and impacts of entrepreneurship. Awareness can be defined as "raising the individual's motivation and capacity, independently or within an organization, to identify an opportunity and to pursue it to produce new or economic success" [5].

Female students in the Arab region do not suffer from the lack of entrepreneurial skills but their problems are more related to customs, traditions and values prevailing in the MENA society, in which they were raised since their early childhood. That is why; any training strategy, used for future female entrepreneurs, should focus on attitudes changes, self-confidence development, work values, and the support of women's empowerment [10]. Female future entrepreneurs should feel they are equal to men in terms of mental ability, creativity, the ability to face problems and difficulties. Other technical skills can be easily assimilated when conviction and self-confidence are acquired.

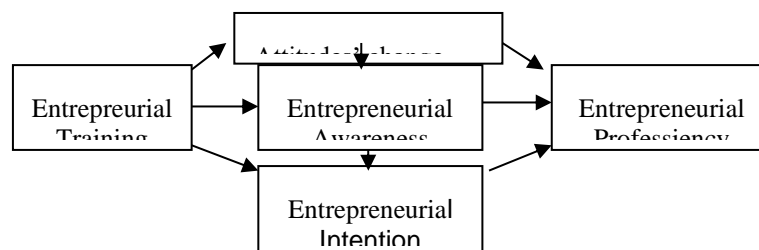


Figure 1. Objectives of the training program

5 METHODOLOGY

Within the framework of a teaching unit about an introduction to entrepreneurship, presented to master's students in various social sciences disciplines, the researcher prepared a training program for the psychology of work and organization, mental health students, speech therapy and clinical psychology students, with an average of 35 students in each speciality [11].

Two training methods have been adopted, discussions and lectures.

- Open questions, dialogues and discussions about obstacles and concerns in carrying out the entrepreneurship activity, the competencies and capabilities students possess, and assistance needed to succeed in establishing and managing their enterprise.
- Lectures on the principles of entrepreneurship, the psychological characteristics of successful entrepreneurs, followed by discussions and dialogues.
- Questions and discussions about what was learnt from the course, in terms of self-confidence, competencies, entrepreneurial awareness and entrepreneurship intention.

5.1 Research questions

The following questions are set to guide the research:

1. What are the female students' fears from setting up their enterprise?
2. What are the obstacles of female students in setting up their enterprise?
3. What are the positive psychological characteristics of female students?
4. What are the skills of female students helping them to succeed in setting up their enterprise?
5. To what extent the training program helped female students to improve their self-confidence?
6. To what extent the training program helped them to develop their entrepreneurial awareness?
7. To what extent the training program helped in developing students' entrepreneurial intention?

5.2 Principles of the training strategy

The training strategy is presented in seven steps, from Introduction to evaluation of its impacts.

1. Introduction to entrepreneurship and its importance in modern society.
2. Discussion of the obstacles facing female students when setting up their enterprise.
3. Identification of the psychological opportunities of female students, contemplating setting up enterprises.
4. Identification of the competencies and skills of female students facilitating their success.
5. Lectures, explanation of the entrepreneurship principles and conditions for entrepreneurial success.
6. Assessment of the extent to which female students are aware of the entrepreneurship importance, concerning women's self-confidence and empowerment.
7. Evaluation of the extent to which training led to change in female students' entrepreneurial intention.

The training strategy is clarified in table1.

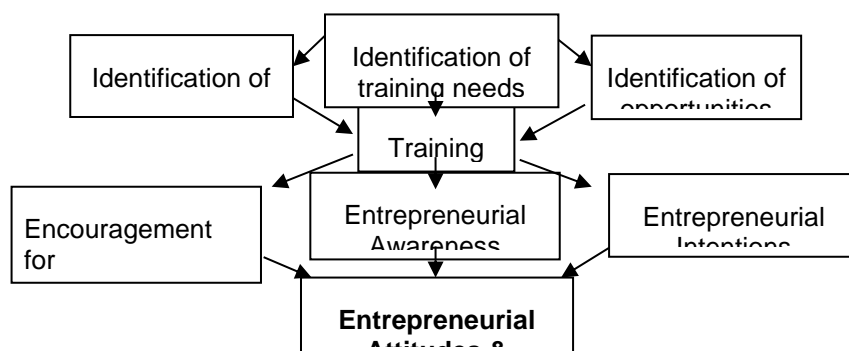


Table 1: Principles of the training strategy

As shown in table1, the training strategy is divided into three main stages; the identification of the training needs, the theoretical course through lectures and the reception of feedback about the impact of applying the training strategy, in terms of attitudes and behaviors.

6 RESULTS

Through the application of the training program to master's students in social sciences, a set of results were learnt.

The most important factors affecting future female entrepreneurs are the fear of failure, fear of parents' rejection of the entrepreneurial project, fear of dealing with employees, and lack of financial resources to establish their entrepreneurial project. Many students mentioned thinking about marriage and building families, as a priority for them, before looking for a job or establishing an enterprise. They are also preoccupied with the possibility of their husbands rejecting an entrepreneurial job.

In addition to the female students' difficulties and fears, several of them expressed having the psychological characteristics allowing them to succeed in managing their enterprise, especially among female students in work and organizational psychology. They are confident and characterized by patience and the ability to face social, cultural, environmental and entrepreneurial challenges.

Most students expressed having talents, such as intelligence, creativity, speed of learning through daily experience, and the ability to deal with clients, despite the expected difficulties. These qualities are important for entrepreneurship success.

A question was asked about female students' awareness of the importance of entrepreneurship, in increasing their self-confidence and the dispelling of their fears, the answers were positives. Some students were entrepreneurs at the same time, expressed that they became more aware of the entrepreneurship importance, and they could expand their businesses and improve the way they manage their business. They have also become more confident in their competencies, which allow them to succeed in setting -up and running their businesses.

In the beginning, the majority of female students were not thinking of starting up their businesses. The training program led most of them to change their minds. What could be concluded is that the applied training strategy helped female students to develop entrepreneurial awareness and thus increased their entrepreneurial intentions.

7 DISCUSSIONS

Training female students, future entrepreneurs must be started by the identification of the obstacles, difficulties and fears facing them. This was addressed through open questions to the students. The researcher

The conclusions are the existence of a set of difficulties and obstacles facing future female entrepreneurs. Some of these obstacles are material and objectives, such as the difficulty of obtaining financial resources. Other constraints are cultural and social, related to the family members' opinion, the social reaction or husband decision about the job of being entrepreneur, and the fear of inability to confront them. As for the other side, it is related to competencies and skills, whether in terms of the ability to manage or lack of control and master professional competencies. These factors lead many female students to fear starting to establish their project.

However, the characteristics of the female students are not all negatives. Many female students expressed their abilities, capabilities, and self-confidence to succeed as entrepreneurs. Especially the elderly women, who are entrepreneurs in addition to their studies at the university.

The open-ended questions were followed by giving lectures to students on entrepreneurship, - a field outside of their speciality (psychology and social sciences) -. This is followed by a series of lectures on the definition of the entrepreneurship concept, the psychological characteristics of successful entrepreneurs and other necessary information for young entrepreneurs. The state's structures and supports for youth contemplating to establish their businesses are covered

Finally, the researcher collected some feedback related to the student's comprehension of the entrepreneurial concept and the steps to be followed to establish businesses were evaluated. The extent to which students benefited from the training program and the extent to which they improved self-

confidence, entrepreneurial awareness. The impact of training on their intentions towards establishing their businesses were identified.

The results were that the majority of female students did not even think before, about starting businesses, and became more aware of the issue of entrepreneurship. They became more confident, in their capabilities and more intentioned to establish their businesses, to obtain their independence, and do not work under men's authority in public or private institutions.

8 CONCLUSIONS

The reality of Arab culture and social attitudes towards women requires appropriate strategies in training future female entrepreneurs. That requires focusing on modifying the values of female students and strengthening their self-confidence in a manly society.

Efforts should be given to modify the impacts of the traditional culture, which led to the inferiority of women's status and the marginality of their roles within society.

This can be achieved through the adoption of training methods focusing on dialogue, entrepreneurial awareness, free discussion and persuasion, to help them to change their attitudes. That helps also the empowerment of the female future entrepreneurs and encourage them for setting their businesses. The objectives are the enhancement of the future female entrepreneurs in self-confidence, and thus their effective contribution to social and economic development. This is what the applied training strategy intended to achieve.

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PARTNERSHIP IN EDUCATION AND TOURISM ENTERPRISE DEVELOPMENT

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Abstract

As tourism is a major driver in any country's economy, a case study is presented about a student based tourism provider in the City of San Fernando in the province of Pampanga in the Philippines. Fernandino Student Tourguides is a youth based, heritage tour provider. It aims to help boost local tourism, help the horse drawn carriage drivers, called Kutseros, earn more, train students in tour guiding for future employment in the tourism sector and sponsor them for government national certifications in Tour Guiding Services. With the partnerships with the local city tourism office and the Kutsero Association, the study may be basis for local and national policy making to boost further the country's tourism industry while helping in the development and education of students.

Keywords: Education, Tourism, Culture, Employment

Research Background

Tourism is an ever growing sector in the country today. According to the Philippine Statistics Authority, back in 2019, the tourism impact to the Philippine economy was estimated at 12.7% amounting to about 2.48 trillion pesos. Its share of employment was at 6.5%, providing 5.71 Million tourism related jobs[21]. Tourism then is a huge contributor to the economic status of the country and provides multiple employment opportunities for Filipinos.

In another article, Tourism Secretary Bernadette Romulo-Puyat mentioned that "Overall, our country reached an estimated amount of Php245 billion in visitor receipts during the first six months of this year. This is a huge spike of 17.57% from the half-year gross revenues in 2018" and pushes for better cooperation and collaboration between tourism stakeholders to promote further the development of this sector and its contribution to the country's economy [22]. As such, a lot of opportunities abound this sector of the country's economy and much attention must be given to address all its needs and challenges.

According to the Tourism Act of 2009, all educational agencies of the government, DepEd, CHED and TESDA must contribute to the development of the tourism industry. In fact as part of its IRR, it states that they must "Develop training modules and conduct multi-skills training seminars, including continuing education programs for the industry manpower, in coordination with appropriate government agencies and tourism enterprises and associations, thereby upgrading their quality, competence and excellence in the delivery of tourism services, which shall include topics on Philippine history, culture, environment and related subjects, in coordination with appropriate government agencies and the private sector, specifically educational institutions"[1]. Further, it states that "Enlist the participation of experts for the training and education programs to LGUs and Develop, in conjunction with the Technical Education and Skills Development Authority (TESDA), programs for the training and certification of tourism professionals" [1]. Thus, a partnership between local government units and educational institutions is suggested.

In the City of San Fernando, Pampanga, the current city Mayor Edwin Santiago on his 12-point agenda, included Tourism and Culture, as well as Education, as focus of his current administration [2]. As such, giving importance to this sector affecting local economy and opportunities. Furthermore, the city of San Fernando is "Seeking to continue its progress, the city government has recently reviewed its

development plans in light of current realities and decided on working toward becoming a preferred tourism destination in Asia by 2022” [3]. And expectedly so, with over 75 tertiary educational institutions in the City of San Fernando, tourism courses are popular. However, these are often than not, stand-alone programs for tourism related education, teaching concepts and details, without much practical application.

Here then introduced is Fernandino Student Tourguides. On its Facebook page, it states that, “Formed back in November 2013, FeST is a youth based organization composed of college students from the City of San Fernando, Pampanga. The group is offering heritage tours around the city’s heritage district within downtown San Fernando. Our FeST guides tour guests and provide stories about the various historical sites found in the city, while riding a calesa. FeST is a non-profit, socially oriented organization with the following mission: To help boost the local tourism industry of the City of San Fernando, Pampanga. To support the local businesses from your pasalubong shopping and from hiring the kutseros. To provide a scholarship program for deserving students. To train students become a licensed tour guide for future employment, To satisfy guest needs by providing exceptional service and an enjoyable stay. All proceeds of our tours go to a student fund to be used for our guides’ further training and to aid in building a scholarship fund ” [4].

The future of learning is mentioned to have blurred boundaries between learning, working and living. As based on the millennium goals of UN, it states that, “Many countries have placed work-based learning for youth and adults at the centre of their approach to vocational skills. Internship and apprenticeship are going through a worldwide upswing. The key challenge remains to ensure that the life-long characteristics of workplace learning are reflected in education and skills strategies and policies. These include development of new approaches for recognition and validation of non-formal and informal learning and enabling flexible access to skills development and qualifications” [5]. The setup then of the Fernandino Student Tourguides serve as “internship and apprenticeship” as they provide services to actual tourists arriving in the city. Their act of tour guiding enhances their skills as part of their vocational studies. Through their practice and experience they get to learn the necessary knowledge to eventually become employed in the tourism industry.

In other related government articles, the Tourism Development Plan for 2016-2022, as part of its strategic direction is to pursue sustainability and inclusive growth. The strategic program correspondingly directs to develop rural and community tourism. The model partnership in the City of San Fernando local government and the Fernandino Student Tourguides, goes in line with these goals, as they employ locals, improve livelihood and increase human capital of the student guides.

The objective of this study then is to be able to provide an analysis for a potential opportunity in education and tourism enterprise development; to create a policy to help in the country’s development and economy through tourism. It is suggested that Provinces, its towns and cities, implement a policy in support of the national tourism development plan of the government. The study will be using the City of San Fernando, Pampanga in the Philippines as a model for this policy implementation as it already has a program related to this. Thus, the recommendation will be applicable to any city or town where such a setup for educational institution and tourism offices can become partners for national development.

Literature Review

In any education program or policy made, there are certain driving values that are factored in for them to be able to achieve the goal or purpose.

Human Capital is knowledge or acquired skills to conduct activity with economic value and derived from added education. “Human capital, is determined by education, training, medical treatment, and is effectively a means of production. Increased human capital explains the differential of income for graduates. Human capital is also important for influencing rates of economic growth” [6]. So a program or policy then must be able to increase a person’s value as they move the educational spectrum to become more productive individuals contributing to society.

Access is defined as, “the ways in which educational institutions and policies ensure—or at least strive to ensure—that students have equal and equitable opportunities to take full advantage of their education” [7]. As a popular slogan says, “No child left behind”, access provides every individual a

chance to be able to better themselves by learning through varying options available in education, be it formal or informal, public or private, or in any combination.

Quality of education states that, "It is one that provides all learners with capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance individual well-being" [8]. As such, educational programs or policies should be able to ensure that the activities and the time invested in these must result productively and efficiently.

Human capital, access and quality for education programs and policies then must always be taken into consideration to be able to ensure that all children will be included and without prejudice to be able to experience and benefit from such.

Many programs and policies that are implemented can be done wholly by a private institution, the government or a combination of. A common approach is a public private partnership or PPP. It is defined as "A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance" [9]. Further, it is also stated as, "contractual agreement between the Government and a private firm targeted towards financing, designing, implementing and operating infrastructure facilities and services" [10]. Various factors and benefits result from such an arrangement, from shared risks, resources, benefits, to serving as a basis for driving policies to be placed to help the economy [11]. More specifically, benefits from PPP are Cost reduction, Risk share, Improve service levels, Earnings improvement, More efficient implementation, Other economic benefits. On the other hand, risks are loss of government control, Greater spending, Political risks and Labor issues, Responsibility issues, Insecure services, Lack of competition, Reduced quality or service efficiency and Imbalance of selection process [12].

In tourism development and education, many studies have looked at various public private partnerships, from their coverage of programs to the scope of benefits. A number of PPP programs and projects are focused on mainly building infrastructure, such Accommodation development and major maintenance, Passenger transport, Golf Courses, Amusement parks, Convention centers and Entertainment centers, among many others [13][14][15][9][16].

Alternatively, programs and projects related to tourism education primarily are about building training facilities, creating training modules and facilitating workshops, such as for technical skills development leading to employment [14]. Skills such as in tour guiding, basic accounting, English, ornithology, interpretation, customer service, sustainable agriculture, first aid, environmental and waste management, and hospitality and food preparation are taught to students involved in tourism related studies [16].

The study then would like to find out if there are alternative program design and delivery of PPP in tourism development and education which moves beyond the typical programs and projects. Also, the aim is to be able to find a model from which a policy may be used as a basis for national implementation.

Research Methodology

For this research, a case study approach will be used. A case study is defined as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly defined [17]. On the other hand, a case study research strategy makes the capture and understanding of context possible and can be used to achieve a variety of research aims using diverse data collection and analysis methods [18]. With these in mind, for this research, the case study method will be used as it aims to collect data to present and explain a phenomena.

The participants for this study were informants who have been involved and had the experience being a part of and with the Fernandino Student Tourguides, the organizational model being studies, as well as other tourism stakeholders. They have been identified and purposive sampling was used. This was done as informants were available, convenient and most importantly represented characteristics of the study [19]. Data from the case study were gathered from focal persons in the Tourism office of the City of San Fernando, tour guides from the Fernandino Student Tourguides and students from the city taking

up Tourism for their tertiary education doing their on-the-job training in a tourism related organization, as well as kutseros who were contracted for their services for guided tours. Semi-structured interviews was the research instrument used.

Result and Discussion

Fernandino Student Tourguides

The Fernandino Student Tourguides, as mentioned, is a youth based organization, primarily composed of college students from a private Technical Vocational Institution, offering heritage tours by calesas in the City of San Fernando, Pampanga. The public private partnership setup of the organization is between the local city tourism department, the San Fernando Kutsero association as one of their suppliers and the student organization, as seen in the diagram below.



Diagram 1: PPP Structure

Thus, as a guest books a service through the local tourism office, it coordinates with Fernandino student tourguides, as well as the Kutsero association for the corresponding number of resources needed.

Since its inception in 2015, Fernandino Student Tourguides has provided tour services to at least 200 guests, provided assistance to at least 25 Kutseros through multiple tours and sponsored 20 students for national certifications in TESDA.

Analysis of Driving Values

Human Capital. FeST, in providing training to students and actual tour guiding experiences, adds to the students' credentials and mastery of the necessary skills. This then leads to a probable higher allowance or tips given per trip because of better service given to tourists. Also, as they graduate they may be able to apply and get a job as earlier than others, with the experience that they have. A premium may also be given to them given their credentials. Lastly, they may involve themselves in freelancing tour guide services.

Access. The setup of FeST is as a student organization in a technical vocational institution. As such, it provides an opportunity for students to join the program regardless of course or program. They can join without prejudice to background, gender or financial capabilities, for example. The basis of choice is their capabilities, skills and attitudes as student guides.

Quality. Those who are part of the program are provided with the corresponding training and enhancing of skills needed for the tourism sector, especially in tour guiding services. Further, the qualification of their teachers or trainers are of corresponding credentials. For example, TESDA certified in tour guiding services or professional experience in the Tourism industry. Also, national certifications in TESDA must be taken by the students to make sure that the level of knowledge and skills fit that of the industry and is given validation by the government.

In addition to the mentioned values above, certain factors need to be considered as well when it comes to program evaluation for potential policy formulation. Based on the Field Guide for Educational Leaders, Summary of Checklist of Each Step of the Policy Analytical Process [20], these are the following: Does it work? Is it fair? Is it affordable? Will people support it? Who will implement?

Does it work? Based on an existing group, Fernandino Student Tourguides, providing the services mentioned, it is known to have worked over a few years with various activities they have been a part of, together with the local government activities. For example, they have been a part of at least 5 city events already, as mentioned by Ms. Bernadette Tapnio, City Tourism staff, and have provided tours to at least 100 guests.

Is it fair? Currently, the city tourism office has only one partner. In this case, it might be assumed that the focus is with an individual private institution. However, once guidelines can be drafted, it can be mentioned that partnerships would have to be offered to all educational institutions with the tourism related program offerings. Also, the choice of student guides to be part of the program has to give equal chances to any potential applicant going through a standardized procedure.

Is it affordable? Budgets for guides, local suppliers and the tourism staff must be taken into account here. Since during the research, details on tourism spending were not given, as it is confidential, it cannot be fully stated on how this factor can be answered. Further research and data has to be provided to be able to do so.

Will people support it? As of writing, the local tourism office supports the setup. Local media has also featured and talked about the setup and its contribution to the tourism industry. However, as common to any local government, policies are to be presented and be given priority based on who is seated in the government. In the city of San Fernando, as mentioned, tourism development and education are a part of the agenda of the Mayor and such, support is easily provided. Institutionalizing such partnerships may endure political terms. Further, multiple local and national guests have engaged the services of the student group with more than acceptable feedback.

Who will implement? The local Tourism office, a local private college and its suppliers, the San Fernando Kutsero Association, help make it work. Agreements must be made between groups for the implementation and success of such program.

Based on the aforementioned discussions, Fernandino Student Tourguides more than aptly meets the driving values for education and factors needed for program development leading to possible policy implementation.

PPP Benefits and Risks

From the interviews done with the various stakeholders, such as the tourism officials, Kutseros and student guides, different themes on the positive and negative aspects of the partnerships were mentioned based on their experiences. As mentioned in a section above, PPP programs and projects have their benefits and risks involved [12]. Resulting themes from the interviews were matched correspondingly, as applicable, and a new theme was added accordingly.

Improve service levels. Given that trainings were provided for the student guides, as well as the Kutseros, the quality and level of service improved. There is a standard that is followed in providing for the tours to guests. This was seen through the evaluations of guests which were on average more than satisfactory. Both kutseros, Mr. Russell Luzung and Mr. Rodel Ibay, mentioned that they learned how to speak properly with guests and how to share stories, although difficult in the beginning. One student guide mentioned learning how to express herself better, how to socialize with people she just met and how that built her self-confidence. Another student guide mentioned how she realized due to the training and the experience of guiding guests that she can do a lot more and that she is capable of accomplishing things.

Earnings improvement. According to Ms. Ching Pangilinan, Tourism Officer of the City of San Fernando, they have been partnered with Fernandino Student Tourguides since November 2015 and has provided them services with various tourism events of the city since, such as their celebration of Heritage Month, Cityhood Anniversary celebration, Giant Lantern Festival, among others. The partnership has greatly helped in promoting tourism in the city and has helped with the livelihood of kutseros and training of the student guides while being provided allowances.

The kutseros, who often cater to guests for the heritage tours, also mentioned about earning additional when there are tours, which is very helpful. This is on top of their daily transportation service earnings.

For one former Fernandino Student Tourguide, she mentioned as one benefit of being part of the group was receiving allowance that helped her with her school expenses during that time.

More efficient implementation. Ms. Bernadette Tapnio, Tourism staff of the City Tourism office of San Fernando, has mentioned that ever since the partnership, they had less difficulty in promoting the city through the tours, as their guests can be provided the services without their office having to worry whom to send. She mentioned that they are undermanned and cannot fully service all tourist needs for tours. Ms. Pangilinan also mentioned this advantage for tourism promotions.

Other economic benefits. Ms. Ching Pangilinan mentioned as well, she has no knowledge of a lot of educational institutions that have any partnerships in tourism education and tourism related programs with the government, except for one, Asia Pacific Academy of Management, Science and Technology. This technical-vocational institution houses the Fernandino Student Tourguides, a youth group offering local heritage tours. As such, a new service offering provides benefits to tourists as they have an option for activities to do in the city. Subsequently, purchases of guests within the city provides additional earnings from pasalubong shopping and food purchases, among others.

Two senior Tourism students from the University of the Assumption, a local private university and one student from the City College of San Fernando, a public local college, were also asked of any programs they know that relate their course to a local government project. They said that they only do tour simulations and on the job training as part of their requirements in their school. They do not get to practice though the skills taught in the mentioned subject though they were required to take the TESDA national certification on Tourguiding services. So having such a new service offering may offer alternative modes of learning and apprenticeship.

Other Benefit. Both student guides and Kutseros mentioned about learning more about local culture and heritage as something they appreciated from being part of the service experience. They appreciated the sights and sites of the city more. And in so doing, one student guide mentioned, she learned to love her city and culture more and was delighted to share her newfound knowledge with her guests.

Based on the study, below are the potential risks and concerns that may arise from the setup of the Fernandino Student Tourguides. Although these have not yet come to realization, these are very possible areas to prepare for.

Political risks and Labor issues. The political direction and vision of any government leader or department in being able to have a partnership exist and implemented within a province, town or city is a necessary ingredient. It is fortunate that the Mayor and the City of San Fernando put tourism and education amongst its priorities. However, there may be certain provinces, cities or towns, where the government leader may not be focused on tourism and education related goals. Thus, despite the design, implementation will be a problem.

Responsibility issues. If the private institution decides to end the partnership, who will take over? Concerns on responsibility for its continuity might put a risk for this service to be always available. The program is dependent upon the private partner institution. If come a time, they want to end providing their services for whatever reason, the city tourism office will suddenly lose its capability for being able to provide the tourism services. Given that no other school provides this service as of writing, then no institution will replace it.

Insecure services. Since this is a partnership with the private sector and it entails that the private educational institution must provide necessary resources to support such programs, financial constraints will be a factor. If in most unfortunate situation, the institution closes down then the life of the partnership will cease to operate. Administrative and operational concerns as well on maintaining and sustaining Fernandino Student Tourguides are also factors to be considered. If there will be a loss of interest or membership from the students then the operations again will cease to exist.

Also, the existence of its suppliers, the Kutseros, is also important. Given that their partners are cultural treasures that are limited and dwindling in number with multiple competitors in the transportation industry, a risk also exists in the continuity of the program. The interest and support by its members will affect the partnerships.

Conclusion

Based on the model of the Fernandino Student Tourguides and its partnership with the local city Tourism office of the City of San Fernando and the Kutsero Association, it meets numerous values for educational programs and provides multiple benefits to various stakeholders. It can be used as a sound basis and model for similar endeavors in education and tourism development.

For research, it is suggested to find similar organizations and partnerships engages in tourism and education in and out of the Philippines. If any, comparisons and best practices maybe studied further to enhance the goals and achievements of such a concept. This then can be shared further for the impact to be exponential.

For practice, other educational institutions may look into forming their own partnerships with local government units and tourism suppliers to be able to replicate the model of the Fernandino Student Tourguides. As there are numerous tourism and educational institutions in the country, organizations as such will not be much difficult to create.

Further, study the possibility of using linkage between local tourism offices and public or private senior high schools offering the technical vocational livelihood (TVL) track, specifically with the home economics strand focusing on tourism. As the activities of Fernandino Student Tourguides are practical applications and reflect the learning outcomes of the mentioned strand, it may be easier to implement and avoid the risks mentioned on student interest and attendance. Further, it will help with livelihood aspect of the senior high school track and prepare students for employment.

For Policy, as mentioned already above, the Tourism Act of 2009, instructs all educational agencies from DepEd, CHED to TESDA to contribute to the development of the tourism industry, by developing programs and projects promoting education and tourism. From the case model of the Fernandino Student Tourguides, as part of the government Act, this may be added to the implementing rules and guidelines. Requiring local government units, specifically local tourism offices to partner with educational institutions with tourism related programs to form Student Tourguide Organizations and Centers to help promote the various cultural treasures, sights and sites of every city and town, as well as develop its youth and prepare them for future employment.

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NEW CHALLENGES IN EDUCATION

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Abstract

This paper is prepared and based on research made in preparation the project Intelligent STEMLand, which was applied on financing on Open call for proposal Strengthening STEM skills in primary schools and development of regional science centres for Science, Technology, Engineering, and Mathematics education in primary schools. Obviously, human population currently live in period, when is future, from the technical, technological, sociological, economical way, unpredictable more than ever, so the education in Science, Technology, Engineering, and Mathematics area or for related occupations is very often mentioned as a crucial for getting a better place on the labour market. How to make this area more attractive for pupils or students seems like very simple issue, especially with new technology tools, such as tablets, robots etc., but in the praxis, it is demanding issue, both for pupils and for teachers. Developing such a project, which should change and transform the level of interest for Science, Technology, Engineering, and Mathematics skills and related education in one region is also very challenging and very demanding, and in this paper will be presented some of the mayor findings. The research made in this project, which contains contacts, group interviews and survey with 20 different stakeholders (institutions) in Eastern Slavonia and Iceland is a good potential and good reason for some further and future research. The goal of paper, is to research, whether interest of relevant institutions for this area is real and objective, or only declarative or nominal, because they perceive this project as a possibility to get certain buildings, equipment, services.

Keywords: education, projects, labour market, development,

1 Introduction

The project Intelligent STEMLand is applied on the Call for proposals (hereafter referred to as "Call") outlines the general provisions for the award of grant within the Programme "Local Development and Poverty Reduction" financed by the European Economic Area (EEA) Financial Mechanism 2014-2021 (hereafter referred to as: EEA Grants) in the Republic of Croatia. This Call is in accordance with the Programme Agreement "Local Development and Poverty Reduction" and the EEA Regulation for the period 2014 - 2021, in particular with the Article 7.3 of this Regulation, as well in accordance with the national strategic and legislative framework related to the programme and sectoral competences.

The Focus of this Call is to improve Croatian primary education capacity in STEM teaching and ultimately enhancing the STEM (hereafter referred to as "STEM") skills of teachers and other educational staff and pupils in primary schools. STEM education, in terms of an integrated and applied approach to the teaching of pupils with a focus on science, technology, engineering and mathematics, has the goal of preparing pupils for successful continuation of their secondary education, for their future successful careers and to meet the challenges of the complex and technologically advanced modern society. To ensure the quality of STEM education in primary schools, primary schools will get the opportunity to ensure the infrastructure requirements and acquiring equipment needed for establishing modern STEM classrooms, simultaneously investing in their capacity buildings (developing skills of teachers) and designing and implementing new STEM activities for pupils relying on their enhanced capacities [7].

The EEA and Norway Grants are funded by Iceland, Liechtenstein and Norway (Donor States) by signing an agreement on 28th July 2010 between the Donor States and the European Commission about the allocation of the financial assistance for the implementation of Grants in the new period 2014-2021.

Grants have two main goals:

1. Contributing to an equal Europe, both socially and economically;
2. To strengthen the relations between Iceland, Liechtenstein and Norway, and the 15 beneficiary countries in Europe – Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia, Slovenia. [8].

The overall objectives of the EEA Financial Mechanism 2014-2021 are to contribute to the reduction of economic and social disparities in the European Economic Area and to strengthen bilateral relations between the Donor States and the Beneficiary States through financial contributions in the priority sectors listed in paragraph 1 of Article 2.1. [9].

The project Intelligent STEMland aims to raise the quality of primary education primarily in the Požega-Slavonia County and Osijek-Baranja, Vukovar and Virovitica-Podravina counties. By improving the infrastructure of schools, renovation of classrooms with STEM equipment, developing the skills of teachers and the implementation of new STEM activities for students it leads to the establishment of the Regional scientific center. Science will be promoted in a modern and innovative way that will encourage teachers and students to take a new approach to learning. The aim of the project is to continue investing in modern technology and artificial intelligence with the purpose of bringing modern technology closer to both younger generations and the general public. In one of the next chapters will be said more about main findings of the research.

2 Literature review

As many other widely used terms, Science, Technology, Engineering, and Mathematics has different definitions and various meanings. In this part of paper will be said more about definition of STEM.

In the 1990s, the National Science Foundation (NSF) began using “SMET” as shorthand for “science, mathematics, engineering, and technology.” When an NSF program officer complained that “SMET” sounded too much like “smut,” the “STEM” acronym was born. As recently as 2003, relatively few knew what it meant. Many that year asked if the STEM Education graduate program I was beginning to envision had something to do with stem cell research. That was still very much the case in Fall 2005, when we—the Technology Education Program faculty at Virginia Tech—launched our STEM Education graduate program. 1 But when Americans learned the world was flat (Friedman, 2005), they quickly grew to believe China and India were on course to bypass America in the global economy by outSTEMming us. Funding began to flow toward all things STEM, and STEMmania set in. Now, nearly everyone seems somewhat familiar with the STEM acronym [1].

The International Technology and Engineering Educators Association (ITEEA) defines STEM as a new transdisciplinary subject in schools that integrates the disciplines of science, technology, engineering, and mathematics into a single course of study (Dugger, 2010).^{*} There are three major problems with this definition: There is no consensus in support of the ITEEA definition of STEM education. There exists the conceptual conundrum of converting four major academic disciplines, each divisible into major subdivisions, into a single school course. And, activity-based learning has been omitted from the definition. Activity-based learning is the signature characteristic of technology and engineering education. While there does exist a national movement in support of the idea of STEM education, the failure to agree on what STEM is, why STEM is important, and how to implement STEM, means that since the emergence of STEM as an education concept approximately fifteen years ago, too few students are graduating from STEM programs in order to meet the demands of U.S. employers (Rothwell, 2014). The purpose of this article is to propose changes to the ITEEA definition of STEM; to include emphasis on learning activities, eliminate the conundrum of turning four subjects into one, and provide the basis for consensus among stake holders, by answering the question “Why STEM?” Is there something unique about STEM? Why not add art; forming the acronym STEAM? There is definitely a connection between artistic ability and engineering design (Sousa & Pilecki, 2013). Why not add “R” too, for reading, to form STREAM? Reading is obviously essential to learning in the STEM disciplines. Therefore, the need to improve reading skills is critical (Sege, 2012). Then there is social studies/history to consider (Weyman, 2015). Design engineers take the prevailing culture into account when designing any public structure. So adding an ‘S’ for social studies, results in STREAMS. If we keep this process up, we will soon have a traditional academic curriculum, and some argue that it is what schools should stick with (Zakaria, F. 2015). [2].

Also, term STEM is very widely used, but nobody could be sure, does people know what to do and how to use product of education in STEM.

Revolutions in information technologies and biotechnology will give us power over the inner world and enable us us to construct and produce living beings. We will learn how to construct the brain, prolong life, and kill thoughts at will. Nobody knows what the consequences will be. It's for people it has always been much better to invent new tools than to use them wisely. [3]. Furthermore, errors in forecasts are inevitable because the world itself is unpredictable. [4].

3 Some figures about STEM

STEM education and teachers/pupils/student who are participated in, are very often object of different surveys and interpretations. All of them have something in common, that they perceive STEM education as something good and something that could improve position of pupil/student on labour market. Below will be present some figures, mainly as indicator of education/economy system of United states of America, and after that there will be said more about European figures in STEM.

1. STEM jobs are projected to grow 8.8%.

Between 2017 and 2029, the number of STEM jobs will grow 8 percent, a higher rate than non-STEM jobs—with positions in computing, engineering, and advanced manufacturing leading the way.

2. Specifically, software development employment is projected to grow 22%.

Regarding the job outlook from 2019-2029, employment in software development is projected for 22% growth. (Via the US Bureau of Labor Statistics)

3. Employment in STEM occupations has grown 79% since 1990.

Overall, since 1990, employment in STEM occupations has grown 79%—increasing from 9.7 million to 17.3 million. (Via a 2018 article from Pew Research Center)

4. The average median hourly wage for STEM jobs is \$38.85.

Compared to the median earnings for all other types of jobs in the US - \$19.30 - STEM-related jobs pay exceptionally well. (Via the Education Commission of the States)

5. The median annual wage of STEM occupations in 2020 was \$89,780.

This is well over double of that of non-STEM occupations, where the median annual wage came in at \$40,020. (Via the Bureau of Labor Statistics)

6. The US placed 30th of 64 countries in math, and 11th in science.

This is according to the Programme for International Student Assessment (PISA)—which is regarded as one of the biggest cross-national tests of its kind. (Via US World News Report)

7. Only 20% of US high school graduates are prepared for college-level coursework in STEM majors.

According to a White House report, 20% of high school grads are ready for the rigors of STEM majors. In fact, over the past 15 years, this report also found that the US has only produced 10% of the world's science and engineering grads. (Via American Affairs).

8. 74% of middle school girls express an interest in engineering, science, and math...

But only 0.4% choose computer science as a major when they get to college. (Reported by girlswhocode.org and mentioned by the National Girls Collaborative Project)

9. 2 out of 3 US women say they were not encouraged to pursue a career in STEM.

In the 2019 STEM survey by Emerson, it was stated that 2 of 3 US women said they weren't encouraged to pursue a STEM career. (From Emerson.com)

Read More: The Benefits of Encouragement

10. Women make up only about 18% of computer science undergrads.

The Bureau of Labor Statistics projects that by 2026, computer science research jobs will grow 19%. However, only 18% of computer science bachelor's degrees in the US are earned by women (Via computerscience.org)

11. As of 2019, women comprise just 27% of the STEM workforce.

This is despite making up 50 percent of the total college-educated workforce. Translation? A shockingly low percentage of women are pursuing careers in these fields. (Via census.gov)

12. 63% of middle school girls who know women in STEM feel powerful doing STEM.

In comparison, 46% of middle school girls who don't personally know women in STEM feel powerful doing STEM. Similarly, 73% of those girls who personally know women in STEM understand the relevancy of STEM, and 72% know how to pursue a STEM career. This is compared to 51% and 47% of those who don't personally know women in STEM, respectively. (Via Microsoft and a study done in partnership with KRC research)

13. Moms who communicate on STEM leads to girls being +20 points more interested in pursuing their studies.

From the same study above, "Having an encouraging mom who communicates about STEM is associated with girls being an average +20 points more interested in all STEM subjects compared to those girls who do not." Having an encouraging teacher is associated with +21 points; having an encouraging dad is associated with +17 points.

14. 40% of black students switch out of STEM majors before earning a degree.

This is according to a study published in the journal, Education Researcher, and highlighted by the Education Advisory Board. There is a lot of work to be done in addressing this trend, and promoting diversity in STEM starts at the university and K-12 level.

15. Black workers make up 11% of the US workforce, but represent 9% of STEM workers.

This is in addition to Latino STEM workers, who make up 16% of the workforce, but only 7% of all STEM workers. And, of those employed adults who hold a bachelor's degree or higher, 7% are black workers and 6% are Hispanic workers of the STEM workforce." Plus, recent headlines have exposed Silicon Valley's diversity problem and how much work there is still to do to improve equity in tech. (Stats via Pew Research Center)

16. The Department of Education recently invested \$540 million in STEM education.

The White House "Charting a Course for Success Report" identified a need to bolster support for STEM education at both the K-12 and collegiate level. These funds include efforts to recruit and train quality STEM teachers, increase diverse representation, and provide curriculum and materials for schools. (Via the Department of Education).

17. The US Bureau of Labor predicts 15% growth across healthcare professions by 2029.

STEM infuses virtually all aspects of the healthcare industry. By encouraging kids to pursue STEM, they'll be prepared to find an exciting career within a wide range of options and increasing demand. (Via Bureau of Labor Statistics)

18. Fewer than half of the schools in the US offer computer science classes.

That's right—according to a 2020 study sponsored by Code.org, fewer than half of US schools offer computer science curriculum. That begs the question: are kids going to be ready to meet the evolving, growing landscape of STEM professions. (Via ESchool News) [5].

Table 1 shows some figures in EU in 2019, taking into consideration 5 levels of education.

Table 1 Graduates in tertiary education, in science, math., computing, engineering, manufacturing, construction, by sex - per 1000 of population aged 20-29 in 2019.

	Tertiary education (levels 5-8)	Short-cycle tertiary education	Bachelor's or equivalent level	Master's or equivalent level	Doctoral or equivalent level
European Union - 27 countries (from 2020)	20,8	2,4	10,2	7,3	0,8
European Union - 28 countries (2013-2020)	21,5	2,5	10,9	7,2	1,0
Belgium	14,2	0,0	7,6	5,6	1,0
Bulgaria	14,0	:	8,4	5,2	0,4
Czechia	16,1	0,0	8,0	7,1	1,0
Denmark	23,7	2,8	11,0	8,8	1,1
Germany (until 1990 former territory of theFRG)	24,4	0,2	14,9	8,0	1,3
Estonia	16,5	:	8,8	6,9	0,9
Ireland	36,9	5,0	21,7	9,2	1,1
Greece	17,2	:	12,2	4,5	0,6
Spain	20,9	7,5	7,8	4,8	0,8
France	27,5	8,1	7,6	11,0	1,0
Croatia	19,8	0,1	11,3	8,0	0,5
Italy	16,4	0,3	8,3	7,1	0,7
Cyprus	10,2	1,7	4,9	3,2	0,4
Latvia	14,0	2,9	7,6	3,2	0,3
Lithuania	19,8	:	15,1	4,2	0,5
Luxembourg	3,9	0,5	1,3	1,2	0,9
Hungary	12,3	0,2	8,2	3,5	0,3
Malta	11,0	0,6	7,7	2,6	0,2
Netherlands	13,6	0,1	7,9	4,8	0,8
Austria	23,4	8,7	7,7	6,1	0,9
Poland	20,1	0	12,4	7,4	0,3
Portugal	20,9	1,4	10,9	7,8	0,8
Romania	17,5	:	11,4	5,8	0,3
Slovenia	20,8	3,7	10,6	5,5	0,9
Slovakia	12,9	0,1	5,9	6,2	0,8
Finland	24,8	:	15,6	8,2	1,1
Sweden	15,8	2,7	4,8	7,1	1,3
Iceland	15,9	0,1	11,7	3,6	0,6
Liechtenstein	9,0	:	3,7	4,8	0,4
Norway	16,5	2,4	7,2	6,0	0,9
Switzerland	22,0	0,0	14,0	6,0	2,0
United Kingdom	26,2	3,0	14,6	6,9	1,7
North Macedonia	8,4	:	6,6	1,7	0,1
Serbia	16,0	:	11,1	4,4	0,5
Turkey	12,8	3,9	7,1	1,5	0,2

Source: EUROSTAT (2021) [6]

As it is shown in Table 1, there are huge variations in figures from country to country. Some of the countries have significant results, as a result of reform of their education system e.g. Ireland.

4 Methodology and result

The research made in this project, which contains contacts, group interviews and survey with 20 different stakeholders (institutions) is a good potential and good reason for some further and future research. Among 20 subjects, were 17 from Croatia (15 schools, 1 local development agency, 1 employment office) and 3 from Iceland (1 educational institution, 1 travel agency, and 1 local public institution). This research was made by group interview technic, and by online survey. Main findings we can extract in 3 groups, and they are taken into consideration in this project:

Partnership: There in nominally will for being a partner, but most of the potential partners perceive project as an opportunity to get some material stuff, rather than get some new knowledge or experience. This was not aim of the project and the whole programme. But this is maybe result of situation that some schools in Croatia still don't have all the equipment that they need. On the other side, we have phenomenon that some schools have some (for them) complex equipment, that they don't know how to use properly. So new equipment has to be followed by practical education.

Communication plan: This project needs complex communication plan, which is requested from donator, but the project holder and partners perceive it as a something they must do. This is issue which is happening in the most of the projects, doesn't matter whether they are financed by European Union, Word Bank or EEA fund, and it have to be obeyed, because, those who are giving money have some rules that have to be followed.

Cost-benefit analysis: In this kind of project is completely irrelevant and there is no need for that, because, it's very hard and its completely impossible to make some realistic prognose of public benefit?! To monetise future effect of today's education in STEM area, and to calculate what is opportunity cost (because some pupil didn't study e.g. economy or law) is very hard. Cost benefit analysis, or in this case whole Feasibility study, will result in fact that applicants will send FS only to fulfil the form. It won't be worth documents, its only pro forma, and after all it is nothing but waste of resources.

5 Conclusion

There is always (declarative) idea and (declarative) will in schools participate in projects, especially in those which nominally have to improve school material standards and non-material. Declarative in brackets, because some stakeholders like to participate, only not to be out, also don't want that something is happening without them. Term STEM, and STEM in education is very popular, and most of predictions tell us that those who will be better in some STEM area, has better chances to get a better job, position on labour market etc. Main problem is, not only in local schools which were participants in this research, but at the other subjects and individuals, that they can't imagine what will be real role of STEM education. Nobody knows what is waiting us, and especially those who are in primary school, because up to time when they come to labour market, there is 10 or more years. So related to STEM education, we all know, for now, where we have to go, but we don't know where it will bring us. Its deep political, economic, technologic, sociologic, and even philosophic issue, because, nobody knows how important people will be on the labour market or whether someone need their (STEM) abilities and skills or not? Is the place of human with STEM skills secured in the word with running digitalisation and 4.0 industry?

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BULGARIAN TEACHERS' WELL-BEING DURING COVID-19 PANDEMIC: JOB SATISFACTION'S LEVELS, DETERMINANTS, AND POSSIBILITIES FOR PROMOTING POSITIVE MENTAL HEALTH AT WORK

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Abstract

The paper traced out the results from Bulgarian teachers survey on job satisfaction from different work aspects and the effects of perceived stress and state-trait anxiety on job satisfaction during the COVID-19 pandemic. Sample included 211 teachers from different stage of education (e.g. preschool, primary, high school teachers, etc.) aged 25 to 65 years. The results present rather average levels of job satisfaction, as teachers are significantly more satisfied with the ability to work remotely compared to satisfaction with relationships, both students and colleagues. Statistically significant differences in job satisfaction are found depending on the length of service and the stage of education, as teachers with 20 and more years of experience are more satisfied with the content of their work and with the working conditions compared to those with shorter experience. Primary school teachers have the lowest level of job satisfaction, while preschool and junior high school teachers have a higher level of job satisfaction. State-trait anxiety proves to be a significant predictor of teacher job satisfaction and have negative effects on satisfaction with the working conditions, with the relationships (both students and colleagues), and pay. Perceived stress has statistically significant weak negative effect only on satisfaction with the content of remote work. In addition, some specific strategies to increase teacher well-being and promoting mental health at work are presented.

Keywords: Job satisfaction, anxiety, perceived stress, psychological well-being, COVID-19.

1 Introduction

Positive mental health at work is a key factor in the effectively management of today's organizations [1]. Benefits of positive mental health have been demonstrated across work and non-work domains. Individuals reporting positive mental health have better work performance, better social relationships and better physical health [2]. Especially in times of sudden changes and reorganization caused by important events such as the COVID-19 pandemic, the issue of positive mental health at work is gaining importance [1]. The emergence of the disease caused by the coronavirus SARS-CoV-2 caused a number of changes in the functioning of society. In schools, administration, and some enterprises, in order to maintain business continuity, rotational, hybrid or remote working was used. According to UNESCO reports, as of March 30, 2020, 166 countries had closed their schools and universities. Globally, 87% of the student population was affected by these measures or about 1,520 million students, as 63 million teachers stopped working in classrooms [4]. In Bulgaria, from March 13, 2020, many industries have been forced to completely suspend their business activities, and from March 31 in schools distance learning took place until the end of academic year. During the new academic year started in September 2020 the students and teachers return to schools, but many times due to preventive measures and necessary to reduce the transmission of the COVID-19 virus, some of the schools or classes or all schools switched for some time to digital media to continue their school activities. The pandemic confronted teachers and students with new challenges related not only to preserving the health of all in the school environment, but also revealed the deficiencies and inequalities both in the availability of these digital resources and in the preparation of teachers and students to move towards the modalities of distance education [4].

The COVID-19 pandemic is not the first to put teachers in a difficult situation, as teaching profession appears in the scientific literature as having a history full of periods of crisis and discontent, strongly guided by high rates of professional dissatisfaction, stress, burnout and depression (e.g. [3],[5]). The poor well-being of teachers was linked to the vast bureaucracy, the excessive workload, the growing number of students per class, the lack of motivation and/or interest, incidents of indiscipline, precariousness and professional instability, the workload outside the school environment and the growing use of technology in teaching (e.g. [6], [5], [3]). Our previous research found that Bulgarian teachers had the highest scores on personal and work-related burnout compared to employees in local government, security and social workers [7]. Teachers also share a greater transfer of negative emotions from work to their personal lives than physicians, employees in administrations and scientists [8]. At the same time, a study of job-related affective well-being of public sector employees in Bulgaria found that teachers are among the professional groups experienced the highest level of negative emotions such as depression and anxiety [9]. Therefore, it is necessary not only to study teachers' well-being in the COVID-19 pandemic situation, the factors that determined it, but also have to put attention on the possibilities for promoting positive mental health at work.

Theoretical framework

1.1 Positive mental health at work

The growing interest in positive mental health and positive psychology had a considerable influence on workplace practices and efforts to enhance employee health and well-being [2]. Insights from the study of positive organisational behaviour and positive psychology indicate that employees who experience positive mental health and greater psychological capital are more satisfied, committed and productive (e.g. [2], [10], [11]). Definitions of positive mental health includes some basic elements as: successful performance of mental function, resulting in productive activities; fulfilling relationships with people; the ability to adapt to change and to cope with adversity [2]. Positive mental health comprises both cognitive and social dimensions and is associated with higher degrees of functioning in multiple life domains. The benefits of positive mental health have been demonstrated across both work and non-work domains [2]. Individuals reporting positive mental health experience better work performance, better social relationships and better physical health (e.g. [12], [13]). Positive mental health among individuals has also been associated with higher levels of job satisfaction and job performance [14], which in turn predicts higher organisational performance and productivity, thus providing a business benefit rationale for promoting positive mental health among employees [2]. One of the factors that contribute significantly to positive mental health is job satisfaction [1]. Studies to date indicate that satisfaction is a key indicator for positive mental health at work [15].

1.2 Job satisfaction

1.2.1 Job satisfaction definitions

Job satisfaction is most often defined as the positive emotional state resulting from the employee's professional experience [16] or the degree of employees' contentment with their work [17]. In the specific case of teachers, we understand that job satisfaction refers to the way teachers feel about different aspects of their work [18]. Job satisfaction is composed of psychological, physiological and environmental conditions and factors that together guarantee positive feelings towards work, and therefore increase productivity and well-being of employees [3]. Also, job satisfaction, as one of the aspects of well-being, is considered to be a positive attribute of mental health [19]. The significance of job satisfaction for both the employee and the organization means that it is still the subject of many studies [1]. In the line of the remote work research indicates that temporarily performing duties away from the workplace can increase employee job satisfaction [20]. In contrast, research conducted under social isolation and COVID stress suggested that isolation negatively affects remote job satisfaction [21].

1.2.2 Job satisfaction determinants

Job satisfaction is an extremely complex concept influenced by various factors both on organizational and on individual level [1]. The organizational factors include: remuneration, promotion opportunities, communication with superiors and benefits offered to employees, etc. Individual factors influencing job satisfaction are primarily personal values, but also personality and mental health [21]. For example, big five personality traits that has a significant effects on job satisfactions are Neurotism, Extraversion and Consciousness [22]. In details, anxiety, vulnerability, low self-esteem (Neurotism) reduces job satisfaction, while a positive thinking (Extraversion), hardworking, vigilant (Consciousness) enhance job

satisfaction. Results from different studies and professional groups presented a negative impact of work stress on employees' well-being and job satisfaction (e.g. [23], [24]). Usually, study with educators established the high level of work stress and prevalence of stress-related illnesses [24], personal and work-related burnout [7], and high level of negative emotions such as depression and anxiety [9], which are predictors of low levels of job satisfaction. Studies to date show that social interaction has an important role to play in shaping job satisfaction, and during the COVID-19 pandemic research presents that positive employee relations contribute to the level of job satisfaction [1]. In the present study job satisfaction from different aspects of work of the Bulgarian teachers are measured, along with the effects on some personality factors as anxiety and perceived stress. In addition, based on the research results and theoretical line some possibilities for promoting teachers' mental health at work are presented.

Methodology

1.2.3 Participants and procedure

The sample of the study consist of 211 Bulgarian teachers (175 females, 83%) aged between 25 to 65 years. The length of the services as following: up to 5 years (38%); 6-10 years (24%); 11-20 years (11%), and more than 20 years (27%). Teachers from public schools predominate (68%), and depending on the stage of education in which they teach the groups are: preschool teachers (27%); primary teachers (22%); junior high school teachers (15%); high school teachers (15%); mixed classes teachers (21%). The study was carried out between March and May 2021 using an online questionnaire in Google forms, preceded by the informed consent form.

1.2.4 Instruments

In addition to the socio-demographic and professional variables (gender, age, level of education one teaches, length of service), the questionnaire comprises 39 additional questions, divided into 3 scales:

1) Job Satisfaction Scales (JSS) with 5 questions measured the satisfaction with different aspects of work: working conditions; relationships with colleagues; relationships with students; pay, and content of distance work. Participants express their satisfaction level using a 5-point Likert scale, where 1 is "completely dissatisfied" and 5 is "completely satisfied".

2) The Bulgarian adaptation of the State-Trait Anxiety Inventory of Spielberger (STAI - Form Y) [25]. The scale contains 20 statements that assess how the respondent "feels at all." The subjects answered on a 4-point Likert scale from "Almost never" (1), "Sometimes" (2), to "Often" (3) and "Almost always" (4).

3) The Bulgarian adaptation of Perceived stress scales (PS-1) with 14 items (7 positive and 7 negatively formulated) on different experiences and the ability to deal with difficulties, which are assessed on a 5-point Likert scale from 1 "never" to 5 "very often" [26].

1.2.5 Statistical analyse

The analysis was performed using IBM Statistical Package for the Social Sciences (SPSS) Statistics for Windows, version 22.0. In order to analyse the psychometric characteristics of the scales a reliability was analysed through the calculation of item-total correlation coefficients and Cronbach's alpha (α) for the scales of the questionnaire. The Cronbach's alpha for the scales are as following: JSS ($\alpha=.78$); STAI ($\alpha=.93$); PS-1 ($\alpha=.87$), and represent high reliability of the scales used. The descriptive analyses are presented, including mean (M), standard deviations (SD), minimum and maximum values of the variables in the study. To analyse the differences between the main variables and the socio-demographic characteristics, the t-test and the one-way analysis of variance (ANOVA) were used, according to the variables, and the correlations between the main variables were calculated using Pearson's correlation. Finally, the generalized linear model was used to determine the predictors of teachers' job satisfaction.

Results and discussion

Table 1 presents the descriptive analyses results on teachers' job satisfaction from different aspects of work. The results show rather average levels of job satisfaction, as teachers express moderate satisfaction with the opportunity to perform their work remotely and received payment for their work in the times of COVID-19, when restrictions affecting a lots of employees and businesses. They are also moderately satisfied with the working conditions and their relationships with students. At the lowest level teachers are even more dissatisfied with their relationships with the colleagues.

The analysis of variance for statistically significant differences in satisfaction with different aspects of work (Paired simple t-test) found that teachers are significantly more satisfied with the ability to work remotely compared to satisfaction with relationships, both students ($t = 2.67$; $p = .008$) and colleagues ($t = 5.35$; $p = .000$). At the same time teachers are more satisfied with their relationships with students than with colleagues ($t = 3.77$; $p = .000$). The results obtained are expected, as the opportunity to carry out their work remotely and to be paid is assessed as more satisfactory by teachers in the difficult times of the pandemic. Moreover, the low levels in general in all aspects of the job satisfaction should be noted, but especially the satisfaction with the relationships, which are an important factor for enhancing the satisfaction and well-being of teachers. Furthermore, the positive employee relations not only contribute to the better level of job satisfaction [1], but social support from colleagues is one of the best stress-buffering factors in employees life (e.g. [23]), even more in the insecurity and threatening times as in the COVID-19 pandemic.

Table 1. Descriptive analyses on teachers' job satisfaction (N=211)

Job satisfaction from:	Mean	SD	Min.	Max.
Content of the distance work	3,18	1,31	1,00	5,00
Pay	3,14	1,22	1,00	5,00
Working conditions	3,05	1,36	1,00	5,00
Relationships with students	2,92	1,29	1,00	5,00
Relationships with colleagues	2,56	1,26	1,00	5,00

There are no statistically significant differences in teacher satisfaction depending on age, but there are depending on length of the service. Teachers with 20 and more years of experience are more satisfied with the content of their work ($F = 3.76$; $p = .005$) and with the working conditions compared to those with shorter work experience ($F = 4.30$; $p = .005$). The length of service was considered to be a determinant of professional well-being (e.g. Furtado & Medeiros, 2017; Kotaman, 2016; Sahito & Vaisanen, 2020 in [3]), verifying that the level of positive perceptions regarding well-being decreases as the length of service increases. On the contrary, it was found in this study, as the more years of service teachers have, the highest level of satisfaction from the content of the work and the work conditions declared. The systematic literature review carried out by Hongying, 2007 [in 3], maintained the existence of a U-shaped relationship between age and well-being or job satisfaction. This indicates that at the beginning of professional careers, teachers are highly satisfied and achieve an excellent level and sense of professional well-being, which tends to decrease over the years, but, on the contrary, to increase at the end of their careers, which can also be explained by the fact that teachers no longer expect anything new in view or in their profession [3]. In this line it is important to think of strategies that support teachers few years after the beginning of their careers to keep them away from burnout, but also for the teachers with long careers to be able to transform one experience to another due to changing teaching and educational models. For example, one of the serious problems that arose during the transition of the education system to an electronic environment in March 2020 due to the COVID-19, was the lack of devices in families, appropriate e-textbooks and resources for all students, but also to some extent the concerns of some teachers regarding their digital skills and classroom management skills in the distance educational settings. Based on the studies suggesting an association between the well-being of teachers and the quality of teaching, with their commitment and professional effectiveness (e.g. McInerney et al., 2018 in [3]), opportunities should be offered to teachers at different stages of their careers not only to develop their skills, but also to increase their well-being.

There are significant differences in teachers job satisfaction depending on the stage of education at which they teach. Primary school teachers have the lowest level of job satisfaction, while preschool and junior high school teachers have a higher level of job satisfaction ($F = 5.77$; $p = .000$). The result can probably be explained by the specifics of teachers' work during the COVID-19 pandemic. Primary teachers (1st to 4th grade) were in class for most of the school year (September 2020 to June 2021), with the exception of lockdowns in November 2020 and March 2021 in Bulgaria. This probably cost them more effort compared to other teachers, because they have to take care not only of their own health and safety, but also of the students every day at school. In contrast, junior high school teachers (5th to 7th grade) spent a significant part of the 2020/2201 school year in distance learning. At the same time, preschool teachers worked with fewer children because part of them prefer to stay home with their parents or kindergarten were often in a lockdowns. High school teachers are most satisfied with the relationships, both with their colleagues ($F = 5.82$; $p = .000$), and students ($F = 7.98$; $p = .000$). Probably

the high school teachers manage to maintain and are satisfied with the social relationships, both with the students and with their colleagues in the electronic environment compare to other teachers.

Descriptive results of perceived stress ($M = 45.44$; $SD = 7.53$; $Min = 24.00$; $Max = 67.00$) and state-trait anxiety ($M = 53.81$; $SD = 9.93$; $Min = 21.00$; $Max = 79.00$) of the surveyed Bulgarian teachers present values slightly above the average, which is expected in a global health pandemic. There are no statistically significant age differences in the levels of perceived stress and anxiety. While, there are statistically significant differences in anxiety depending on the teaching experience ($F = 3.05$; $p = .030$) and the stage of education ($F = 3.03$; $p = .021$). The lowest levels of state-trait anxiety are declared by teachers with more than 20 years of experience and by preschool teachers, who also declare the lowest levels of perceived stress ($F = 3.31$; $p = .012$). Therefore, the promotion of mental health programs should be targeted at all teachers in the different stages of secondary education, paying more attention to teachers few years after the beginning of their careers.

The results of conducted correlation analysis presents a strong positive relationship between state-trait anxiety and perceived stress ($r = .71$; $p = .000$) of the teachers (Table 2). Further, the state-trait anxiety has negative relations with job satisfaction, moderately reducing satisfaction with working conditions, relationships and pay. Also, anxiety has weaker negative association with satisfaction with the content of the distance work. Similarly, perceived stress has significant, but weak negative associations with different aspects of job satisfaction.

Table 2. Correlational analyses on teachers job satisfaction, state-trait anxiety and perceived stress (N=211)

Variables	State-trait anxiety	Perceived stress
JS-Content of the distance work	$r = -.16$; $p = .030$	$r = -.15$; $p = .030$
JS-Pay	$r = -.26$; $p = .000$	$r = -.21$; $p = .005$
JS-Working conditions	$r = -.38$; $p = .000$	$r = -.25$; $p = .001$
JS-Relationships with students	$r = -.29$; $p = .000$	$r = -.16$; $p = .030$
JS-Relationships with colleagues	$r = -.28$; $p = .000$	$r = -.19$; $p = .010$
Perceived stress	$r = .71$; $p = .000$	

State-trait anxiety proves to be a significant predictor of teacher job satisfaction. The most significant effect has on the satisfaction with the working conditions ($\beta = -.39$; $p = .000$; $R^2 = .142$) and on the satisfaction with the relations with the students ($\beta = -.38$; $p = .000$; $R^2 = .103$). The increase in anxiety moderately reduces satisfaction with working conditions and satisfaction with relationships with students, explaining 14% of the variations in the first and 10% of the variations in the second, regardless of the level of perceived stress, teaching experience and learning stage, in which it is taught. Similarly, state-trait anxiety has a significant negative effect on satisfaction with relationships with colleagues ($\beta = -.31$; $p = .002$), by added a weak negative effect of the length of the service ($\beta = -.15$; $p = .031$). The increase in state-trait anxiety of the teachers with less pedagogical experience moderately reduces relationship satisfaction with colleagues, explaining 10% of the variations. Satisfaction with pay is determined by state-trait anxiety regardless of the level of perceived stress, teaching experience and the stage of education in which it is taught ($\beta = -.24$; $p = .023$; $R^2 = .074$). Therefore, teachers with higher anxiety have slightly lower pay satisfaction. Perceived stress has statistically significant effect only on satisfaction with the content of remote work ($\beta = -.17$; $p = .022$; $R^2 = .045$). The increase in the level of perceived stress slightly reduces the satisfaction with the distance work, regardless of teaching experience and learning stage. The obtained results from regression analyses also highlight the need for specific strategies to increase teacher well-being and promoting mental health at work.

Limitations, implications, and future directions

The results obtained, despite their limitations related to the smaller and random sample, the use of self-assessment scales and the online form of data collection, have their practical applications. The established differences in job satisfaction, state-trait anxiety and perceived stress depending on the pedagogical experience suggest the need for different approaches of teachers depending on the stage of their career. Teachers with more than 20 years of experience are more satisfied with working conditions and have lower levels of anxiety. Teachers with less pedagogical experience are less satisfied with working conditions and declare higher results in state-trait anxiety. At the same time, personal anxiety proved to be the only significant predictor of many of the studied aspects of job satisfaction. Therefore, guidelines are needed to increase the well-being and promote mental health among younger and more anxious teachers. One of the possibilities is related to emotional management

(e.g. [27], [28]), through self-reflection strategies and cognitive self-regulation (e.g. [29]). Our previous research present that emotional self-efficacy has a significant impact on both emotionally focused and active stress coping strategies [30]. Mainly, abilities for emotion regulation, assertiveness, and social awareness significantly increase asking for emotional social support and active coping strategies. Therefore, enhancing emotional management abilities as self-reflection and emotional self-regulation are possibilities for better teachers' stress control and mental health. Second possibility is related to enhancing the positive relationships between teachers. The established lower level in satisfaction with the relationships, especially with the colleagues is worrying, because the relationships is one of the key factors in the formation of job satisfaction [1], and social support from colleagues is one of the best stress-buffering factors in employees life (e.g. [23]). Therefore, it is important to enable employees to build positive relationships based on interaction and mutual trust, through the use of available tools (in particular means of electronic communication) to ensure the remote teachers' well-being in a pandemic situation [1]. Third, supporting teachers through trainings and different educational courses to improve their skills at individual and professional level. In time of COVID-19 pandemic we realized that some of the teachers have difficulties in distance education, shared high levels of stress and anxiety due to their poor digital and classroom management skills in distance education settings. Thus, it is important to improve their ICT skills to be able to solve information, communication and knowledge problems, as well as some social and ethical dilemmas in a digital environment. And last, we already mentioned insights from the study of positive organisational behaviour and positive psychology indicated that employees who experience positive mental health and greater psychological capital are more satisfied, committed and productive (e.g. [2], [10], [11]). However, while evidence regarding the strategies that individuals can personally engage in to promote positive mental health has grown in recent years, research evidence regarding the actions that individuals, teams and organisations can take in a workplace setting to promote positive mental health is still in its infancy [2]. Then, future research have to focus also on effectiveness of organizational implementing strategies for increasing employee well-being and promoting positive mental health at work.

Conclusions

In the light of the COVID-19 pandemic, research on the well-being and mental health of teachers is becoming increasingly important, because different studies suggesting an association between them and the quality of teaching, teachers commitment and professional effectiveness (e.g. [3]). The results obtained in this study present rather average levels of job satisfaction, as teachers are significantly more satisfied with the ability to work remotely compared to satisfaction with relationships, both students and colleagues. Statistically significant differences in job satisfaction are found depending on the length of service and the stage of education, as teachers with 20 and more years of experience are more satisfied with the content of their work and with the working conditions compared to those with shorter work experience. Primary school teachers have the lowest level of job satisfaction, while preschool and junior high school teachers have a higher level of job satisfaction. State-trait anxiety proves to be a significant predictor of teacher job satisfaction and had negative effects on satisfaction with the working conditions, with the relationships (both students and colleagues), and pay. Perceived stress has statistically significant weak negative effect only on satisfaction with the content of remote work. Based on the established differences in job satisfaction, state-trait anxiety and perceived stress, as well as depending on the pedagogical experience, some possibilities for increasing well-being and promoting mental health of teachers depending on the stage of their career are suggested. Attention was put on emotional management, mostly on emotional regulation and social awareness, on enhancing positive relationships and supporting teachers through trainings and different educational courses to improve their skills at individual and professional level.

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JOB CHALLENGES AND STRESS COPING STRATEGIES OF TEACHERS IN COVID PANDEMICS

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Abstract

COVID pandemics impose new additional job stressors and challenges in teachers' job. The stress coping depends on the evaluation of unconventional teaching situation and the implication of successful coping strategies varies with personal perceptions of changes in job itself provoked by COVID pandemics. 205 teachers have taken part in the research of perceptions of changes in their work and its influence on stress coping process in COVID teaching situation. The questionnaire was developed to measure perceptions about changes implemented in teachers' job as results as an adaptation to the teaching process in pandemic situation. The perceptions of five factors of job challenges of teachers during the remote teaching process were extracted: work-life balance, parent's social support, organizational requirements and control, changes in job content and computer and digital skills. The stress coping strategies were measured by Latack's questionnaire [20]. The factor analysis reveals the coping strategies used by teachers like efforts increasing, seeking of social support, time management, change of situation, confidence in success, avoidance, acceptance of situation. The correlation analysis established positive interrelations between job challenges factors and proactive and problem-solving stress coping strategies. There are weak correlations between changes and challenges in work in COVID crisis and passive or escape stress coping strategies. The regression analysis confirms the impact of job perceptions about changes and challenges in teaching on the effective stress coping. Teachers who are able to face the new challenges in their job during COVID crisis succeed to manage their stress applying proactive and problem-solving strategies. Perceptions about parents' social support, work-life balance and computer and digital skills improvement are main predictors of successful stress coping of teachers.

Keywords: stress, job perceptions, coping strategies, COVID pandemic, teacher's work

1 INTRODUCTION

The relations between changes in work itself due to COVID 19 and stress coping strategies among teachers is aim of the study. The focus is to establish the job perceptions of potential changes in educational process, job itself and social relationships of teachers as result of the COVID pandemic and the remote teaching process. The general perception is that teachers, students and their parents are not prepared for this form of exclusively online communication and interaction. The last two decades the education sector was trying to implement more interactive strategies for learning, to incorporate different social media, applications and modern technology in the teaching process but even these steps were not enough to prepare all the participants in the learning process for the remote mode of teaching. The pandemic situation imposed an immediate shift to distance learning unexpectedly, which is a prerequisite for high stress level among teachers and students. The main purpose of the study is to explore what are the perceptions of teachers' job after implementation of distance teaching and how teachers react to a combination of the traditional and the new remote teaching process. As Yitzhak Ishay summarize the results from a research of Harvard Business Review, the main finding is that 52% of employees that work from home all or some of the time struggle with colleague relationships and organizational politics [1]. In education sector this percentage is even higher - 70 % of the teachers have to face challenges due to the distance learning [2]. All these job changes are unknown stressors, increase the stress level and require to develop new skills to cope with stress.

2 TEACHERS' STRESS AND COPING STRATEGIES

Work stress is inevitable especially for the social and educational occupations. Ramesar, Koortzen Oosthuizen describe stress as “demands or perceived stressors on a person; individual characteristics, skills and abilities to meet demands; the cognitive appraisal or interpretation of a situation; and the outcomes of behavior (psychological, physiological, disease and observable behavior)” [3, p.8]. Stress, nevertheless, is a construct with arguable structure. While some authors believe it has a multidimensional nature [4], others like Smith and Lazarus think it has a unidimensional one [5]. According to Roche et al. (2017) work-related stress can arise from four different domains – systems (e.g., legislation and regulations), organizations (e.g., work conditions and resources), teams (e.g., support and supervision), and individual (e.g., skills and motivation) [6]. From an occupational point of view, representatives of certain professions (e.g. teachers, police officers, healthcare workers, and social service providers) are more likely to have a high level of stress and burnout as result as from the emotional exhaustion [7]. Other major job and organizational antecedents of the syndrome include workload, control, reward, community, fairness and values. Maslach, Schaufeli and Leiter (2001) refer to these as to precursors of job match or mismatch, which can avoid or respectively provoke burnout. On an individual level, the factors that can influence work stress include job attitudes, personality traits and demography [7].

Lazarus and Folkman [8] define the coping process as “the process through which the individual manages the demands of the person-environment relationship that are appraised as stressful and the emotions they generate” [8, p.19]. According Folkman and Lazarus (1980), coping is situation-specific and the evaluation both of the situation and of the personal coping resources define coping strategies. Problem-focused coping is defined as attempts to alter or manage the situation while emotion-focused coping is defined as attempts to reduce or manage emotional distress [9].

In their study about stress and coping strategies in teaching profession Skaalvick and Skaalvick (2014) found that work-related consequences for the workload and emotional exhaustion included a reduced ability to prepare for teaching, concentration problems, and forgetfulness. A part of the job challenges there is also social consequences included not being able to do much after working hours, sacrificing their social lives, and disregarding their families. The overload of work during pandemics is coming from the need to dedicated time and learn how to use the different online platforms and optimize the digitalized learning process. The results reveal a tendency that younger teachers were able to recover from work stress during vacations whereas this was not the case for middle aged and senior teachers [10]. It is also less stressful for the younger teachers to improve digital and computer skills and competences than for older generations. The older teachers are more vulnerable to the threat of the COVID virus and are more likely to experience job stress and emotional exhaustion [2].

The increasing use of technology in the learning process and in school environment has been an indisputable fact in recent decades. But most of the schools and teachers were not ready to switch to a completely remote mode of work with their students, in which to rely mainly on technology. In this situation some of the teachers shared their opinion about “remote teaching as a burden” [11]. It is considered that especially in cases where teachers do not have a lot of experience with some computer application and technology they perceive such kind of job requirement as a potential stressor [2]. There are several researches dedicated to the challenges in education sector related to the COVID 19 pandemics. The focus usually is on the so called “new normal” way of teaching which has transformed the traditional face to face teaching and communication process into distance interaction with students. There are several results which confirmed that the remote mode of interaction is responsible for a higher level of perceived stress [2]. This big amount of work stress could lead teachers to emotional exhaustion and to affect their physical and mental well-being as Dabrowski explains in her research [13]. The additional challenge as found in several studies is that the emotional exhaustion could have a negative influence on the teacher’s work performance [2]. Lagat (2021) considers that all of the mentioned changes due to COVID put into test teachers’ resilience and therefore their optimism is a powerful personal resource of stress management [2].

It is very important to take in consideration the perception of stressors in remote teaching because these changes in the work environment are a potential factor for worsen well-being of teachers [14]. These stress-inducing conditions may be perceived as harmful, threatening, or challenging (e.g., McGrath, 1976) [15]. Job demands and job resources as predictors of teachers’ motivation and well-being [14]. The process of implementation of different technologies and strategies to teach and examine online could be challenging due to the lack of resources, time, and support [16]. There is a lot of studies focused

on the perception of lack of support in a teaching profession as a main factor for their stressful experience at work [17, 18, 19].

3 RESEARCH METHODOLOGY

The main objective of this research is to explore the impact of changes and challenges in teacher's job on the coping strategies used by teachers to manage their work in situation of COVID pandemic. It is proposed that teachers who perceive the changes in their work situation in challenging and motivating ways would use active and problem-solving coping strategies.

The questionnaire of job perceptions about changes at work due to COVID was developed by the first author and consists 21 items that concerns a range of changes and difficulties in teacher's job due to COVID pandemic like: communication with children, colleagues, educational authorities and parents; conflict between work and life, time management; lack of engagement and motivation of children; requirements to acquire new computer and digital skills. The 5-degree Likert scale varying from strongly disagree to strongly agree was used to measure the perceptions about changes in job itself. Factor analysis with Varimax rotation method was applied and following factors of perceptions about changes in job itself were extracted: organizational requirements and control, parent's social support, changes in job itself, work-life balance, computer and digital skills. Cronbach's alpha of internal consistency is high 0,92.

Stress coping strategies was measured with 28 item Latack's questionnaire [20]. The questionnaire measures active or controlling and passive or avoiding approaches to stress coping. Factor analysis with Varimax rotation method was applied and following factors of teacher's stress coping were extracted: efforts increasing; avoidance; change of situation; seeking of social support; confidence in success; acceptance of situation and time management. Cronbach's alpha of internal consistency is high 0,81.

4 SAMPLE

205 teachers have taken part in the study. Most of them are female (92.5% of the participants) and have working experience in profession more than 20 years (52%). 32 % of teachers have working experience in current school more than 20 years; 16% are newcomers and have working experience till 2 years in current organization. All of them have in their class children with special educational needs.

5 RESULTS AND DISCUSSION

Based on the correlation analysis there were found some relationships between perceptions about changes in job itself and stress coping strategies (Table 1). The strongest correlation was demonstrated between the changes in work-life balance and the effort increasing coping strategy ($r=0,365$, $p<0.001$). This result could be interpreted as a tendency which reveals the disposition of teachers when the situation is unusual (like the pandemic that all of us are presently leaving in) to put more efforts in their work. Their work schedule and requirements usually provide them opportunities to manage time for their private life and they perceive that this temporary situation affects their balance. Another correlation for this coping strategy is found with parent's social support ($r=0,224$, $p<0.005$). This result shows the importance of the parents support for the success in the learning process especially in unconventional conditions. If the teachers are aware about the willingness of the parents to facilitate them in this challenging situation they are ready to put even more efforts to overcome the challenges that COVID-19 provokes. This tendency is confirmed by the positive correlation of parent's social support with other proactive and problem-solving coping strategies like confidence in success ($r=,0365$, $p<0.001$) and change of situation ($r=0,230$, $p<0.005$). As it was mentioned Travers and Cooper (1996), Pithers and Soden (1998) and Kyriacou (2010) have found in their studies that the feeling of lack of support no matter if coming from colleagues, director or parents is one of the most important factors to experience work-related stress [17, 18, 19]. So, the parent's social support is a crucial component functioning as a barrier or a buffer for the work-related stress experience especially in challenging pandemic times.

Table 1. Correlations between teacher's perceptions in job itself and stress coping strategies

	<i>Work-life balance</i>	<i>Parents' social support</i>	<i>Organizational requirements and control</i>	<i>Change in job content</i>	<i>Computer and digital skills</i>
Coping strategies					
<i>Efforts increasing</i>					
Pearson Correlation	.365**	.224*	.146	.143	.189
Sig. (2-tailed)	.000	.027	.153	.160	.063
<i>Avoidance</i>					
Pearson Correlation	-.010	.277**	.025	.203*	.055
Sig. (2-tailed)	.925	.006	.805	.045	.589
<i>Change of situation</i>					
Pearson Correlation	.135	.230*	.133	.142	.226*
Sig. (2-tailed)	.185	.023	.191	.163	.025
<i>Seeking of social support</i>					
Pearson Correlation	.193	.149	-.074	.086	.033
Sig. (2-tailed)	.057	.144	.470	.399	.749
<i>Confidence in success</i>					
Pearson Correlation	.325**	.365**	.137	.336**	.100
Sig. (2-tailed)	.001	.000	.179	.001	.329
<i>Acceptance of situation</i>					
Pearson Correlation	.168	.192	.094	.297**	.308**
Sig. (2-tailed)	.099	.058	.358	.003	.002
<i>Time management</i>					
Pearson Correlation	.248*	.107	.181	.136	.078
Sig. (2-tailed)	.014	.294	.074	.183	.444

The coping strategy confidence in success correlates positively also with parent's social support ($r=0,365$, $p<0.001$), work-life balance ($r=0,325$, $p<0.001$) and changes in job content ($r=0,365$, $p<0.001$). This also confirms the important role of parents for effectiveness of teaching process - if the teachers have the help and understanding from the parents they are more prone to choose proactive coping strategies. The passive coping strategy - acceptance of situation, has a positive relationship with changes in job content ($r=0,297$, $p<0.01$) and computer and digital skills ($r=0,308$, $p<0.01$). These results are revealing a stressful effect of lack of computer and digital skills of teachers on their coping with stress.

To overcome the challenges in teaching process in the remote situation key factors are digital competencies of the teachers. In fact, the most of them didn't possess enough technical and digital skills before the COVID situation and they need to acquire the skills to work in online platforms meanwhile with their regular teaching. If they have well developed computer and other technological competencies they experience less stress and do not feel the need to look for active coping strategies. The other passive strategy – avoidance, correlates positively with parent's social support ($r=0,277$, $p<0.001$). The lack of engagement of parents is perceived as a source of stress and therefore teachers try to avoid the stress with passive approach.

6 IMPACT OF PERCEPTIONS OF JOB CHANGES ON TEACHER'S STRESS COPING STRATEGIES

The main aim of this research paper is to explore the influence of perceptions about changes in the teacher's job in COVID pandemic on the choice of stress coping strategies.

Table 2. Impact of perceptions of job changes on stress coping strategies

Dependent variables	Factors				
	<i>Work-life balance</i>	<i>Parents' Social support</i>	<i>Organizational requirements and control</i>	<i>Change in work content</i>	<i>Computer and digital skills</i>
Efforts increasing					
Beta	.365***	.037	.040	-.038	
Sig.	.000	.745	.692	.726	.083
R Square	.133				.410
Avoidance					
Beta	-.225	.277***	-.090	.068	-.126
Sig.	.053	.006	.397	.572	.278
R Square		.077			
Confidence in success					
Beta	-.180	.365***	.001	.191	-.128
Sig.	.111	.000	.989	.099	.253
R Square		.133			
Change of situation					
Beta					
Sig.	.015	.230***	.055	.017	.145
R Square	.897	.023	.607	.890	.217
		.053			
Time management					
Beta					
Sig.	.248***	-.038	.117	.024	-.001
R Square	.014	.750	.259	.832	.992
	.061				
Acceptance of situation					
Beta	.079	.041	-.055	.208.***	.226***
Sig.	.441	.722	.617	.048	.032
R Square				.113	.086

Regression analysis was performed to find out if there is some significant influence of job changes perceptions on applying of the stress coping strategies. The strongest predictors of active and problem-solving coping strategies are changes in work-life balance and parent's social support. The changes in work-life balance has impact on the necessity to keep the balance between these important personal domains increasing the efforts in job ($\beta=0.365$, $p<0.001$) and time management ($\beta=0.248$, $p<0.05$). These results confirm once again the importance of work-life balance for the stress management and well-being. This result could be explained with the specifics of the sample. 95% of the sample are women and as Vadra and Akhtar (1989) found in their research with university teachers male experienced more social and family role stress as compared to female teachers [21]. Following the mentioned research, we could go to the conclusion that the female teachers usually feel comfortable with the balance work-life they have achieved so in COVID pandemic they apply the proactive approach to cope with this stressful situation.

Another change in job which is a predictor for the choice of coping strategy is parent's social support.

There are many researches dedicated to the primordial importance of the social support at work. Saltson and Nsiah (2015) also found a positive relationship between better performance and perceived organizational support. Employees tend to put maximum effort into their work when the organization demonstrates support and concern for their well-being [22]. Gigauri (2020) summarize that due to the COVID crisis the economic crisis implies a reduction in working hours, changes in the workplace and working conditions, increased workload, fewer job choices for workers and reduced wages, insecurity and deteriorating well-being. For this reason, managers must show empathy and compassion for workers, while supporting them with flexibility. In addition, they need to understand the unique situation of each employee and respond, considering these unique circumstances [23]. In their research Thomas et al. (2019), go to the conclusion that the emotional and social support networks are positively connected to job satisfaction, which maintain the value of this job component in educational institutions [24].

There are enough examples for the importance of the social and organizational support as an important factor in stress management. When the focus is the school we usually are thinking about the support coming from peers and director. But the parents should be a natural ally to the teachers and their support especially in moment of crisis is fundamental.

The results demonstrate the impact that the parent' s social support has on confidence in success ($\beta=0.365$, $p<0.001$) and change in situation ($\beta=0.230$, $p<0.05$). This factor has also an influence on the coping strategy avoidance ($\beta=0.277$, $p<0.05$). The last coping strategy which was influenced by the job changes is acceptance of situation. The computer and digitals skills ($\beta=0.226$, $p<0.05$) and the change in work content ($\beta=0.208$, $p<0.05$) are factors that make teachers to choose acceptance of situation coping strategy.

7 CONCLUSION

1 COVID situation drastically changes the nature of teachers' work and especially its social dimensions, which relate to communication and interaction with students and parents. Other significant changes affect the teaching process and work performance and require the application of new digital skills that are not typical of everyday teaching. The results prove the significant impact of changes in teachers' work on stress and coping with it. Maintaining effective communication with parents is a significant source of social support for teachers and this not only reduces their level of perceived stress, but also determines the choice of coping strategies that improve the effectiveness of teaching in new conditions. When the teachers perceive the support and commitment of the parents, they are prone to cope with the stress applying such approaches like confidence in success and change or acceptance of situation. Stress coping is successful if the teachers use problem solving strategies that give them the control on the situation like increasing of efforts and time management.

2 The results confirm that the stress coping depends on the perception of work situation as Lazarus have postulated in his coping theory [8]. It is possible to say that at the very beginning of the COVID crisis when the ambiguity was strong, the common perception was for dangerous, threatening and harmful situation and therefore coping resources were not sufficient. To cope with the situation and perceive it as a challenging was obligatory to develop needed personal coping resources, especially to receive an informational support, to increase a knowledge about COVID and its prevention, to learn how to work in this completely new and unusual situation and to develop skills appropriate for changing job characteristics. In process of the adaptation to the new stressful situation the importance of several changing factors established as a useful approach to reduce the stress and prevent the health and work performance of teachers - social support of parents, maintaining the work-life balance and developing of new computer and digital skills.

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LEGAL PROTECTION OF AUTHOR'S WORK CREATED IN THE EMPLOYMENT RELATIONSHIP

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Abstract

Many employers and their employees do not even know about the category of copyright created in the employment relationship, because it is not specifically defined by the Labour Law, but only by the Law on Copyright and Related Rights. An author's work is an original creation of the human spirit, which transcends routine, physical or mental works that satisfy everyday needs in life, work and profession. The subject of this paper will be the author's work as a subject of law and court protection. The task of the competent courts in each specific legal matter is to determine whether a copyright infringement has been committed and the amount of money for damages. Copyright does not protect human thought, but the way in which thought is expressed by the author. It is a right enjoyed by the creators of literary, scientific, professional and artistic works. The scope of judicial protection is determined by the degree of originality of a particular act. The content of the copyright consists of the moral, property and rights of the author towards the owner of the copy of the copyright work.

Keywords: copyright, legal protection, case law, employment

1 CHARACTERISTICS OF THE AUTHOR'S WORK

An author's work is an original spiritual work of the author, expressed in a certain form, regardless of its artistic, scientific or other value, its purpose, size, content and manner of fulfillment, as well as the admissibility of public communication of its content.[1] Author's works consist of written works, speech works, dramatic, dramatic-musical, choreographic and pantomime works, works originating from folklore, musical works, film works, works of fine art, works of architecture, applied arts and industrial design, cartographic works, plans, sketches, models, photographs and theater directing. General ideas, procedures, methods of work, mathematical concepts, principles and instructions contained in the author's work are not covered by copyright protection. Laws, bylaws and other regulations, official materials of state bodies and bodies performing a public function, as well as acts in administrative or judicial proceedings, may not be considered copyright works. Original works, works of processing and collections form the division of author's works. The original works do not contain recognizable original elements of other author's works that were created earlier and the author of such a work is independent in exercising his copyright. The collection consists of a set of already existing author's works, their parts and other data, with the necessary dose of expressing individual creative features. The collection of works, including the exhibition of paintings, has the character of an author's work only if, given the selection and arrangement of the constituent parts, it meets the legally prescribed conditions, which is a factual issue that the court evaluates in each case. [2] The author is a natural person who created a work of authorship, while a co-author is a natural person who has created a work by joint creative work with another person, and these natural persons are the holders of copyright.

1.1. *Author's work created in the employment relationship*

An author's work created in an employment relationship is a work created by an employee at work as a result of intellectual effort and originality, while he is employed by the employer performing his work tasks and obligations. This statement refers to property copyright, since moral copyright is a personal right and cannot be transferred to another. In this case, the employer is authorized to publish the act and is the holder of the exclusive property rights to its exploitation, all within the scope of its current economic activity. The period of five years from the completion of the work represents the period of

duration of such rights and authorizations. During that time, the author, as a person employed under an employment contract, is entitled to a special compensation depending on the manner in which the work is used, as well as the retention of moral rights. When using this type of copyright work, the employer is obliged to state the name, pseudonym, or characteristic sign of the author. The author, as an employee, becomes a full holder of moral and property rights to the subject work after the expiration of the aforementioned period. Exceptionally, if the author's work is a computer program, the permanent holder of all exclusive property rights in the work is the employer. There is always place for different or supplementary provisions to be determined by a contract between the employer and the employee, or within the framework of a collective general act of the employer. If several employees participated in the creation of the author's work, they will be considered co-authors. Depending on whether the work is divisible or not, each of the co-authors has the right to recognition of a proportionate contribution to the author's work (if the work is divisible) or each employed co-author will be recognized in equal percentage (if the work is not divisible). The employee wants to publish the collected works from the author's works created in the employment relationship, has the right to publish them before the expiration of the stated deadlines, for which he does not need the permission of the employer. However, if the work was created outside the fulfillment of work obligations, in connection with the work shall not be considered an author's work created in an employment relationship within the meaning of the Law. Entrepreneurship brings economic success by causing the most favorable change over existing available resources, by increasing productivity and profits. The Law on Innovation regulates the basic principles, goals, organization of the application of scientific knowledge, technical, technological knowledge, inventiveness and invention, depending on the existing technical and technological basis, in the function of creation and realization of new improved products, processes and services, as initiators development of the Republic of Serbia. This provides a good basis for the development of entrepreneurship and economy, relying on existing processes and relationships between all emerging forms of intellectual property.

1.1.1. Why is it important to have a copyright?

Copyright and related rights refer to original artistic or useful creations of the mind realized on a materialized medium of expression. Among other things, copyright regulations give the author the exclusive authority to reproduce, market, lease copies of his work, and to make his work public. The path of entrepreneurship progress must be innovative, due to the need to create new or improved goods and services, as well as to adopt the latest technology. It is desirable that this process be accompanied by creativity, since creativity is the basis for innovation, and that there is no innovation without creativity applied. Innovation is a basic feature of entrepreneurship, and support is needed to develop a culture that will support and encourage innovation. Creative individuals and an adequate business environment are the main actors in the subject process, with organizational structure, culture and change in human resources as variable factors. Ideas often find their way commercially, challenging a novelty in a process, product, or solution, producing significant economic results. It is important to say that copyright protects original human creations of spiritual content that have been shaped. Innovation is the primary task of an entrepreneur or manager. Intellectual property is a general, legal-technical concept for certain creations of the human mind and commercial symbols that represent intangible assets that can enjoy protection based on different levels of exclusive rights that are similar to those of property, which enables the commercialization and exploitation of these goods on the market. Nowadays, the intellectual property protection of intellectual property becomes an important task. [3] The subject of protection as the right holder is the holder of intellectual property rights. The holder of the goods is the owner of the goods suspected of infringing the intellectual property right or the person having the similar right of disposal or physical control over such goods. The Criminal Code of the Republic of Serbia prescribes criminal responsibility and punishment for criminal offenses against intellectual property rights. The legal instrument through which the user of an author's work acquires from the author the right to use a certain author's work in a certain way, is the author's contract. By concluding an author's contract, the author trades in certain author's property authorizations, at the same time demanding from the user of the work a certain compensation as a counter-value to the property authorizations he has ceded. In practice, the author does not earn income from the direct economic use of his work, but from the compensation he receives from the user of the work on the basis of the author's contract. It is a legal mechanism through which the social functions of copyright are realized: rewarding the author for his work, encouraging authorial creativity, and thus the cultural development of the community. Copyright is important because it protects the copyright holder from exploitation and ensures that that person is the only person who has the right to make money from it.

1.1.2. Legal protection of copyright work

An author's work can be considered only a work that is an original creation of the human spirit, which goes beyond routine, physical or mental works that meet everyday needs in life, work and profession. The court is obliged to determine whether a copyright infringement has been committed in a specific legal matter. The scope of judicial protection is determined by the degree of originality of that work. No work can be completely original, but has certain elements that are original. It is important that a certain work represents one spiritual whole expressed with a sufficient degree of originality. An author's work is not original if it is the result of imitation or imitation of already existing works, without a specific and individual spiritual stamp of the author that distinguishes it from other works. [4] The content of the copyright consists of the moral, property and rights of the author towards the owner of the copy of the copyright work. The moral rights of authors include the right to paternity, the right to be named, the right to publish, the right to protect the integrity of the work, and the right to oppose the unworthy exploitation of the work. The author's property rights include the right to reproduce, the right to market copies of the work, the right to lease copies of the work, the right to perform, the right to present, the right to transfer, perform or present, the right to broadcast, the right to rebroadcast, the right to public communication. available to the public), the right to adapt, arrange and otherwise modify the work, the right of public communication of the broadcast work and the right of public communication of the work from a sound or image carrier. The right to access a copy of a work, the right to follow, the right to prohibit the display of an original copy of a work of fine art, the author's right to rework a copy of an architectural work, the author's right to a special fee and the author's right to a service fee. In the Criminal Code of the Republic of Serbia, the legislator provided a complete system of criminal protection of intellectual property, and thus protection of copyright. The following offenses are prescribed as certain criminal offenses related to the field of copyright: violation of the moral rights of authors and performers (Article 198 of the CC), unauthorized use of a copyright work or subject of related law (Article 199 of the CC) and unauthorized removal or alteration of electronic information on copyright and related rights (Article 200). These are criminal acts with the so-called blanket disposition, from which it follows that the appropriate legislation regulating the field of copyright must be kept in mind. [5] The criminal offense of violating the moral rights of an author is committed by a person who, in his own name or in the name of another, in whole or in part publishes, places on the market or in any other way publicly announces another's copyright work. It is a milder form when a person without the author's permission changes or reworks someone else's work, as well as in the case when a person puts copies of someone else's work on the market in a way that insults the honor or reputation of the author. The criminal offense of unauthorized exploitation of an author's work occurs in two basic forms. The first basic form of such an act exists when the perpetrator unauthorisedly publishes, records, reproduces, or otherwise publicly announces in whole or in part the work in question, while the second basic form manifests itself when someone puts on the market, or keeps unauthorized copies or unauthorized copies of the author's work. A more severe form of this type of work exists when it is done with the intention of obtaining material gain for oneself or another, and a special form when someone produces, imports, markets, sells, leases, advertises for sale or leases, or holds objects whose purpose is the removal of technological measures that perform the protective function of copyright. The perpetrator of these types of crimes can be any person, and they can only be committed with intent. The description of the criminal offense of unauthorized use of copyright and other related rights in the operative part of the verdict must contain the names of the work and the names of the authors whose works were placed on the market without authorization, because the operative part of the verdict must contain facts and circumstances. Otherwise, the operative part of the judgment is incomprehensible.[6] The plaintiff, as the injured party, may claim a certain amount of money in the name of both material and non-material damages for the purpose of satisfaction, in civil proceedings before the competent court. In order for a plaintiff to be recognized the right to compensation for non-pecuniary damage due to infringement of his moral copyright, it is not enough just to establish the infringement, but the plaintiff is obliged to prove that he suffered a harmful consequence in the form of mental pain and a causal link and violations of individual rights.

1.1.3. Court protection of author's work

Proper legal definition, that is, the qualification of the subject of protection is a key issue of every court procedure initiated for the protection of a copyright work, both for the plaintiff and for the acting court and the defendant. The subject of copyright protection is an author's work, which is intangible, spiritual in nature and whose appearance is manifested as the content of consciousness, a means of communication that carries a certain message or information. The materialization of this type of intellectual property is possible in both bodily and extracorporeal form. The appearance of an author's work is defined as its corpus, unlike the animus, as a spiritual substrate. The objectification of the author's work is necessary in order for it to be used in an economic sense. If a spiritual content is not

articulated, shaped or unmanifested, it cannot have legal quality, nor enjoy judicial protection. The form of the work is not the material carrier on which a certain work is fixed (painting canvas, written sheet of paper, etc.), but the content that is recorded on that carrier. The expression of the idea of the author's work is a monopoly guaranteed by judicial protection. Copyright and property rights belong to the author from the moment of creation of the author's work, and not to the person who used the conceptual design for his product. [7] In practice, there is often a wrong legal qualification of the subject matter of protection and a wrong setting of the lawsuit. The allegations from the lawsuits may be insufficiently determined, which represents the initial phase of stumbling on the path of establishing the truth and drawing the necessary conclusions. In practice, it is evident that courts with a vague picture of the problem start with taking evidentiary actions and establishing the factual situation, bypassing the essence of the critical situation and delaying the subject procedure. Expertise is often subject to subjectivity, due to the incomplete determination of the tasks of expertise by the court. Originality is the essence of the quality of an author's work created as a product of the pinnacle of its creator's work. The question of defining this element of the author's work depends on the specific situation. For example, a translation of a literary work, as an original spiritual work of the author, regardless of its artistic or other value, is an author's work and a translation of a translation, as an author's work, is considered an author's work if it represents an original spiritual work of the author. whether in a specific case it is an editorial, revision or independent translation can be determined by an expert opinion on which the scope of protection of possibly infringed copyright (moral and property) will depend.[8]

2 ENTREPRENEURSHIP AND AUTHOR'S WORK

The success of implementing the provisions and reviving them leads to an improvement of the general climate. The driver of the development of available resources is work and resources with the qualities of innovation. It is necessary to connect the priorities set by the innovation policy and the implementation of the innovation program. Innovation is one of the most important factors for the sustainable development of the economy, innovation society and entrepreneurship. It is necessary for entrepreneurs to act creatively, because they are the ones who have the power to move society through their ideas, desire for improvement and constant education. Even failures, often result in productivity, adopting the necessary patterns of behavior in the business, through a system of rewards and penalties. Also, it cannot act at the national level by skipping the local level, as an initial step. The state must provide the necessary incentives and resources, especially to young people, who have the right time to take the entrepreneurial spirit and realize the need to create new values. Individuals and society should strive for progress and innovation with the combined forces. Entrepreneurship is the process by which an individual or group of individuals use organized effort to seize opportunities and create value, and to expand by fulfilling demands and needs through innovation and uniqueness, regardless of the resources that the entrepreneur possesses.[9] Entrepreneurship brings economic success by causing the most favorable change over existing available resources, and by increasing productivity and profits. Entrepreneurship is management that takes constant care of opportunities and challenges, whether it is to develop the business of an already established organization or to create a new business or new organization. [10]

2.1 Innovations from the legal aspect

Innovation is an emerging form of entrepreneurship. Innovation is the result of an unexpected event, success or failure, mismatch of the assumed and the real, processes or tasks that require improvements, changes in the structure of the market or industry, demographic changes, changes in meaning or view of things, as well as new knowledge. As an innovation creation, a resource remains a dysfunctional thing until it has a useful and then economic value. [11] Innovation is an emerging form of entrepreneurship. Innovation is the result of an unexpected event, success or failure, mismatch of the assumed and the real, processes or tasks that require improvements, changes in the structure of the market or industry, demographic changes, changes in meaning or view of things, as well as new knowledge. Provisions of the Law on innovation activity defines the basic principles, goals, organization of the application of scientific knowledge, technical and technological knowledge, inventiveness and invention, in the function of creation and realization, in relation to the existing technical and technological basis, of new and improved products, processes and services, with the main aim of initiating development. [12] On the basis of this Law, the manner and mechanisms for the implementation of the annual innovation activity program are regulated by by-laws. The actor who enforces these provisions is the Government of the Republic of Serbia. Legislative solutions are designed to provide an effective incentive mechanism for the creation of market-proven innovative goods and services, as well as the development of priority areas of science and technology. The field of innovation is within the scope of activity of the Ministry of

Education and Science. State administration activities related to the system, development and promotion of scientific research activities in the function of scientific, technological and economic development, with determining the implementation of the policy and strategy of scientific and technological development, are the most important part of the competence of this Ministry. Emphasis is on defining and implementing programs of scientific, technological and development research, on improving the staff for scientific research work, the implementation of innovation policy, with the envisaged measures to encourage techno-entrepreneurship, knowledge transfer and technology in the economy. The Law on Innovation indicates the established relationships and process of evolution from innovation and invention, through know-how to intellectual or industrial property. Innovation is one of the most important factors in the competitiveness of companies in modern business conditions.[13] The protection of intellectual property rights, as well as the use of resources to develop the functioning of the system of scientific and technological information, imposes desirable behavior among economic entities on the basis of legitimate business. The Science and Technology Infrastructure Development Program is based on selected instruments, both in relation to business and technology incubators, as well as functional links of innovation and intellectual property. Protection of intellectual property through the system of national and international rules, which are called the intellectual property rights, is necessary for acquiring and financing of innovation and creativity, which in turn, lead to economic, cultural and social progress. [14]

INSTEAD OF CONCLUSION

Copyright protects original human creations of spiritual content that have been shaped. Author's works are considered to be especially literary works, dramatic works, computer programs, databases, films, musical works, choreographic works, works of fine arts, etc. An author's work is not original if it is the result of imitation of already existing works, without a specific and individual spiritual stamp of the author as a condition of diversity. The essential requirement for copyright protection is the originality of the copyright work. The relationship between the author and the work is crucial in the protection of this type of work, while neither the criterion of its value nor the criterion of practical purpose are important. Copyright does not protect human thought, but the way in which thought is expressed by the author. When interpreting the originality of a copyright work in each specific case, the meaning and purpose of copyright should not be lost sight of. Establishing a balance between the interests of the author, which is reflected in the acquisition of material gain as a reward for his work, and the general interest in terms of prohibiting the burden of other people's creativity with the monopoly of the individual, is the goal of copyright. Originality is not the same as the criterion of novelty, because it is found in every person as a creator, who owes the creation of his work to independent work, not copying other people's works and expressing any degree of creativity. The world of ideas is free and accessible to everyone, and the authors are the ones who should give their personal stamp to the expressions of those ideas they have chosen. Assessments of copyright infringements and rights arising from the very existence of a copyright work are made in criminal and civil proceedings before the competent courts, where a final and executive court decision decides on the merits of the plaintiff's claim, and after presenting all necessary evidence. Law on Innovation provides a good basis for the development of entrepreneurship and economy, relying on existing processes and relationships between all emerging forms of intellectual property. These significant development instruments, in conjunction with the establishment and promotion of business technology incubators, as well as nurturing the entrepreneurial spirit among the unemployed, young people and other potential entrepreneurs, create certain and probable opportunities for realization of projects in the real life of entrepreneurship.

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NORMATIVE ASPECT OF POLYGRAPH EXAMINATION IN CRIMINAL PROCEDURE AND ITS APPLICATION OUTSIDE CRIMINAL PROCEDURE WITH REFERENCE TO POLYGRAPH EXAMINATION OF CANDIDATES FOR EMPLOYMENT AND EMPLOYEES

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Abstract

In theory, the subject of many papers dealing with polygraph problems are testing methods and conditions, polygraph tests, physiological reactions observed during the examination, the overall interpretation of the polygraph record, the psychological basis of the polygraph examination, factors influencing the test result, etc. However, little space is given to the analysis of normative solutions in Serbia, but also to foreign solutions. Apart from its application in criminal proceedings, the fact is that the polygraph is playing an increasingly important role due to its increasing use. Moreover, we will not be mistaken if we notice that it also takes on a commercial character, bearing in mind that we can increasingly meet it as part of various formats of shows and other "entertainment programs". However, since the use of a polygraph device in the mentioned spheres requires a serious sociological and psychological study, the subject of this paper will be reduced to the analysis of normative solutions in Serbia, as well as the application of lie detectors outside criminal law, primarily by employers.

Keywords: polygraph, criminal proceedings, employees, employer, mobbing

1 General considerations about the polygraph

Without going into the question of motive, the fact is that the need of people to lie is as old as humanity itself. However, nothing younger is the tendency of people to check the truth and establish a lie. There are numerous, often ingenious ways, with the help of which people tried to succeed in that, some of which were based on certain segments, which are the basic elements on which today's polygraphs are based. For example, in ancient China, during the interrogation, the defendant was given to chew rice, which he had to spit out after a few minutes. If the rice was dry even after chewing, the defendant would be found guilty, and if it was soaked, the defendant would be acquitted. Thus, even ancient peoples came to the conclusion that increased emotional activity prevents the secretion of glands. [1] In another case, dating back to the Middle Ages, a nobleman, who doubted his wife's fidelity, shared his suspicion with his adviser, who agreed to conduct an experiment. During one lunch, he sat next to the mentioned woman, and during the conversation, as if by accident, he placed his hand on her wrist. During the short conversation, among other names, he mentioned the name of the man whom the nobleman suspected, which led to the woman's pulse accelerating sharply. After that, he mentioned her husband's name, but the reaction was absent. [2] [1] The mentioned, interesting examples from the past were certainly ingenious solutions. It and many similar, although inaccurate, paved the way for the emergence of lie detectors, ie. polygraph.

The polygraph is "an instrument that is constructed so that it can simultaneously record most of the changes that occur in the body of the subject when lying down" [1]. It is a device that records changes in blood pressure, respiration, pulse, as well as the subject's psychogalvanic reflex, ie. changes in the electrical conductivity of the skin in response to emotional stimuli due to changes in blood circulation, sweat secretion and skin temperature. Specially educated people deal with the interpretation of changes in physiological reactions, which remain recorded on the polygram. Their role is significant, bearing in mind that the polygraph device does not directly detect a lie, since these changes are not only present when lying, but also in the case of various changes with unpleasant content, which can affect the emotional reactions of respondents, such as smells, loud sounds etc. The basic task of the person conducting the polygraph examination is to challenge, provoke a psychological situation, asking specially prepared questions.

Let's go to the polygraph! It is a sentence that is often heard from the mouths of those who are sure of the truth of their statements, but also of the general public, mostly from people, who give the mentioned device much greater significance and role than it really has, glorifying its scope. On the opposite point of view are those who relativize its capabilities and ultimately its reliability, assuming that the ability of a polygraph device to lead to certain information is more related to its frightening effect than to its accuracy. [3] However, even the biggest critics of this device [4], pay attention exclusively or primarily to the technical aspect, ie. objective possibilities and shortcomings of polygraph testing [5], as well as the subjective aspect, ie the role of examinees and examiners, neglecting the role of the legislator, who with his solutions can get the most out of polygraph examination, with all the indisputable shortcomings of it or complicate this procedure with insufficiently clear solutions or even worse by the absence of certain solutions. In addition, in theory, the role of the polygraph, which he has in many areas, is often neglected, as well as many not only legal, but also ethical problems that may arise on that occasion.

2 Normative regulation of polygraph examination from the aspect of the Law on Police

Although the procedure of conducting a polygraph examination provokes different reactions, not only from the uninformed, but also from the professional public, part of the potential problems have been eliminated at the normative level, ie at the legal level. In accordance with that, on the basis of Article 57, paragraph 5 of the Law on Police, in April 2017, the Rulebook on the manner of implementation and methodology of application of polygraph examination was adopted.

Article 57, paragraph 1 of the Law on Police stipulates that "a police officer may, with the voluntary consent of the person from whom he requests information, apply a polygraph examination after informing him of the operation of the device and the person giving his written consent" [6]. In other words, it can be said that the legislator applied "double voluntariness". On the one hand, the application of the polygraph examination is optional for the police officer himself, bearing in mind that he can, but does not have to, carry out the mentioned procedure. On the other hand, the person from whom the information is requested is not obliged to agree to the interrogation, but that decision is left to his free will, which also avoids the imperative approach. It seems that such a solution is completely justified, especially when it comes to the respondent. If the decision to conduct a polygraph examination was left exclusively to the police officer and if it was conducted with the opposition of the examined person, the question arises how it would affect him psychologically, which can significantly relativize the accuracy of the final outcome of the examination, whose results themselves, under the influence of some other factors, may lead to wrong conclusions.

The legislator remained optional, ie. principle of voluntariness and in paragraph 2 of the same article, which provides the necessary conditions for the examination of a minor, which reads, "a minor may be subjected to a polygraph examination with his consent and with the consent and presence of a parent, guardian or trusted adult." Although it is not clear from the given formulation, based on paragraph 4, item 8, it follows that the legislator adhered to the criminal law understanding of the term juvenile, because the mentioned paragraph and article state that a person under the age of 14 cannot be subjected to polygraph examination.

Paragraph 2 expands the circle of persons whose consent and presence is necessary, which is certainly in accordance with the United Nations Convention on the Rights of the Child, adopted by the United Nations General Assembly on 20 November 1989 and the global tendency to protect the rights of children and minors that is, in their best interest. However, the wording "adult of trust" seems to be controversial to say the least. The question is who can be an adult of trust. The Law on Police does not provide any more precise criteria, nor does it specify who can be considered as the mentioned person. In addition, the given formulation can be interpreted in several ways, because it is also unclear from whose trust the person should be, the child's, competent authorities, etc. Then, it is questionable who will assess whether it is a person of trust, and especially what degree of trust is required. From all the above, it seems that the mentioned solution, ie the dilemmas that arise from it, can bring a great deal of arbitrariness in decision-making in the absence of clear criteria, which can open the door to numerous abuses. *Ratio legis* was probably to expand the circle of persons whose presence and consent are necessary in a given case, which is a legitimate intention, but it seems that the price for such a thing in a particular case may be high, having in mind the above arguments. After all, it is known that in the case of some crimes, such as some from the group of crimes against sexual freedoms [7], such as rape, the perpetrators are often people who knew the victim (according to some data more than half, and some even a two thirds of the victims knew the rapist) [1], many of whom were considered "trusted persons".

As one of the positive aspects of this article, we can mention the fact that the legislator has remained consistent in the application of the principle of voluntariness. Namely, paragraph 3 states: "A police officer shall terminate the application of a polygraph examination if the person from whom the information is requested, after giving written consent, declares that he withdraws that consent" [6]. In this way, it is made clear that volunteering is insisted on, not only at the beginning, ie at the beginning of the polygraph examination, but during its entire duration, since the person giving the notice can withdraw from further examination at any time, without any consequences.

Unlike the first three paragraphs, which are positively defined, paragraph 4 is defined negatively, since it exhaustively states which persons cannot be subjected to polygraph examination, thus avoiding potential problems, such as the one from paragraph 2. It is envisaged that the following may not be subjected to a polygraph examination: a person who is under the influence of alcohol, narcotics or other psychoactive substances; a person who has severe heart disease or respiratory problems; face in extreme stress; a person under the influence of tranquilizers; a person who shows visible signs of mental illness, temporary mental disorder or is in another medical condition that makes it impossible to be examined; a person who feels intense physical pain; pregnant and postpartum women; a person under 14 years of age. [6] In this way, the legislator justifiably gave priority to imperatives and prohibitions over freedom of decision. However, deviation from the principle of voluntariness cannot be criticized, because priority is given to the protection of the essential good, which in this case is human health.

It seems that the legislator has justifiably paid a lot of attention to the criteria related to the person who is being polygraph examined, but as if on the other hand, he easily understood the role of the person whose presence and consent he seeks in case of examining minors.

Paragraph 5 refers to the application of bylaws, as it stipulates that the manner and methodology of polygraph examination is prescribed by the Minister, which is done by the Ordinance on the manner of implementation and methodology of polygraph examination (hereinafter the Rules).

3 Normative regulation of polygraph examination from the aspect of the Rules on the manner of implementation and methodology of polygraph examination application

Having in mind certain problematic solutions that were previously pointed out, the analysis of the article of the Law on Police, which refers to the polygraph examination, raises the question, whether certain doubts have been removed by this Rules. Namely, although polygraph examination is regulated within the framework of Article 57 of the mentioned law, the same article envisages a more detailed regulation of the mentioned issue. The Rules was published on April 13, 2017, in the Official Gazette of the RS. [8] It consists of four parts: introductory provisions, the part related to the manner of conducting the polygraph examination, the part related to the methodology of application of the polygraph examination and the final provisions. In addition, there is one appendix to the Rulebook, which refers to the statement by which the examinee agrees to conduct a polygraph examination.

Within the introductory provisions, in addition to talking about the subject of regulation of this legal act, the answer is given to the question who conducts the polygraph examination and for whose needs it does so. Also, unlike the Law on Police, a summary definition of a polygraph device is given, as "a device for recording physiological reactions of persons examined in accordance with professional methodology", which can be considered a positive step in relation to the said Law, which does not specify what is the stated device, and it talks about testing through it.

With regard to the part related to the manner of conducting polygraph examination, Article 3 of the Rules stipulates that the examination is conducted on the basis of a written request for polygraph examination, whereby the subject who submits the request is alternatively determined, since it may be "authorized police officer" or "other civil servant". The wording "other civil servant" seems to have been set quite extensively, as it greatly expands the circle of potential persons who can submit a request. In other words, if we look at the term civil servant [9] from the Law on Civil Servants, on the basis of which he represents "a person whose job consists of tasks within the scope of state administration bodies, courts, public prosecutor's offices, the State Attorney's Office, Assembly, the President of the Republic, the Government, the Constitutional Court and the services of the bodies whose members are elected by the National Assembly (hereinafter: state bodies) or related general legal, IT, material-financial, accounting and administrative works"[10], we can easily conclude what number of potential persons can be involved in a given context. For this reason, we believe that it would be more expedient to narrow this circle, either through the exhaustive guidance of civil servants, or through the guidance of certain criteria that apply to persons who could do so.

Article 4 of the Ordinance justifiably stipulates the duty of the examiner "to acquaint himself before the beginning of the examination with all available knowledge concerning the criminal offense or event which is the subject of the polygraph examination" [8], given that the said knowledge can significantly affect test flow. However, what is of special importance when it comes to this article is the fact that it stipulates that the stated information concerns the subject of polygraph examination, which may relate to a criminal offense or some other event. Unlike some previous solutions, in this case a more extensive solution seems justified, having in mind the importance and a large number of other events, which can be the subject of polygraph examination.

Article 5, in accordance with the hierarchy of sources of law, remains on the principles provided by the Law on Police, since, in addition to the duty to acquaint the examinee with the examination procedure and the work of polygraphs, it also provides the duty of the examiner to inform the examinee to give written consent. Also, in accordance with the mentioned law, the Rules stipulates the duty of the examiner to examine the examinee on whether there are possible reasons, due to which the examination would not be possible. [8]

With regard to the methodology of polygraph testing in Article 6, it is provided that the polygraph examination "is performed in a polygraph laboratory that meets the methodological and safety requirements." [8] However, in the second paragraph of this Article, the Rules shows a certain degree of flexibility, providing for an exception to the said rule, since it allows the possibility of performing the said test outside the laboratory, if in that case it is possible to achieve conditions closest to laboratory.

Article 7 pays attention to the very course of the examination, with an emphasis on the so-called "stimulation test" whose purpose is to demonstrate the work of the polygraph to the respondent.

At the end of this part, Article 8 deals with the duty of a polygraph examiner "to submit a written report to the applicant for a polygraph examination as soon as possible." [8] The question is how to interpret the phrase "the shortest deadline". Insufficient precision in determining the mentioned period can create problems in practice, which could certainly be easily eliminated by a precisely defined deadline.

Paragraph 2 of Article 8 justifiably stipulates that polygrams (polygraph records) [11], which are kept in the laboratory for polygraph examinations, in electronic form, may be available only to polygraph examiners of the Ministry of the Interior, which reduces the possibility of their misuse.

When it comes to the temporal validity of the Rules, which is discussed within its final provisions, having in mind Article 196 of the RS Constitution, which states that "Laws and other general acts enter into force no earlier than the eighth day from the date of publication and may they enter into force earlier only if there are especially justified reasons for that, determined during their adoption" [12], it can be stated that the temporal validity of the Rules does not deviate from the general rule provided in the Constitution. In other words, the Rules "shall enter into force on the eighth day from the day of its publication in the" Official Gazette of the Republic of Serbia [8], ie. there were no particularly justifiable reasons for its earlier entry into force.

Finally, as a positive side, it should be pointed out that the basic content of the Rules is supplemented by Annex 1, which is its integral part. The appendix contains the content of the respondent's statement that he was presented with the need to be examined by a polygraph instrument, that the purpose and manner of examination were explained to him, that the possibility of harmful effects on his health in the form of mental and physical disorders in the sense of Article 57 of the Law on Police, in accordance with which he voluntarily agrees to be interrogated in this way and to give written consent accordingly.

4 Polygraph examination of job applicants and employees

Except in criminal proceedings in which the polygraph has limited effect, bearing in mind that in our criminal law it does not constitute evidence (unlike, for example, the criminal law of the United States [13], in which several federal states admit to polygraph examination probative force before the court [14]), but only an indication that can direct the competent authorities in a certain direction, the application of this device is quite widespread in some other areas.

The polygraph device is used primarily in the so-called. post-incident situations, such as theft at work, fraud and adultery. However, this method of examination is increasingly used for preventive purposes, as is the case when it comes to pre-employment checks. For example, companies that deal with confidential information, when entering a company, want to check whether a certain person works for a competing company, whether he stole former employers, etc. It is important to note that in the mentioned companies, periodic checks are often carried out, in order to, for example, determine whether the employee has sold some information to the competition [14]. There is a large amount of information

related to the candidate, which can be obtained in this way, and which does not belong to the group of easily verifiable, such as education, work experience, etc. For example, in addition to loyalty to previous employers, it is possible to check: whether there were disciplinary problems and violations at work; accuracy of biographical data; qualifications and work experience; reasons for leaving the previous employer; employment motives; participation in criminal activities; propensity to consume alcohol, drugs and gambling, etc..[15]

When it comes to polygraph testing of employees or job candidates, the legislation is incomplete on this issue, since implicitly neither allows nor prohibits the use of a polygraph device. Based on that, polygraph testing in the mentioned cases would not be allowed if it is performed with the consent of the employee or job candidate and in compliance with the provisions of the Labor Law [16], the Law on Personal Data Protection [17], basic human rights, etc. Accordingly, a number of employers are increasingly opting to hire detective agencies, which are engaged in conducting polygraph examinations.[15]

Although, from the employer's point of view, there are many indisputable reasons in favor of using polygraphs when testing job candidates (deterrence of undesirable candidates, easier verification of candidate data, greater efficiency in relation to field checks, etc.) [15], neglect the negative effects on the candidate himself. In the first place, the question arises as to how "voluntary" the conduct of the examination in this way is really "voluntary". In other words, for example, if a job candidate refuses a polygraph examination, the employer may interpret such action as the candidate's need to hide something, which may lead the employer to exercise his right to choose another candidate. In this way, the notion of voluntariness takes on a formal character, since the candidates are "forced" due to the given circumstances to agree to it, if they want to keep the opportunity for employment.

When it comes to persons who are employed, in addition to the issue of voluntariness, in practice the most problems are caused by the relationship between polygraph examination and mobbing, ie. "frequent specific behavior, which manifests itself as harassment, psychological violence, humiliation with disparagement of one person (or group of persons) in a certain period of time, primarily by a superior, (possibly by other persons in the organization - colleagues), with the aim of psychological abuse and impairment of mental health, professional disparagement and, in the end, termination of employment." [18]. Mobbing can occur if the employer, without real need, continuously subjects the employee to a polygraph examination, regardless of the fact that it is based on the consent of the employee. Frequent, continuous polygraph examination can cause stress reactions, which in conjunction with other ways of committing abuse, can ultimately cause mental and psychosomatic disorders. After all, even in the case of the employee's refusal to be questioned, there may be stigmatization by colleagues, ie the so-called "finger pointing", especially if it is an individual or a small group of employees, which can further disrupt relations in the team and cause job dissatisfaction[19] [20], unproductiveness[21] and other problems.

The case that caused a lot of attention, and in which we can see the disrespect of the basic principle of voluntariness, but also certain ethical principles, refers to the procedure and manner in which workers of a company in a neighboring country are subjected to polygraph examination. In the press release of the Association of Psychological and Polygraphic Examinations [22], it was pointed out that in the mentioned case, the law was grossly violated and that human rights were violated. It is stated that there was no voluntary consent, which is proven by the document that the director sent to the employees, which practically forced them, that is, blackmailed for testing. On the other hand, the document showing the scheduled "timing of polygraphs" of employees is an indication that this is a serious violation of the "ethics of the printing profession", given that for such a short period of time it is not possible to comply with all polygraph examination procedures. [22] Namely, based on the rules, standards, codes of the world's leading associations in the field of polygraphy (American Polygraphic Association - APA; European Polygraphic Association - EPA; Israeli Polygraphic Association - IPA), each polygraph examination should last at least 90 minutes, respecting the structure they consist of an interview, presentation of the process of polygraph examination and questions, then testing and finally analysis of the obtained results "[22]. In case of non-compliance with the stated rules, the examination cannot be considered valid and reliable.

A problem that is often overlooked, relates to the question: What happens to the data that the employer obtained in this way? The fact that we live in a time when a large number of people share various information about themselves through social networks, as well as in the era of the so-called. "Big Brother Syndrome", in which technological innovations are often abused, for the sake of human control, we must certainly not absolve the employer from responsibility for the possible misuse of personal data of employees.

For example, a few years ago, there was a case in which a company engaged in the production and trade of poultry and poultry products, conducted a polygraph examination for internal purposes, in order to gather information to detect a meat thief from the warehouse. As stated in the announcement of this company, they decided to take such a step, since they put the safety and health of their consumers as an absolute priority, that is, in order to prevent possible contamination of the product, which requires strict control of the storage and distribution process, to prevent further uncontrolled sales on the black market, without any sanitary control. They claim that the survey was conducted with the consent of employees and in accordance with the Law on Personal Data Protection, referring to the Code of the International Labor Organization, regarding the need to reduce the type and number of personal data processed only to those data whose processing is absolutely necessary, and justified by purpose. However, the Commissioner for Information of Public Importance and Personal Data Protection [23] disagreed with this statement, who issued a Warning to this company, due to unauthorized processing of personal data, during the polygraph examination of seventeen employees, referring to with the consent of the employees. "The "consent" taken from the worker is not made in the form and with the content required by the Law on Personal Data Protection, and therefore is not legally valid. That fact alone would make the processing of data inadmissible. But, even if consent is correct, could not be valid in the substantive sense, because the condition for it is to be given freely. In this particular situation, it is clear that, due to the obvious disproportion of influence between the one who obtains consent and the one from whom it is required, that condition Free consent can only be spoken of when consent can be refused without any detrimental effect on employment status, which is not the case".[23]

5 Conclusion

Although it is not a means of evidence in court, the importance of polygraph examination, with all its indisputable shortcomings and problems, is certainly not small. In this regard, its use requires adequate normative regulation. Although the Criminal Procedure Code does not mention polygraph examination, based on Article 57 of the Law on Police and the Rules on the manner of conducting and methodology of application of polygraph examination, we can say that the application of this device has received significant attention from the normative side. Although the solutions in the mentioned legal acts can be assessed as quite good, it seems that there is room for some of them to be at least reviewed or supplemented. In this regard, a lot of attention should be paid, as mentioned, to Article 57, paragraph 2, of the Law on Police, that is, to specify the term "person of trust". When it comes to the Rules on the manner of conducting and methodology of polygraph examination, it seems that the phrase "other civil servant", in Article 3, is quite extensive, when it comes to the entity that can submit a request for polygraph examination, and in in that case, it is concluded that it would be good to state certain criteria or to state exhaustively which civil servants can be involved in a given situation. The time stipulation "as soon as possible" is also quite susceptible to various interpretations, when mentioned in the Article 8 of the Rules deals with the duty of a polygraph examiner to submit a written report to the applicant for a polygraph examination, and it seems that it would be optimal to clearly specify the given determinant.

When it comes to polygraph testing of job candidates and employees, there are a number of controversial issues. Examination in this way is often viewed in a negative context, bearing in mind many abuses, which can lead to serious violations of employees' rights, by violating the inviolable principle of voluntary consent, mobbing, misuse of personal data, etc. In part, apart from the reasons of a subjective nature, embodied in the intentions of employers for such actions, objective factors contribute in the form of the absence of general regulations, when it comes to the application of polygraphs, outside the criminal law framework. We believe that polygraph testing of employees should not be allowed, when it comes to internal examination due to suspicion of a criminal offense, but that the competent authorities should be informed about them. We are of the same position when the interrogation is conducted in this way for reasons that do not refer to the suspicion of a committed crime. This is supported by the specificity of the relationship between the employer and the employee, ie the obvious disproportion of influence between the one who obtains consent and the one from whom it is requested, given that non-consent to polygraph examination can indirectly have harmful consequences for employment status, which at the same time may call into question the reality of "voluntary consent" as the basic preconditions for the legality of interrogation in this way. On the other hand, when it comes to polygraph testing of job candidates, although one can talk about how legitimately such behavior is viewed from the candidate's point of view, there do not seem to be any obstacles to the same being allowed. In this regard, the employer may formalize the said testing by entering this obligation within the conditions prescribed for a particular job, by providing as one of the conditions "mandatory polygraph testing of job candidates".

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ANALYSIS AND AUDITING OF THE BUSINESS ACTIVITIES OF AGRICULTURAL HOLDINGS

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Abstract

It is necessary to continuously carry out the analysis and auditing of business activities of agricultural entities within the managerial control function. This is the case due to the fact that the analysis and auditing of the business activities of agricultural holdings can provide an adequate answer to a number of questions that are crucial in all phases of their business, such as starting agricultural production, maintaining it and its further improvement and development. In this sense, this paper first defines the presented concepts, such as analysis, auditing, agricultural holdings. Further, the theoretical basis of the analysis and auditing of the business activities of agricultural holdings is presented according to the level of social organization, the type of agricultural production, and according to the categories of agricultural holdings. Finally, the key findings and recommendations for further improvements have been made on the basis of the above.

Keywords: agricultural holding, business activities, analysis and auditing

1. INTRODUCTION

The business activities of agricultural holdings are an integral part of all the other economic activities, such as the industrial production activities, trade activities, transport activities, tourism activities, service activities, etc., of a complete economic system, for example the state. In this way, the business activities of agricultural holdings are significant as they directly contribute to the increase of a country's GDP.

Establishing and maintaining a high level of business activity of agricultural holdings depends on the extent to which they are successfully managed. The successful management of business activities of farms implies the carrying out of the standard managerial functions, i.e. successful planning, organization, adequate staffing and control, as well as a successful implementation of the elements of subjective support related to leadership, communication, motivation and decision-making.

For the successful implementation of the control function, it is necessary to carry out a systematic analysis and auditing of the business activities of the said agricultural holdings.

This paper focuses on the analysis and auditing of the business activities of agricultural holdings. The importance of analysis and auditing of the business activities of these holdings is reflected in the fact that they provide answers to a number of questions that are crucial for all the phases of agricultural business, i.e. for starting agricultural production, for its maintenance and further improvement and development. Therefore, in this paper, in the section entitled Defining Basic Concepts, we first define the terms of analysis, auditing, and agricultural holding. Then, in the Theoretical Bases of the Analysis and the Auditing of Business Activities of Agricultural Holdings sections, the analysis and auditing of the business activity of agricultural holdings are reviewed in more detail, and according to the level of social organization, the type of agricultural production, and the categories of agricultural holdings. Finally, in the Conclusion section, key findings and recommendations for further improvements are made based on the previous sections.

2. DEFINING BASIC CONCEPTS

Analysis

Analysis is a word derived from the Greek word *ἀνάλυσις*, which means the process of “dissolving” a concept, proposition, thought, linguistic system, as well as any setting, into “ultimate” or simpler components [1].

Depending on the scientific branch in which the analysis is performed, different analytical methods are applied, which means that each of the analyses is preceded by a certain analytical methodology. In regards to the scientific branches such as social and economic sciences, informatics, etc., the methodology used for analysis are certain statistical tools. In this sense, data analysis corresponds to the phase of identification and interpretation of the collected data. The goal of such an analysis is usually to determine a particular condition and examine the causes that led to that condition.

It should be emphasized that the Analytical Phase is always an unavoidable step in solving a problem or improving a certain situation.

Auditing

If analysis is a phase of identification and interpretation of the collected data, it is necessary that this data is reliable. Having reliable data, i.e. information, is of great importance for the interested users (holders of agricultural holdings, experts, managers, investors, creditors, legislators, decision makers) if they want to make the right decisions on allocation, i.e., the allotment and the use of certain resources. Auditing plays a significant role here as it provides objective and independent reports on the reliability of information as well as providing users of such reports with reasonable assurance that there are no material errors or omissions in the audited reports.

The word ‘revision’ comes from the Latin word ‘*revisio*’ which means “seeing again, looking again, reviewing, renewing the process, the last review of the syllable before the press,” *auditing* in English, which comes from the Latin word *audire* = to hear or listen. The original meaning of the word auditor in English means “listener, supervisor, account reviewer, business book auditor.” According to the American Federation of Accountants, an audit is a systematic process of objectively collecting and evaluating evidence related to company management statements about economic activities and events, in order to determine the degree of compliance of these statements (claims) with established criteria, and to transmit the obtained results to potential interested users, who may be as follows [2]:

- investors (of capital), who are particularly interested in investment risk assessment;
- stakeholders or shareholders, who need information to make decisions on holding or selling shares/stocks;
- farm management, for the purpose of planning and making business decisions and means of control;
- employees and trade unions, in order to assess the stability and profitability of the employer, the ability to insure wages, pension and social insurance and employment;
- lenders, in order to assess the possibility of timely repayment of loans and interest;
- suppliers and customers, in order to assess collection and creditworthiness, as well as contracting business cooperation in the future;
- the government and its bodies, in order to settle tax liabilities;
- the public, in order to increase employment and investment in local infrastructure;
- scientists, analysts and professional organizations, for their goals and interests.

Agricultural holding

According to the UN [3], an agricultural holding is an analytical unit used in agricultural statistics, which defines an entity used for agricultural production and livestock breeding, and represents an economic unit of agricultural production under a single management covering all livestock and all land used, in

whole or in part, for agricultural production, regardless of name, legal form or size. Farm land may consist of one or more parcels, located in one or more separate areas or in one or more territorial or administrative departments, provided that they all share these means of production as well as labor, farm buildings, machines or working animals.

An *agricultural holding* or *farm* in the EU according to [4], means a single unit, both technical and economic, which operates by joint use of labor and means of production (machinery, buildings or land, etc.), under one administration and which performs agricultural activities in the economic territory of the EU, either as its primary or secondary activity defined according to the EU statistical classification of economic activities (NACE Rev. 2) for plant and animal production, hunting and related service activities with some exceptions listed in Annex I of the Regulation (EC) No 1166/2008, but may also provide other ancillary (non-agricultural) goods and services.

According to [5], an *agricultural holding*, as a generic term, implies a production unit on which a company, agricultural cooperative, institution or other legal entity, entrepreneur or farmer undertakes agricultural production in the Republic of Serbia. In this case, a *family farm* means an agricultural holding on which a natural person - farmer and entrepreneur together with members of his household carries out agricultural production, and which is entered in the Register of Agricultural Farms, as the holder of a family farm. A *farmer* is a holder or a member of a family farm that is exclusively engaged in agricultural production. *Agricultural land* is considered to be fields, gardens, orchards, vineyards, meadows, pastures, ponds, reeds and swamps, as well as other land (sinkholes, abandoned riverbeds, land overgrown with low shrubs, etc.), which according to its natural and economic conditions can to be realistically used for agricultural production.

3. THEORETICAL BASES FOR THE ANALYSIS AND AUDITING OF THE BUSINESS ACTIVITIES OF AGRICULTURAL HOLDINGS

An analysis and auditing of the business activities of agricultural holdings can be conducted by means of **various bases**, according to the following:

Analysis and auditing of the business activities of agricultural holdings according to the level of social organization

The key determinants of doing business in agriculture at the level of social organization are [6]:

- socio-economic conditions for engaging in this form of agriculture;
- the agrarian policy on the macroeconomic level, i.e. its readiness to support this production;
- the financing conditions (possibilities of obtaining favorable loans);
- the market situation (supply, demand and price relations, export opportunities);
- the level of organization (associations, cooperatives, clusters).

Analysis and auditing of the business activities of agricultural holdings according to the level of social organization can be conducted by the following:

- a macroeconomic (local governments, regions, provinces, states, wider social communities for
- example, EU, CIS, UN) analysis;
- a microeconomic (individual farm) analysis.

The successful development of agricultural activities depends on a number of external and internal factors, such as [6]:

- the size and degree of use of production factors;
- the structures of agricultural production;
- the economy, productivity and profitability of agricultural production;
- the type of farm (plant, livestock production, combined);
- geographical factors (plain, hilly and mountain farms).

The analysis and auditing of the business activities of agricultural holdings can be carried out through various *tools and methods*, of which the following are most often applied:

- business plan
- analysis of business indicators
- cost-benefit analysis
- analysis of credit conditions
- analysis of financial results
- analysis of business organization
- production analysis
- demand analysis
- competition analysis
- market analysis
- marketing cost analysis
- others.

In the following text, some of the forementioned methods will be explained in more detail.

Business plan

A business plan is the basis of all economic activities of all companies, and in that sense also the business activities of agricultural farms. Therefore, a business plan integrates strategic determinants (vision, mission, goals, policy, strategies) and operational determinants (a set of individual actions for the application of the selected concept (business model) of the agricultural business.

The business plan (a selected business model) defines more closely the key processes (functional areas of business), such as: marketing, production, human resources, finance, procurement, research and development.

The central issue of business activity of agricultural farms is the definition of the farm model. The farm model is determined by taking into account the elements discussed in more detail in sections 3.2. and 3.3. For example, the key elements of a farm model that has agricultural production orientations are: available area under arable land; farm buildings; available machines and devices; workforce; fuel, available chemical agents (fertilizer and pesticides), etc.

Similarly, key elements can be selected for other agricultural routes.

A systemic economic-business model is built based on certain key elements of the farm, when the structure of costs and the structure of income are formed on the input - output principle.

Analysis of business indicators

Profit analysis

Profit analysis is used to determine the short-term performance of a farm. Profit (p) is an indicator of the performance of a farm, and represents the difference between its total income and total costs, and is calculated by the formula [7] :

$$p = UP - UT \geq 0 \quad (1)$$

where:

UP - total income of the agricultural holding,

UT - total costs of the agricultural holding expressed in appropriate monetary units (RSD, €, \$...) taking into account the appropriate corrections in accordance with the legislation.

A profit is made when the values are greater than zero, equal to zero, and less than zero (then a loss is made). If the farm makes a profit greater than zero, i.e. takings, it is a reliable sign that there the business of more or less successful. However, profit is only a reliable indicator of a business performing to achieve its short-term goals, while other indicators must be used to assess long-term business success. It cannot be concluded which of the two farms are more successful based solely on the value of the profit.

Profitability analysis

Profitability is applied when a farm's business success is assessed from the point of view of how successfully the engaged capital can be used in terms of its viability.

For example, let us suppose that agricultural holdings PG1 and PG22 made the same profit. This still says nothing about their individual business success. A realistic picture of business success is obtained only when the available capital used to achieve success has been taken into account. If PG1 had achieved success with the total engaged capital K1, and PG2 with capital K2, where $K_2 > K_1$, then there is no doubt that PG1 was run more successfully.

Profitability represents the ratio of realized profit and the engaged capital for its realization, according to the formula [7]:

$$r = (p / K) \times 100 [\%] \quad (2)$$

where:

p - profit, calculated according to formula (1) and expressed in monetary units (RSD, €, \$,...),

K - total engaged capital of GHG, also expressed in monetary units (RSD, €, \$,...), and its structure consists of the sum of available capital values (fixed assets, stocks of repro-materials, tools, spare parts, stocks of finished products, available financial funds in the account), etc.

Critical point

The critical point (also called the profitability threshold) is the business indicator, which shows at which value of the production volume (the quantity of products), the agricultural farm realizes neither profit nor loss. The value of this indicator can be reached analytically, but it is usually graphically interpreted by diagrams – Profitability threshold, Figure 1.

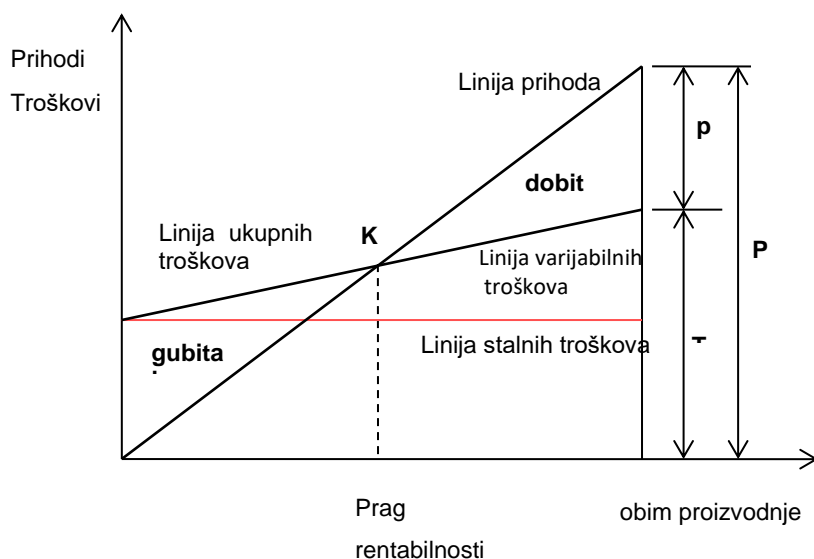


Figure 1. Diagram of profitability threshold [Source: the author]

In Figure 1, the costs and revenues of a business are presented on the vertical axis, and the realized production volume (the quantity of products) is plotted on the horizontal axis. Realized revenues are proportional to the realized volume and are indicated in the diagram by the income line. The costs incurred represent the sum of two types of costs, the variable and fixed costs, and are indicated in the diagram by the line of total costs. For each value of production volume, profit p is the difference between the total revenue P and total costs T. The value of production volume at point K divides the diagram into two parts. To the left of the point K to 0 is the area of loss, as for each value of the production volume, the total costs are higher than the total revenues, and thus the difference is negative. To the right of point K onwards is the area of profit as for each value of production volume, the total revenues are higher than total costs, so the difference is positive. Therefore, the volume of production at point K (critical point) represents the threshold of profitability in which revenues and costs are equalized, i.e. the volume of production at which neither profit nor loss is realized.

This indicator can be used to analyze the profitability of production of an individual product, for example one agricultural crop on an agricultural holding. The main problem in practice is the allocation of costs to specific products, since there are always some common elements that apply to several different products [7].

Cost analysis and cost-benefit analysis

Cost analysis

A cost analysis involves examining the dynamics and structure of total reproduction costs and their correlation to business results. Cost analysis is an integral part of the cost-effectiveness analysis [6].

A cost analysis begins by determining the total cost of reproduction, and further, the costs are broken down in a different way. This is usually a breakdown

- by types of costs,
- by stages of the production process and
- by bearers of the costs.

The most significant form of cost breakdown by type is the classification into fixed and variable (proportional) (Figure 1), in order to analyze the total costs in relation to the production volume.

Of particular importance is the observation and analysis of the type of costs broken down by stages of the production process: costs of sales and turnover; procurement costs and stock of materials; production preparation costs; production costs (by technological stages); operating costs; administration costs.

Costs per bearers of the costs are significant for large farms the code should allocate costs per work unit.

The purpose of cost analysis is to identify places and types of costs that can be reduced or avoided and thus achieve better results in the next business period.

Cost-benefit analysis

Cost-benefit analysis involves checking the costs in the production process and identifying any possibilities of decreasing them. In order to achieve cost decrease, it is necessary to analyze the causes of the increase or decrease of the costs.

Cost elements are of great importance for cost-benefit analysis, as if they are set correctly, or in other words, if fixed costs and proportional costs are clearly separated from other costs with a variable character, then the cost-benefit analysis can indicate which elements can produce a decrease[6].

In order to carry out an effective cost-benefit analysis of the product, it is useful to standardize the procedure by way of an suitable procedure.

Analysis and auditing of the business activities of agricultural holdings according to the type of agricultural production

The key determinants of business in agriculture according to the type of agricultural production are the following:

- type of production (field, livestock production);
- production lines;
- resources.

Analyses of the business activities of agricultural holdings according to the type of agricultural production can be conducted in accordance with the chart shown in Table 1.

Table 1. The structure of an analysis of the business activities related to agricultural holdings by type of agricultural production (Source: the author)

Production of agricultural holdings		
Type of agricultural production	Lines	Resources
Crop production	Cereals, fodder plants, vegetables, fruits, etc.	Available arable land, machinery and equipment, labour, chemicals, etc.
Livestock production	Cattle breeding, pig breeding, feathered animals, horse breeding, beekeeping, etc.	Available construction facilities, arable land area, machines and devices, labour force, fodder, etc.

Analysis and auditing of business activities of agricultural holdings by agricultural holding categories

The key determinants of agricultural holdings by category are:

- economic entities (natural and legal persons),
- goals,
- the size of the agricultural holding.

Analyses of the business activities of agricultural holdings according to the categories of their organization can be conducted in accordance with the chart shown in Table 2.

Table 2. The structure of the analysis of business activities related to agricultural holdings by categories of organization (Source: author)

Business entities		
Categories of organization	Aims	Size
Individuals - farmers, together with their family members	Survival, employment of household members, surplus of agricultural products for the market	Small holdings
Companies registered for agricultural production	Lucrative, making a profit	Medium-sized and large companies
Agricultural cooperatives	Teaming up to create a competitive advantage on the market	Several small farms
Entrepreneurs registered for agricultural production	Lucrative, making a profit	Small and medium-sized households
Scientific research organizations in the area of agriculture	Social role, support for agricultural holdings and R&D	-

CONCLUSION

This paper discusses the business activities of agricultural holdings from the point of view of analysis and auditing. Due to the fact that these activities belong to managerial control, these are, generally speaking, the principles applied in industrial production. Furthermore, standard models for most business activities of agricultural holdings have already been developed based on these principles. Further research in this area could be involved with building standard models in Excel tables for the purpose of analysing the business activities of agricultural holdings.

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UTILIZATION OF EU FUNDS: IMPACT ON DEVELOPMENT

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Abstract

Inequality between regions within the EU is increasing. The instruments used by the EU to reduce these inequalities aim to develop less developed regions and prevent poverty. EU member states as well as countries in the process of accession have funds at their disposal to finance projects. This paper provides guidelines on how to make good use of available resources and provides information on the causes of challenges that limit the quality absorption of available resources. The research was conducted through an in-depth interview of 27 employees of entrepreneurial support institutions in the Republic of Croatia who participate in the preparation and implementation of projects financed from EU funds. The results show problems but also solutions that can improve the absorption of EU funds.

Keywords: Absorption, Development, EU funds

1 INTRODUCTION

Over the years, EU funds have had a strong impact on the regional development of beneficiary countries. The best example is the recent economic crisis that has gripped the vast majority of European and other countries, which has drastically reduced investment and led to falling standards in those countries. Poland, as a country that has directed all its resources to the use of available funds through development projects, managed to avoid the crisis, as one of the few countries, and had a slight GDP growth. An example that other countries should certainly follow and proof that EU funds can truly lead a beneficiary country towards sustainable growth and development. In order to reduce regional inequalities, the EU has at its disposal the instruments of the European Structural and Investment Fund through which the projects of individual countries are financed. Not every country is equally prepared and does not have the same absorption capacity to realize the funds, and it is necessary to invest in the development of operational and financial capacities to facilitate the process.

2 IMPORTANCE OF EU FUNDS FOR REGIONAL DEVELOPMENT

EU funds are one of the main wheels of regional development in a region. The ability of a region to adapt to the demands of competition depends on its development and the prosperity of its inhabitants. Quality ideas translated into quality projects are a prerequisite for the absorption of EU funds for the purpose of sustainable regional development.

Nominal benefits from the project are primarily those easily measurable benefits that result from the implementation of financial resources that project beneficiaries implement within their project activities, such as the number of educated beneficiaries, the area of the newly built facility and the like. The real or actual benefits or harms generated by a project are those that are much more difficult to measure, and this is because they are difficult to separate from other indicators, or it is because they are the results of the project's multiplier effects, lasting long after the project is implemented. If we talk about the benefits, but also the possible harms that a particular project brings, and if we bring them into relation with the stakeholders affected by the project, we can distinguish two types of stakeholders; those over which the project has a direct impact as well as those over which the project has an indirect impact [1]. Fungibility is a fundamental economic term that says that money entering the country specifically for one purpose releases money for another purpose, and the net effect does not have to have anything to do with the original intention [2].

It does not necessarily mean that greater absorption power of a state or region means greater regional development. It is possible that countries with less attracted funds from the structural and cohesion funds achieve a higher degree of regional development. The reason is more efficient and effective redirection of these funds to projects that achieve greater effects in each region. One author confirming this thesis is Ederveen et al (2006), who investigated the impact of EU funds on 13 EU countries (EU-15 excluding Luxembourg and Germany). The results of his research show that EU funds do not have

as much impact on the regional development of a particular beneficiary country. He believes that the support is far more effective if the same funds are directed to the right institutions that will work to increase the region's competitiveness, quality governance and reduce corruption [3].

According to some studies, the Structural Funds can increase GDP in EU countries by 0.7% per year, while some econometric models do not show a larger increase than 0.1%. High efficiency of structural funds is conditioned by quality management and especially administration in public institutions. But their inability to eliminate or minimize corruption means that the economic and social benefits coming from the Structural Funds are very modest. [4].

3 APSORPTION CAPACITY OF EU FUNDS

European funds are financial instruments aimed at the implementation of an EU public policy in member states. EU funds represent the EU citizens' money which is, in accordance with certain rules and procedures, allocated to various beneficiaries for implementing different projects with the aim of contributing to the EU key public policies, which are established for a seven-year period, also known as a financial perspective. Cohesion policy is one of the most important EU public policies. Cohesion policy of the EU is financed by three main funds, with two additional funds also at disposal in this financial perspective. European Regional Development Fund and European Social Fund are also known under the common name of structural funds, while all five of the funds share the name of European structural and investment (ESI) funds. Ministry of Regional Development and EU Funds is the central coordinating body for the management of ESI Funds.

The availability of funds for regional development depends on the stage of membership in the European Union of a country. Thus, there are funds for countries that are in the process of joining the European Union, while EU member states use other types of funds. However, the procedure for allocating funds is not always automatically determined and transparent. This is the result of political negotiations between EU members, which often influence EU budget planning [5].

Each EU member allocates a certain financial amount for EU membership. Funds invested in assistance programs, pre-accession programs and other funds are financed by taxpayers' contributions from member states. Therefore, there are different mechanisms for controlling the strictly earmarked spending of European money, as well as the criteria for selecting projects to be financed from EU fund [6]. For the planning of the budget of the Republic of Croatia, it is important to emphasize that the funds provided by the EU budget in a given year are not used in the same year, but implementation takes three to five years, depending on the program. Accordingly, it is necessary to allocate the allocated funds from one year of the EU budget to several years of the Croatian budget, according to the projected dynamics of spending funds by year [7].



Fig. 1: European Structural and Investment Funds (ESIF)

European Structural and Investment Funds (ESIF). Five funds make up the ESIF: the ERDF, CF, ESF, EAFRD and EMFF. There is also a dedicated allocation to the Youth Employment Initiative under the ESF. Budget for 2014-2020 is 640.253.418.475 billion Euros (461.126.449.111 from EU funds) [8].

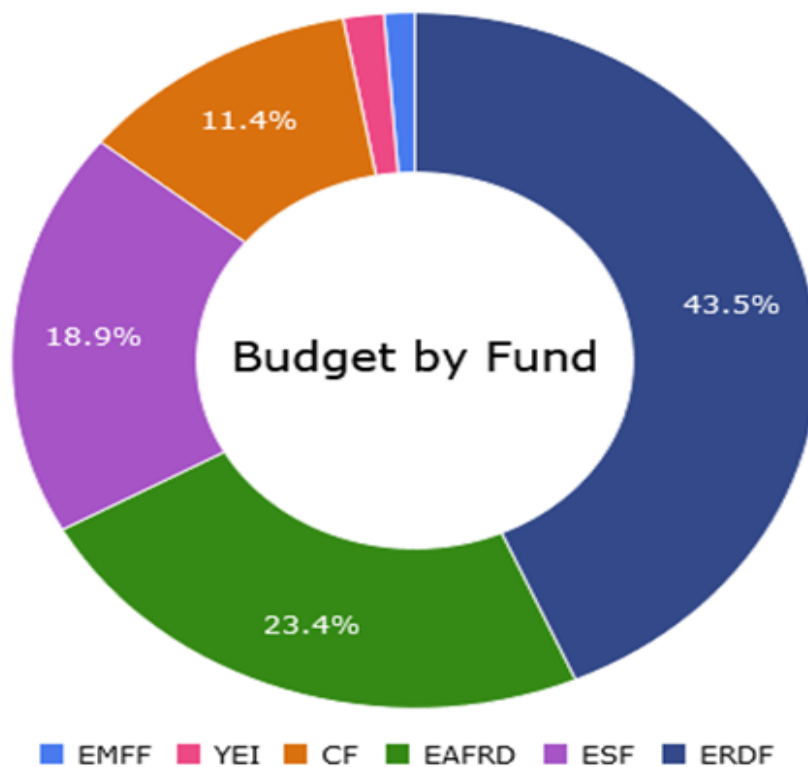


Fig. 2: ESIF 2014-2020: Total budget by Fund

It can be seen that the largest share in the financial resources is occupied by the European Regional Development Fund, followed by the European Agricultural Fund for Rural Development [8]. Of these funds, the Republic of Croatia in the period from 2014 to 2020 had 10.7 billion euros at its disposal. Out of that amount, EUR 8,397 billion is envisaged for the objectives of the cohesion policy, EUR 2,026 billion is envisaged for agriculture and rural development, while EUR 253 million is envisaged for development of fisheries. With a national contribution of EUR 1.9 billion, Croatia has a total budget of EUR 12.67 billion to be invested in various areas, from research and innovation to employment, education and training, social inclusion, public administration and civil society as well as infrastructure and environmental protection.

Availability of funds for regional development depends on the phase of EU membership of a country. So, there are funds for countries that are in the process of EU accession, while EU countries use other types of funds. However, the procedure of funds allocation isn't always automatically determined and transparent. It is the result of political negotiations between the member states that often affect the planning of the EU budget. [5]

Table 1: Financial usage of EU funds in Croatia 2014.-2020. [9].

Name of the program	Allocated funds (EUR)	Paid funds (EUR)
Competitiveness and Cohesion	6.831.255.232,00	2.871.027.028,00
Effective human resources	1.621.046.414,00	737.617.128,00
Rural Development Program	2.026.222.500,00	1.270.902.456,00
Maritime Affairs and Fisheries	252.643.138,00	97.093.228,00
TOTAL	10.731.167.284,00	4.976.639.839,00

From the available funds, it is evident that the Republic of Croatia has used about 50% of the available funds. That number will certainly increase when ongoing projects that are still ongoing were

implemented. We can see the actual spending through projects and disbursed funds in relation to allocation.

4 RESEARCH AND RESULTS

The research was conducted through an in-depth interview of 27 employees of entrepreneurial support institutions in the Republic of Croatia who participate in the preparation and implementation of projects financed from EU funds. Respondents presented their experiences and challenges they faced and which they consider to be limiting factors in the absorption of EU funds.

One of the main problems highlighted is the lack of quality human resources that have sufficient knowledge and experience in planning, organizing, preparing and implementing projects funded by EU funds. Furthermore, the problem of insufficient financial capacity of local and regional self-government units, companies and agricultures to co-finance projects was highlighted. A significant problem of administrative and bureaucratic obstacles to project application and implementation has also been identified, resulting in individuals withdrawing from the project or recovering funds.

When we talk about the capacities necessary to attract and use European Union funds, they are divided into 3 categories: Administrative capacity, financial capacities and macroeconomic capacity [10]. Administrative capacity refers primarily to the ability of stakeholders individually, but even more to the ability of the system as a whole, to perform tasks related to the preparation and implementation of all planned and entrusted procedures related to European Union funds. Financial capacity refers to the ability of stakeholders and the system to fully finance these procedures. Macroeconomic capacity refers to the constraint, according to which a country is limited in the amount of absorption through the Structural Funds

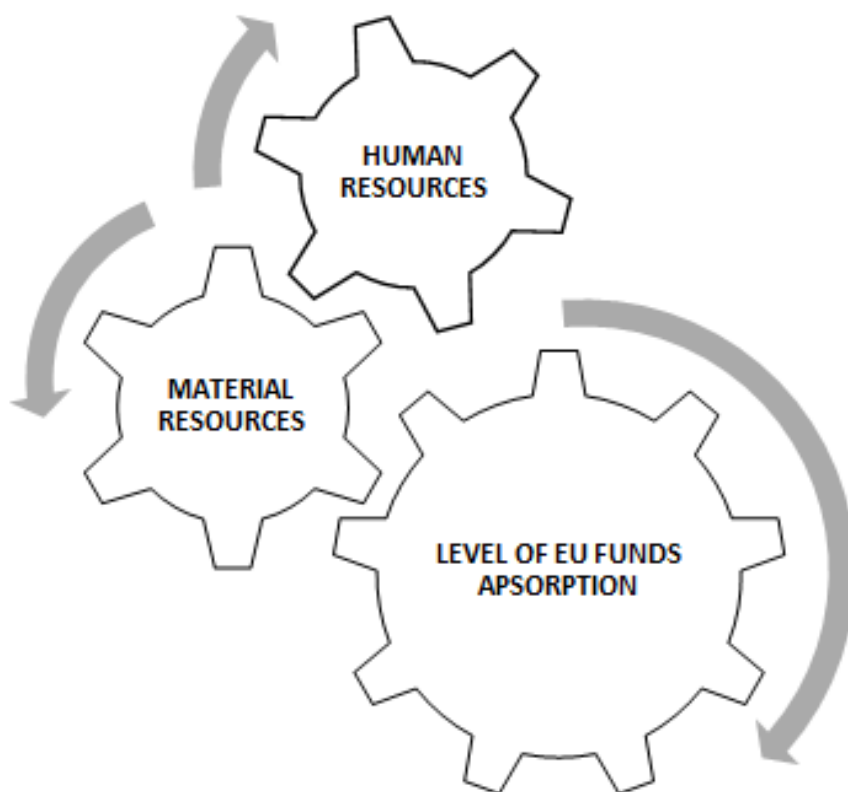


Fig. 3: Model of effective EU fund absorption

Quality human resources and available material resources lead to a higher level of absorption of EU funds. A higher level of absorption of funds from EU funds leads to greater autonomy of individual regions and regional development as a whole. The quality of human resources is increased through education, increased level of information, encouraging creativity, motivation and teamwork. Material resources are related to strengthening financial capacities, drafting strategic documents and technical readiness of projects. A higher level of absorption of EU funds leads to greater autonomy of regions

through an increase in the regional competitiveness index and a reduction in financial dependence on centralized state funds. All of the above leads to the strengthening of regional development through increased consumption, investment, reduced unemployment, increased population and competitiveness.

CONCLUSION

The European Union's regional policy is designed to reduce economic and social disparities between the Member States of the Union by helping regional development. The European Union pursues its regional policy through cohesion policy. Co-financing of projects in the areas it covers encourages the regional development of a particular region. However, it does not necessarily mean that more appropriations from EU funds mean greater regional development. For this reason, we need to measure the real effects and impacts of borrowed funds on regional development within each beneficiary country. EU funds have had a strong impact on the regional development of beneficiary countries.

Following a continuous increase of the share of the structural funds in the EU budget over successive programming periods, this trend has stalled in recent periods. This abatement reflected the budget constraints imposed by member states coupled with apparent concerns about the effectiveness of EU structural funds. In a move to rationalise the diverse use of EU funds, the EU structural funds were grouped under the heading of 'European Structural and Investment Funds' (ESIF) in the 2014-2020 programming period. [11]

The results of the research show the importance of human resources, not only in regional planning, but especially in the preparation and implementation of projects funded by EU funds. People are a very important factor; in the end a higher level of education means a larger number of projects. It has been proven that many countries have problems due to the low level of education for the preparation and implementation of projects from EU funds. People are wealth and investing in human resources is investing in the future. Problems that arise during the preparation of projects for EU funds are also problems of financial capacity. It often happens that less developed countries, regions, cities, villages, have low annual budgets with insignificant financial resources allocated for co-financing projects. Those underdeveloped regions that need investment in development and technology suffer the most. Compliance of strategic documents with the projects to be applied for is the basis for quality planning. Large bureaucracy and administration are visible, and it is necessary to minimize it in compliance with the laws and regulations and rules of the tender.

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CHALLENGES AND OPPORTUNITIES IN THE HUNGARIAN-SERBIAN CROSS-BORDER CO-OPERATIONS (CBC) FOR THE 2021-2027 EU PROGRAMMING PERIOD

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Abstract

In recent decades, dynamic changes have taken place in the field of Hungarian-Serbian relations mainly due to significant number of Hungarian inhabitants in Vojvodina (Autonomous Province in Serbia). Furthermore, the Hungarian-majority villages characterized by an even worse economic and social situation than the Vojvodina average. The relationship between the two countries is constantly strengthening, both at the political level and at the level of the population. Border regions face the same challenges: disparities in territorial development, emigration, aging society, unemployment, low educational attainment, lack of investment, the impact of climate change on agriculture, and difficulties in development of business relations.

This review paper aiming to give a complex “landscape” related to the process of the Hungarian-Serbian Cross-Border Co-operations (CBC) and its latest developments. In this context analysing the challenges focusing on lack of managing tendering projects experiences, differences in legal and public administration systems, cultural and decision taking mechanism and the problems of financial realisation and the projects sustainability. Finally, based on the lessons learnt from the previous EU programming period, takes several recommendations for both countries to improve the effectiveness and eliminating the barriers in front of their cross-border co-operations during the 2021-2027 period.

Keywords: CBC, hard and soft projects, tangible impacts, local communities, networking, sustainability.

1. Introduction

Serbia became one of the most prioritised strategic partner countries for Hungary in the Western-Balkan (WB) region for the last decade. Trade in goods between the two countries is constantly growing. Hungarian investments in Serbia are also showing growth, but investments by Serbian companies in Hungary have also started. The renovation of the Baja-Szeged-Subotica railway line and the construction of the Budapest-Belgrade high-speed railway line are in progress. Respectively, the interconnection of gas pipelines and other energy projects, the implementation of which is in the common interest of both countries. Hungary and Serbia also aim to increase the region's employment potential and reverse emigration of the local population. An important aspect in building the stability of the Western Balkans is close relations with Hungary. Serbia's accession to the EU could pave the way for other Balkan countries. The country was granted candidate status in 2012 and accession negotiations began in 2014, but seventeen of the 35 negotiating chapters have been opened so far, two of which have been closed. [1]

The EU accession of Montenegro and Serbia in 2025 is still in question, the situation complicated by the „Brexit” from the EU with future uncertain consequences. Both countries need to provide clear evidence to reach significant progress in the field of the rule of law, security and socio-economic development. On the other hand, the accession process can be the best tool to fight against corruption, organized crime and the emerging threat of dictatorship in the region. In this context, Serbia has key role in the region, which can facilitate reform processes elsewhere. Hungary is also interested in Serbia's full-fledged EU Membership in connection with migration processes, since the external EU Schengen

borders would shift farther, therefore Serbia would be the first Schengen country, in which the refugees will arrive. [2]

This study analyses the economic and social impacts of the Hungarian-Serbian CBC projects and programs related to their effectiveness and long-term survival also depend to a large extent on the commitment to goals, the interest in sustaining co-operations, the consideration of bottom-up needs, and the guidelines of top-down development policies.

Cross-border development programs can largely contribute to promoting the network-based co-operations among the regional interested stakeholders (local governments, utilities, regional authorities, government agencies, tourism organizations, educational institutions, NGO's, companies). In this context, it can be essential to make recommendations for the next programming period based on the lesson learnt from the previous programming period.

2. Methodology

The methodology based on secondary research analysing EU and national documents, publications, studies, on-line literature sources and processing relevant, up-to date statistical data as well. Based on these methodologies, the main features, challenges and possibilities of the Hungarian and Serbian Cross-Border Co-operations (CBC) were analysed. The conclusions and recommendations based on this „desk research” work reflects the authors' own professional views and experiences.

3. Overview

The Cross-Border Region (CBR) including the following counties/districts (NUTS 3 level): Csongrád and Bács-Kiskun counties in Hungary, West Bačka, North Bačka, South Bačka, North Banat, Central Banat, South Banat and Srem districts in Serbia. The NUTS 3 (or equivalent) level Serbian districts together form the Autonomous Province of Vojvodina on NUTS 2 level as you can see in the below Table 1. [3]; [4]

Table 1: Units of the Hungarian- Serbian CBR

2019	Population (number of inhabitants)	NUTS 2	Area (km ²)	Population (number of inhabitants)	NUTS 3	Area (km ²)	Population (number of inhabitants)
Hungary	9 772 756	South- Great Plain region	18 339	1 237 101	Bács-Kiskun county	8 445	503 825
					Csongrád county *	4 264	399 012
Serbia	6 963 764	Vojvodi na AP	21 614	1 856 911	West Bačka	2 488	172 110
					South Banat	4 246	278 356
					South Bačka	4 026	618 578
					North Banat	2 328	136 183
					North Bačka	1 784	178 853
					Central Banat	3 257	174 732
					Srem	3 485	298 099

*Since 2020 renamed Csongrád-Csanád county

Source: Own edition based on Eurostat, Statistical YearBook of Serbia and the Hungarian Central Statistical Office

Twice as many people live on the Vojvodina side in an area of almost the same size, but if we look only at the areas right next to the border, the Hungarian population is almost twice that of the Vojvodina. The economic development of the area of cooperation is low, compared to the EU average, the Hungarian counties are lagging behind the rest of the country, but Vojvodina is one of the most developed regions

in Serbia with food processing, chemical industry, rubber and plastic, oil and gas products and metal processing. The Hungarian border region possess has strong agricultural sector and potential in mining (mainly oil and gas), in manufacturing industries (automotive and mechanical equipment), in food processing and in biotechnology.

The regionalization process started in Serbia in the mid-2000s. The Regional Development Strategy of the Republic of Serbia 2007-2012 is the first document containing significant regional policy measures. [5] This was followed by the development of the legal and institutional background. The Autonomous Province of Vojvodina appears as one of the five NUTS level 2 regions in development policies, covering the areas of Bačka, Banat and Srem. However, the establishment of statistical regions did not mean that these units also had political or financial autonomy. Vojvodina has limited opportunities in centrally managed regional development plans and the lack of budgetary autonomy also limited the development potential. After the expiry of the 2007-2012 strategy, the update of the document has been delayed. [6]

Border areas face common challenges: high unemployment, emigration, poor infrastructure, weak human capital, strong, traditional role of agriculture, and the limited competitiveness of small and medium-sized enterprises. Cross-border economic and social co-operations, together with other support solutions and sources of financing, may be able to manage them in parallel with the renewal of the business environment. [7]

The aim of European Territorial Cooperation (ETC) is to encourage economic, social and territorial development diminishing disparities among the EU regions. The Interreg Programmes implement this principle. Interreg Programs built around three types of cooperation: cross-border (Interreg A), transnational (Interreg B) and interregional (Interreg C).

In Hungary, the PHARE CBC program had launched in 1995, followed by INTERREG IIIA funding upon accession to the EU, which has since become one of the most important EU instruments to support cross-border cooperation through project funding. Since 2007, the different pre-accession programs including Poland and Hungary: Assistance for Restructuring their Economies (PHARE), Instrument for Structural Policies for Pre-Accession (ISPA), Support for Pre-Accession measures for Agriculture and Rural Development (SAPARD), Community Assistance for Reconstruction, Development and Stability in the Balkans (CARDS) were replaced by the Instrument for Pre-Accession Assistance (IPA). The programs helped to improve cross-border relations between different actors in regional and local development (municipalities, universities, NGOs.). They have made a major contribution to the implementation of national and EU development strategies, but their success can easily jeopardized by economic crises. Despite the crises, the success of the programs also reflected in the large number of well-functioning projects. In connection with the joint projects, it should be mentioned that there are some differences between the Hungarian-Hungarian cooperation and the actual Hungarian-Serbian cooperation in terms of activity. In the case of the former, definite objectives of Vojvodina policy (water management, protection of common natural values, people-to-people activities) appeared, which were also pivotal during the planning period. In the latter case, it was more the pursuit of the guidelines set by the central government that was more decisive. [8]; [9]

The below Table 2 briefly summarizes the two different project types and their features in the Hungarian-Serbian CBC relationships.

Table 2: The main characteristics of the soft and hard CBC projects

CBC project type	Description
Soft	<p>People-to-People (P2P) projects, which primarily help to strengthen people-to-people contacts and promote interactions on different sides of the border. These projects usually have a lower budget and are for a shorter project period, in a smaller area, mainly involving local actors.</p> <p>In terms of their subject matter, they move on a wide scale: cultural, tourism, sports-related, education-training, environmental, economic cooperation. The partnership also shows a diverse picture: non-governmental organizations, local governments, educational institutions, etc. I think one of the biggest benefits of hugely popular projects is that they lay the groundwork for networking and exchanging experiences that can lead to larger-scale projects. The activation of civil society is easier for these projects, and</p>

	through their role as an incentive, they are able to make EU ideas more widely known in addition to their goals. Through their close relationship with society, the partners build their projects on everyday relevant issues at the local level. Measuring the impacts of these projects is very difficult.
Hard	<p>Hard or infrastructure projects appeared in a smaller proportion in each program period, this is most likely because their implementation involves significant costs. There is no difference in terms of partnership, but the opportunities are limited in case of larger size projects.</p> <p>In terms of their subject matter (transport development, energy management, research and development), they include actions for a specific purpose, but are not limited to a few examples: the development of urban connections to the region contributes to strengthening the region's tourism opportunities. Reconstruction of existing border crossings and construction of new ones will also support mobility. Water management projects significantly improve the quality of life of the population. Due to their nature, the impact of projects is can measure defining specific indicators. However, their sustainability is also hampered by the fact that funding does not cover the post-implementation period.</p>

Source: Own edition

The IPA supporting goals included the following areas: institution building, economic and social development, regional and territorial cooperation, human capital development, agriculture and rural development. The IPA designed to support longer-term, multi-annual programs. Based on the planning, it required the preparation of strategic country reports, thus helping to prepare for the management of funds available after future EU accession. In 2008, Serbia signed the European Partnership Agreement, which allows for participation in IPA programs. The program area was represented by Csongrád and Bács-Kiskun counties and the NUTS 3 level areas of the province within the Autonomous Province of Vojvodina (Western Bačka, North Bačka, South Bačka, North Banat, Central Banat). The strategic objectives of the Hungary-Serbia IPA Cross-Border Cooperation Program were economic development, job creation, encouragement of educational and research activities, and the preservation of cultural and natural values. To achieve this, additional goals were set (reducing the isolation of the border region, environmental sustainability, business co-operation including business environment development multiplying export potential of small and medium size enterprises (SMEs), development of tourism), which set out the priorities along which the lack of national investment in the assisted area was to be addressed. [10]; [11]; [12]; [20]

At the end of 2015, the European Commission adopted a new cross-border cooperation program between Hungary and Serbia, the Interreg-IPA CBC Hungary-Serbia Program. A total of € 65.1 million in Community funding was available under the program. With a national funding contribution from the two countries, the total budget for the program was € 76.6 million. On the Hungarian side, the program area still includes Csongrád and Bács-Kiskun counties, but in Serbia, South Banat and Srem already took into consideration not as associated areas, but as full support areas. Instead of the previous two priorities (infrastructure and environment, and economy, education and culture), you can deal with four priorities: cross-border water management and flood protection, reduction of barriers to border traffic, development of tourism, increasing the competitiveness of SMEs. The program highlighted the negative effects of unemployment and CBR emigration, as they greatly affect the sustainability of projects. [13]; [14]

The first call with a budget of € 24.8 million took place in 2016, resulting 5 successful projects. The second call had launched in 2017 with a budget of € 21.5 million, with the priorities broadened by strengthening the competitiveness of SMEs, supporting the implementation of 67 winning projects. The third call, launched with a budget of € 10.38 million in 2019, provided funding for 40 projects. The predominance of „soft projects” cab be due to the fact, that the goals of the co-operation - in addition to strengthening territorial cohesion and meeting many EU priorities - are to bring people living in border areas closer together and to reduce the dividing role of the border in the population. Taking into practice these goals proved particularly successful. [13]; [15]; [16]; [17]

The Hungarian-Serbian Pilot Small Project Fund primarily provided support for low-budget projects, mainly “people to people”, community development-type activities. Within the framework of the Hungary-Serbia and Montenegro Neighbourhood Program 2004-2006, soft projects were also in the majority, mainly trainings implemented and feasibility studies were completed. During the Hungary-Serbia IPA

Cross-Border Cooperation Program, the projects again focused on education, research, tourism and cultural cooperation, solving social issues, developing leisure activities and environmental protection. Due to the proximity of the end of the budget period, there are still few resources available for reviewing the projects implemented under the Interreg - IPA CBC Hungary - Serbia Program, but the balance has not shifted towards infrastructure investments. Grants continue to be fragmented most likely for political as well as programming reasons. There is a noticeable difference, for example, in the proportions of Serbian-Hungarian and Serbian-Romanian eligible amounts in favour of the latter. [18]

On July 1, 2021, the Cohesion Policy Package for 2021-2027 entered into force, with the adoption of the next step being the finalization of the programming documents, in which the Hungary-Serbia INTERREG IPA Cross-Border Cooperation Program expected to ensure the implementation of projects for the period. [19]

4. Obstacles to cross-border programs and opportunities to overcome them

4.1. Lack of experiences in submitting tendering project proposals, differences in legal, administrative systems and decision-making mechanisms

Serious challenges related to Hungarian-Serbian cross-border co-operations is any area the completely different administrative systems of the two countries, the decision-making competences of the local or territorial units. These different structures hindering exploitations of the mutual benefits in CBC programs.

The public administration system of the Republic of Serbia includes the following territorial units: autonomous provinces (Vojvodina and Kosovo), districts (29 districts and Belgrade, which is also a district itself), municipalities (197), which consist of settlements (6158). Vojvodina comprises 7 districts, 53 municipalities and 467 municipalities. [4]

The districts correspond to the Hungarian counties, the villages to the districts. In Serbia, therefore, the villages consist of a large centre and many small local communities, villages. This practically excludes the possibility for a municipality to apply independently, as it has neither the competence nor the financial means legally. In Hungary, local governments are in possession of everything, and the institution of and the institution of the merged municipalities is not significant in the region either. These discrepancies have often negative impacts on partners finding each other in the Cross-Border Regions (CBR).

The different legal and administrative environments of the seven neighbouring countries provide a significantly larger experience base for Hungarian applicants in the field of CBC or INTERREG programs. During PHARE and at the beginning of the INTERREG and IPA programming period, the most common obstacle for Vojvodina partners is the lack of knowledge about the projects. In the early 2000s, although many relocated residents already had a pre-existing system of relationships on the other side of the border, institutional relationships between people did not exist. Even with the strict administrative constraints of the new call for proposals and application system, it has taken a long time for the Serbian partners to make friends. Budgeting and financial reporting by beneficiaries has emerged as an area for improvement that still exists. The level of knowledge related to public procurement procedures and rules was low, which, however, shows improvement. The language of the projects was English, which was an advantage for the Serbian partners at the beginning, compared to the Hungarian applicants. Currently, this barrier no longer exists, since significantly more people can speak English and partners have made significant efforts to remove barriers to communication and many organizations use consulting services to ensure professionalism reflecting in the project proposals applications. At the same time, "Hungarian-Hungarian" partnerships became popular because the working language was common, even if the project progress and closing reports had to be submitted in English. In addition, the specialized knowledge related to managing of the tendering projects became separated profession after a while.

For the 2014-2020 Programming Period, the relationship systems were established, longer-term projects were launched compared to the previous 2007-2013 Programming Period, the building of the individual projects on each other and the generation of further ones also started. This has had a significant impact on integration processes in the Western Balkans, as NGOs have gained expertise through knowledge transfer, technical support and networking opportunities.

It is also important to mention the cultural differences, as they were already in conflict during the first project co-operations. As an example, the shift in each holiday period relative to each other. The partners had to get used to the fact that Hungarians typically do not work from December 20 to January 2, and

in Serbia they are not available from the second to January 15. During the implementation of the project, it should be taken into consideration that both the Orthodox holidays and the Serbian national holidays appear to be shifted compared to the Hungarians. This caused some surprises in the beginning, but over the years, planning that takes them into account has already developed.

Last but not least, the question of ensuring tender own resources. Community support is 85%, the remaining source (15%) is the national contribution, which is own resources (5%) and government co-financing. All this is favourable for the Hungarian partners, but the situation of the applicants from Vojvodina is quite different. Government co-financing is not available to them. Although less burdensome for larger municipalities, the application of non-profit organizations. Regarding to Vojvodina, the Provincial Finance Secretariat is announcing a tender for self-financing of the granted EU programs not only of the Hungarian-Serbian CBC programs. The provision of co-financing and pre-financing is available in both repayable, partially non-refundable and non-refundable forms. This option appeared a few years ago, the amount that can be applied for is not significant and can only be disbursed after the contract of the granted project has been concluded, but at the same time, it can reduce the funding problems.

4.2. Infrastructural shortcomings

The construction of border crossings and roads and bicycle paths to them (as well as water, sewage and settlement waste management system investments) mainly used to improve the quality of life of Vojvodina residents. The Schengen Convention mainly involves the abolition of the surveillance of the EU's internal borders and the joint control of external borders. Hungary signed the agreement in 2007 and joined the Schengen Area. As a result, border controls at the Hungarian-Austrian, Hungarian-Slovenian and Hungarian-Slovak borders have been abolished, while stricter controls have been introduced at the Hungarian-Croatian, Hungarian-Romanian, Hungarian-Serbian and Hungarian-Ukrainian borders, as the Union entry into its territory took place on these sections. The situation may have an impact on the co-operation of the Hungarian-Serbian border areas. On the one hand, stricter regulations may be an obstacle to integration efforts, and on the other hand, the necessary infrastructure for crossing the border have to developed, which induced further developments.

Mutual interest of both countries to facilitate border traffic in compliance with Schengen obligations, and to this end, developing the capacity and increasing the number of border crossings is a priority in the region. In addition, a common goal is to reduce barriers to rail, road and waterborne transport, which facilitate the free movement of goods and people. Budapest can also be reached very quickly from the settlements of the Serbian border districts. The construction of the Budapest-Belgrade high-speed railway line and the renovation of the Szeged-Subotica railway line are in progress, which can contribute to slowing down or even reversing emigration in the CBR by facilitating mobility.

Project planning is subject to certain constraints, as the directions set by the European Union do not always cover the needs. From Serbian perspective, the development of mobility (cross-border transport, public transport) is one of the main focal issues. There is a huge demand from the commuter population and it would also help boost tourism. The construction of infrastructure for tourism purposes appears as a burning demand in the region. Numerous "soft projects" (training, studies), digital (application, website) development have been implemented, but their impact has not been achieved. Based on the experience of Vojvodina, the fragmentation of subsidies also appears in this field, which has increased the demand for the effectiveness of fewer but larger-scale developments.

4.3. Pre-financing and sustainability of projects

In Serbia, it has been continuous problem that applicants, either publicly financed institutions, municipalities or non-governmental organisations (NGOs), usually do not have enough equity to pre-finance or maintain projects. Larger municipalities (predominantly urban settlements) have adequate human resources, a more extensive network of contacts and are less burdensome to provide for own financial resources. However, pre-financing is a problem for all applicants, therefore one of the primary aspects of the preparation is the planning of cash flow, which, however, also requires a human capacity with a management approach with appropriate expertise. However, this may not be available to smaller municipalities and NGOs.

The project maintenance as a concept means the effects (economic, social utilization) after closing the project. However, majority of projects used to fail within a short time-period. Based on the experience of Vojvodina, it can be said that few of the larger-scale, infrastructure projects are implemented and soft projects usually operates only in the project period and after then declined. Large number of ad.hoc. co-operations are also due to the fact that these partner organizations have developed along local initiatives, and that the common language also makes the work processes smoother. There are many soft projects, especially for smaller NGOs, where there is no specifically sustainable element. As soon as the project is over and lack of stakeholder who considers it important to keep it running, the project will terminate within half a year or sooner (such as labour market developments, trainings). In many cases, the administration of small projects put heavy burden on organizations as consequence of insufficient capacities. Sustaining of infrastructure projects is not solved in many cases either, there is nobody to take over the operation and the responsibilities. The sustainability often means that the project final closing reports will be submitted while there are no additional resources for operation. Project beneficiaries do not pay too much attention to their commitment related to sustainability.

In many cases, the requirement for a call for proposals included to undertake indicators and activities that are difficult to managing during the sustainability period. In order to mobilise grants, development goals need to be aligned with EU priorities, which often do not coincide with the development goals of the involved stakeholders. It is difficult to set up an indicator system with a tangible impact, as in the case of a specific economic development program. However, the fact that impacts cannot be quantified at program level does not mean that programs have not had an impact.

5. Conclusions and recommendations for the EU 2021-2027 Programming Period

In general, it can be concluded that

- the legal and coordination framework for project implementation has improved, but further improvements are needed coincide with the statements of the latest comprehensive country report on Serbia to the European Commission (Commission SWD Serbia 2020, pp. 99-101). From Serbian side, a comprehensive legislative environment, institutional and administrative capacity development needed to implement more efficient program planning and resource allocation tasks in the next programming period.
- the Hungarian and the Serbian public administrative systems do not cover matching administrative units, and the funding background is different on both sides of the border. Despite the similar names of the institutions supporting project implementation, there are very different structures in the two countries. The lack of information resulting from the different functioning of public administration bodies can be solved through IT developments and information campaigns, which would provide information to market participants and the public as well. Sharing good practices could even lead to a reduction in administrative barriers. Information campaigns can also help to alleviate potential language barriers, providing useful information not only to applicants but also to the organizations that contact them.
- improvement the quality of the infrastructure, more frequent modernization and maintenance, infrastructural barriers can be reduced and the problem of sustainability can be solved. There is a greatest need to develop public transport along the border, the administrative barriers to which can overcome through CBC projects. More efficient implementation of connections, responsive transport systems could also facilitate cooperation, and the number of interactions would increase.
- awareness-raising and information campaigns targeting applicants (such as for-profit and non-profit organizations, public institutions) and the general public can also help to increase the willingness to cooperate, through gaining relevant knowledge about the every-day's way of life across the border. Local institutions and non-governmental organizations may not be aware of the benefits of cross-border co-operation, and the extent of co-operation is often influenced by political will and commitment. New methods should also highlight for better revealing and understanding the needs of the target group.

- the future projects have to build on the existing values and opportunities of the region, but it is crucial that this is done from the perspective of the real needs of the target group and not in the interests of the partner organizations, and the content of the projects is only influenced by the program. At the same time, there are problems with the indicator system, which the applicants expect to develop from the next programming period (even by designating fewer but more specific indicators) in order to have a much more tangible and measurable impact on the projects implemented.
- general competencies related to cross-border cooperation are constantly evolving due to the experience of the programming periods. The area of joint coordination and the inclusion of cross-border development policy objectives in bottom-up initiatives should be emphasized. Exchanges of experiences, best practices between the authorities should also speed-up and deepened. Dissemination of project results is becoming more efficient, the visibility of projects has increased, the opportunities they offer have become better known.

Taking into consideration the above recommendations by concerted actions, if so in the Hungarian-Serbian can be improved and better exploit the mutually beneficial synergies, complementarities, pragmatic approaches, solutions to problems and problem-solving mechanisms which adequate for the CBR local communities in the next Programming Period. Furthermore, the trust building, network based strategic partnerships (e.g., making more cluster organisation) can also widened and strengthen.

6. Summary

Hungarian-Serbian relations are very close, both at the political level and at the level of local communities, mainly due to establishment of the democratic system in Serbia. In this context, besides the Hungarian-Serbian cross-border programs other types of co-operations had also launched.

The impact of CBC projects and programs is important in the development of previously cohesive territorial units, in reducing disparities of regions and in their integration into European processes. However, their effectiveness and long-term survival also depend to a large extent on the commitment to goals, the interest in sustaining co-operations, the consideration of bottom-up needs, and the guidelines of top-down development policies.

Cross-border development programs play an important role in bringing organizations and institutions close together that do not usually work together, and partnerships are set up specifically for the purpose of calls for proposals. These include, but are not limited to, local governments, utilities, regional authorities, government agencies, tourism organizations, educational institutions, sports associations, non-governmental organizations, and religious organizations.

In addition to the positive results of the programming periods, there are some negative ones: there is a significant need to reduce the length of administrative procedures, reduce the administrative burden of documentation and reform post-implementation monitoring activities so that each project contributes to the socio-economic development of the border region. The actual effects of the projects should be thoroughly assessed. The dominance of soft-type activities and the lack of a link between individual projects have resulted in limited measurability of the real, tangible impacts of the projects. The region is prepared for larger-scale cross-border investments, the impact of which can be measured in the long running time period.

Participation in the programs has largely contributed to the development of the beneficiaries' skills in project preparation and coordination. The success means for both regions the number and quality of those strategic projects, which provide opportunities for mutually beneficial investments, economic and social development. In the course of designing programs, it is essential to evaluate the needs and problems at the lowest possible level in order to achieve a more tangible impact through the implemented projects. The partners have to strive to achieve goals that are based on real needs, thereby truly advancing the economic and social development of the region. It would be worth paying more attention to the dialogue with civil society.

The programs have made a major contribution to improving CBC through partnership building, networking, joint planning and implementation of projects. Although the calls for proposals allowed a wide range of applicants to apply for funding, improving partner-finding opportunities remains an area for improvement in order to attract new actors. Successfully strengthened territorial cooperation still requires a legislative framework that contributes to overcoming the barriers generated by the different administrative structures.

The current EU Programming Period (2021-2027) will be key importance for Serbia and within for Vojvodina as well, while the country is preliminary scheduled to become a member of the European Union in 2025, in the middle of the cycle. The next cross-border cooperation program will focus on the same area as the current IPA program. The CBR continues to address common challenges in terms of territorial and economic cohesion: the impact of climate change on agriculture, infrastructural barriers to the flow of goods and people, the development of cross-border catchment areas, development of business relations. In terms of social cohesion, the biggest challenge will remain the weak population retention capacity of the border region for the time being.

Although the COVID-19 pandemic has slowed down the above processes, cooperation will soon gain new momentum as the European Parliament adopts the cohesion legal package for the period 2021-2027. The epidemic has also shown that gathering and sharing of information and data among the border regions can also play a central role in managing similar crises successfully in the future.

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EFFECTS OF THE IMPLEMENTATION OF INTERNAL AUDIT IN THE PUBLIC SECTOR - A CASE STUDY ON THE EXAMPLE OF A PUBLIC COMPANY

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ABSTRACT

Internal Audit in the public sector in the Republic of Serbia is still insufficiently applied. There are a small number of public companies that have an internal audit function in their organizational structure. The aim of the research was to prove that efficient internal audit in the public sector leads to better business performance, and that the key to this effective audit is the support of executives. The intention was also to show the correlation between the number of given and the number of implemented internal audit recommendations. In order to find the evidence to support our research questions, the survey was conducted in the form of a case study of Public Utility Company Zrenjanin Waterworks and Sewerage. Data were collected through interviews with representatives of the internal audit unit, managers of all sectors in the company, as well as the director of the company. Significant data were collected by analysing strategic and annual internal audit plans.

Keywords: internal audit, public sector, executive, recommendation.

1 INTRODUCTION

There are often dilemmas about the true function of internal audit in a business system. With the emergence of increasing uncertainties and changes at both the local and global levels, the scope of work performed by internal audit is becoming larger and more complex. The legal framework regulating the introduction and implementation of internal audit function (IAF) differ from country to country and while for some it is mandatory, for most of them is still at the level of recommendations. What is common is that the importance of internal audit is becoming bigger and business systems are becoming more aware of its functions. The main reason is the risk volatility that occurs in everyday business - whether it is a market, operational, political, legal, institutional, or more frequent cyber risk and need to be managed. Internal audit is not the only one that deals with risk management, but it certainly plays a key role in its detection and overcoming. Internal audit can play a role in determining whether the living will plans develop by the organization are reasonable and supported by appropriate documentation, that the right people are involved and that the risks and controls are identified and addressed. [1]

Every organization, whether profit-oriented or not, exists to create value for its stakeholders. [2] Public companies are established to meet the socio-economic needs of the population at the local level. Although most public companies finance their operations from the results of their own businesses, city authorities often participate in their budget in the form of donations and grants for specific projects of general popular interest. Spending earmarked funds, as well as monitoring the implementation of projects is what interests the legislator as well as local population. The essence of budgeting is that each program is translated (in monetary terms) into domain of the managers of responsibility centres who are charged with executing the program or some part of it. [3] It is not rare that at these places appear fraudulent activities, because of the lack of transparency of the whole process.

This topic will be discussed using the following pattern: the first part is dedicated to defining the concept of internal audit, the second part deals with the chronology of the internal audit function in the public sector in the Republic of Serbia and the last part analyses data collected through a case study in Public Utility Company (PUC) Zrenjanin Waterworks and Sewerage. The aim of the research is also to show the correlation between the number of given and the number of implemented recommendations of the internal audit function and how important they are on the overall efficiency of the organization itself.

WHAT IS INTERNAL AUDIT?

There are two main roles of internal audit:

- *Assurance Services* to the administration, audit committee, management, guidance on assessing the effectiveness of corporate management, risk management, control processes established by management, and
- *Consulting Services* to the management on risk management and controls. [4][5]

Internal audit is a cornerstone for good governance in the public sector. [6] According to the definition of The Institute of Internal Auditing (IIA) in The IIA's International Professional Practices Framework (IPPF), internal auditing is *an independent, objective assurance and consulting activity designed to add value and improve an organization's operations*. [7]. The Internal audit function has received increasing attention as an important component of government financial management and a tool for improving the performance of the government sector.[8] The IAF is located within the model of the Three Lines of Defense on the 3rd line.

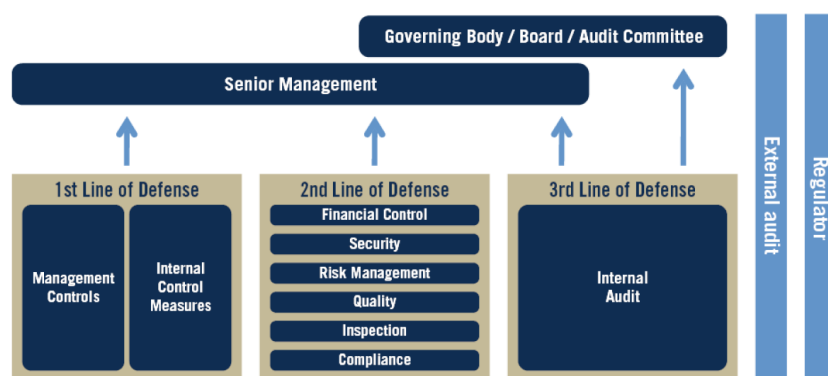


Fig.1 – The Three Lines of Defense Model [9]

The scope of internal audit within an organization is broad and may include areas such as business efficiency, reliability of financial reporting, fraud prevention and investigation, asset protection, and compliance with laws and regulations. [10] The institutionalization of internal audit began in 1941 with the establishment of the Institute of Internal Auditors (IIA), then the formation of the Committee of Sponsoring Organizations (COSO) of the National Commission on Fraudulent Financial Reporting founded in the United States of America in 1992, as well as the Sarbanes-Oxley Act (SOX) in 2002.

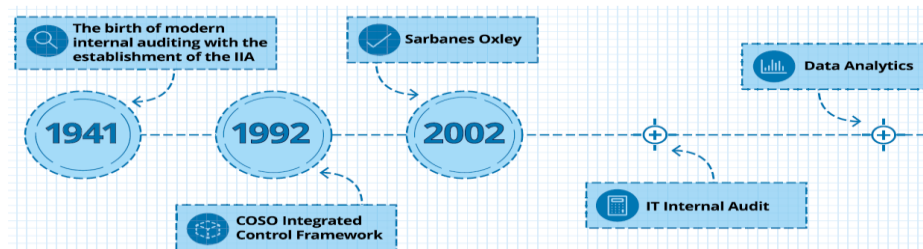


Fig.2 – Key Internal Audit milestones [11]

5 INTERNAL AUDIT IN THE PUBLIC SECTOR IN REPUBLIC OF SERBIA

The first indications of an audit, including an internal audit, can be found in the former SFR Yugoslavia, when the Social Accounting Service (SDK) was established in 1962.[8] Its task was to control the operations of all legal entities, from payment transactions, through imports and exports to financial statements. Many years passed until the Association of Internal Auditors of Serbia (UIRS) was established in the Republic of Serbia in 2008. UIRS is a member of IIA - Global, and since 2011 it is a member of the European Confederation of Institutes of Internal Auditors (ECIIA). According to data from 2015, 61% of members are employees in banks, 24% of the economic sector, the public sector 9% and 6% of the members are from external auditing and consulting. [12]

The Public Internal Financial Control (PIFC) is a comprehensive system of measures for the management and control of public revenues, expenditure, assets and liabilities, which the government is establishing through the public sector organizations the goal that the management and control of public resources, including foreign funds, are in compliance with the regulations, the budget and the principles of good financial management, or efficiency, effectiveness, economy and transparency. The PIFC system is regulated by the *Budget System Law*. This Law stipulates the components of the PIFC system, which consists of: financial management and control, internal audit and the role and responsibilities of the Central Harmonization Unit (CHU). The framework prescribed by the Budget System Law was elaborated by the Rulebook on Joint Criteria and Standards for Establishment, Functioning and Reporting on the System of Financial System and Control in Public Sector (FMC Rulebook), the Rulebook on Common Criteria for Organization and Standards and Methodological Instructions for Internal Audit Acting and Reporting in Public Sector (IA Rulebook), and even in more detail in the Financial Management and Control Manual (FMC Manual) and the Internal Audit Manual (IA Manual) of the Ministry of Finance – the CHU. The IA Rulebook prescribes that public funds beneficiary institutions may establish the internal audit function, by organizing separate functionally independent organizational internal audit units within public funds beneficiary institutions, but mandatory in the ministries and public funds beneficiary institutions having over 250 employees; by organizing a joint internal audit unit at the proposal of two or more public funds beneficiary institutions; by conducting internal audit by the internal audit unit of another public funds beneficiary institution based on an agreement; exceptionally, where there are no conditions to organize the internal audit unit, the internal audit unit affairs may also be administered by an internal auditor employed in the public funds beneficiary institution. An executive of a public fund beneficiary institution is responsible for the establishment and provision of conditions for adequate functioning of internal audit. The public funds beneficiary institutions that have established the internal audit with one internal auditor account for 63%, those having two internal auditors account for 14% and, those having three and more internal auditors, for 23%. A large percentage of the established internal audit units having two and less employee casts into doubt the ability to fully comply with the internal audit standards. The existing systematized job positions for internal auditors are not completely filled up because of statutory limitations on the maximum number of employees, lack of highly educated staff, low earnings, inadequacy of systematized functional titles as compared to the volume and complexity of the workload and the competition of the private sector. [13]

The IAF in the public sector is extremely delicate. Its role is advisory, not binding, and therefore the support of management in the implementation of guidelines and recommendations is very important. Public companies have the task of reconciling the interests of the population, while at the same time adhering to the principles of good governance - accountability for funds raised and transparency in the delivery of goods and services, as well as spending.

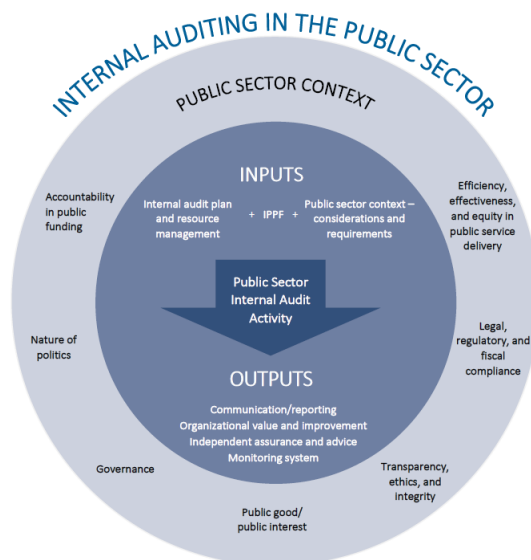


Fig.3 – Internal Auditing in the Public Sector [14]

However, in the turbulent political circumstances in which the Republic of Serbia has been for many years, great pressure is being exerted on the public sector. The role of the internal auditor in a public company is to balance the political pressures and ethical principles of the profession itself. In circumstances when the executives of public companies change frequently, the internal auditor is the one who, with his flexibility, must contribute so that the basic mission of the public sector is not disrupted.

The analysis of the collected data will be presented through the answers to two research questions – *Research Question No. 1: The implementation of internal audit techniques in a public company lead to improved business effects*; and *Research Question No. 2: Only close cooperation and good teamwork between the executive and the internal auditor can achieve an effective internal audit in a public company*. Finally, at the end will be presented the correlation between the number of given and the number of implemented recommendations of the internal audit function through the SPSS (Microsoft Office365 Excel).

RESEARCH METODOLOGY AND RESULTS – CASE STUDY

In the period from the beginning of April to the end of May 2021, a research was conducted in the form of a case study in the Public Utility Company (PUC) Zrenjanin Waterworks and Sewerage. The observation period was five years, more precisely from 2015 to 2020. The aim was to examine the way of doing business, then the regulatory framework, as well as the way in which the internal audit function is conceived in the company. The survey was conducted through interviews with representatives of the internal audit unit, managers of all sectors in the company, as well as the director of the company. Significant data were collected by analysing strategic and annual internal audit plans.

PUC Zrenjanin Waterworks and Sewerage was founded in 1962. The main activity of the company is the collection, purification and distribution of water, as well as the removal of waste and garbage, sanitation and similar activities. According to the classification criteria from the *Accounting Act* and in accordance with the *Rulebook on conditions and manner of public disclosure of financial statements and keeping the register of financial statements*, the company is classified as a medium-sized legal entity. The company has an average of 264 employees. PUC Zrenjanin Waterworks and Sewerage performing communal activities of general public interest and as such has a natural monopoly in the market. The fact that the company provides services that do not have their own substitutes (production of chemically and bacteriologically correct water, wastewater disposal) also supports the monopoly position. The company ensures a high level of security of water supply of the city. However, the company's operations largely depend on the decisions of the founder - the City of Zrenjanin, as well as measures of the Government of Republic of Serbia and the competent Ministries, which represents the institutional framework for creating *Enterprise Policy*.

PUC Zrenjanin Waterworks and Sewerage in 2014 on the recommendation of the State Audit Institution systematized two jobs *Internal Auditor*. In the same year, training was held by the CHU within the Ministry of Finance of the Republic of Serbia in the field of Financial Management and Control (FMC) and Internal Audit.

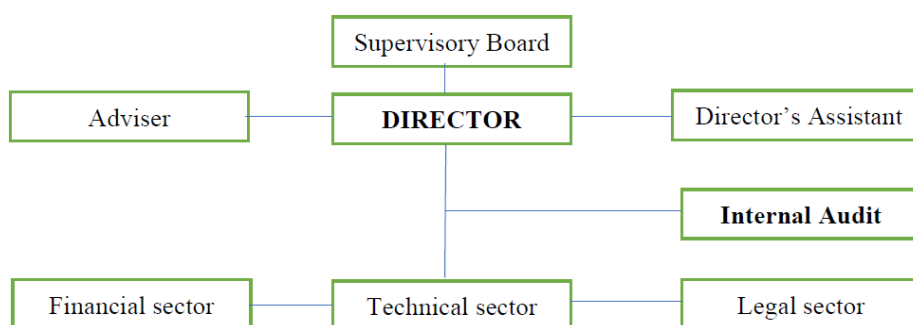


Fig. 4 Scheme of organizational structure PUC Zrenjanin Waterworks and Sewerage [15]

PUC Zrenjanin Waterworks and Sewerage is the first public company that has established an internal audit in Zrenjanin, given the legal obligation. Lately, the City of Zrenjanin itself formed an internal audit unit as well as the municipal hospital. Cooperation between audit entities is not at the best level. There

was a lot of discussion and advice with the City of Zrenjanin before they started the training. Later, cooperation was reduced to a minimum. The situation is similar with the auditor of the municipal hospital.

In 2015, the Charter and the Code of Ethics of Internal Audit were established, and in 2018, they were amended. Strategic and Annual Internal Audit Work Plans have been adopted. The internal auditor worked on the topics defined by the plans in the stated periods. In 2018, the Internal Audit Unit was established. A manager and two trainees have been appointed as internal auditors. Candidates for internal auditor completed the training organized by the CHU at the Ministry of Finance of the Republic of Serbia. They have been assigned a mentor and are currently working on topics as a condition for taking the *Certified Internal Auditor in the Public Sector* exam.

The initial internal audit activities were specific and dynamic. Most of the employees in the company did not have an insight into the activities and obligations of internal audit. A lot of time was spent by sectors, informing them about the tasks and plans of internal audit. At that time, it was very important to work on the consciousness of employees and their knowledge, as well as that by working together in cooperation with internal audit, they can make a great contribution to the better performance of the company. There was resistance from some sectors and employees in the implementation of initial recommendations adopted by management. It took them a while to realize that the implementation of the recommendations leads to prosperity and adding new value to the company. At the moment internal audit enjoys good support from the company's management.

There were a lot of changes in the previous period regarding the management of the company, so in some years this was reflected in the work of internal audit. In those moments, it was necessary to adhere to the principle of consistency, as well as to be patient. The company operates in specific circumstances, having in mind the current situation with the pandemic, as well as the situation around the "Water Factory", which originates from earlier times and this has an impact on the work of internal audit. Representatives of the internal audit unit have been employed in the company for a long period of time and are well acquainted with the situation in it, as well as the structure of all services. Through the processing of the planned theme passed all departments in the company. They did not have major problems in communication and approach to the employees themselves, because they know each other too well and have been cooperating for a long time.

The way and style of approaching employees is extremely important. It is also important to state that they heard and respected a lot of suggestions and ideas from the employees themselves. Colleagues appreciate when they are made aware that their opinion is also important, and in the end, they realize that their professional work contributes to a better business result of the company. Communication with employees and the trust gained must be constantly upgraded. The most important thing is that they themselves understand that by using the proposed recommendation to add a new value, and thus the business success of the company. The relationship with the company's executive is primary, and for now they manage to maintain the level of correctness, as far as internal audit is concerned. They have a lot of conversations about topics that are interesting to them, and important for the company. These are mainly consultative discussions and debate. The current executive has a habit of consulting the *Chief Audit Executive (CAE)* before making an important management and financial decision. Also, the internal risk management of the company - charges, duties, rights, operational risks at the suggestion of the director is left to the IAF, as they have proven to be excellent at it.

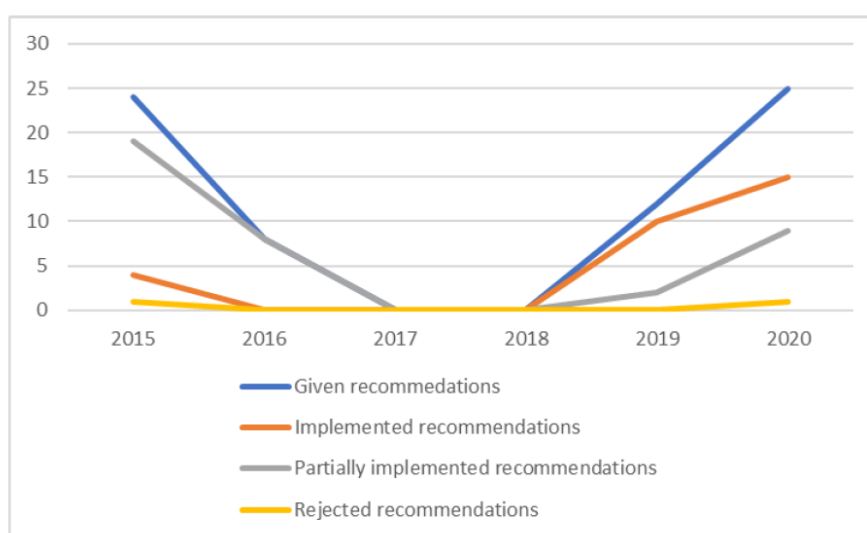
So far, the strategic and annual internal audit plans cover the following topics: *costs* - in the form of work orders, requisitions, issuance and control of material consumption, fixed assets and workforce; *property, plant and equipment* - investments in progress, as well as *receivables and liabilities* through concluded contracts. In conversations with the heads of individual sectors - the financial sector, the technical sector and the legal sector, each of them expressed special gratitude for the assistance provided by internal auditors. Although internal policies regulated each individual process, the implementation of those same policies was not at a high level. Managers were aware of it, but because of too many commitments they could not devote enough time to this segment. With the formation of the internal audit function in the company, especially after its expansion to the internal audit unit, the execution and control of each process is maximally monitored. Starting from the entry of each document into the company, be it an invoice or a contract, to the issuance of materials from the warehouse, monitoring the collection of receivables from customers, monitoring disputed receivables, monitoring the execution of investment projects and so on.

The possibilities for internal audit are great, especially when the other two candidates pass the exam for the title of *Certified Internal Auditor in the Public Sector*. They will be able to, with professional and joint work, in cooperation with the management as well as all employees of the company, cover and

process all planned activities and topics. Thus, they would make a great contribution to a better business result of the company.

Based on all the above, which was researched through interviews with internal auditors, sector managers, as well as the executive of the public company, we confirm the *Research Question No. 1* and come to the conclusion that *the implementation of internal audit techniques in a public company lead to improved business effects*.

After the formation of the IAF in 2015 and the successful completion of that year, in June 2016 there was a change of management in the company. The current executive was not interested in cooperation with internal auditors - considered the financial sector, accounting sector and sector of planning and analysis quite sufficient for the company's operations. Despite great efforts and long conversations, the attitude of the director did not change, so the work of the internal audit function was in the status quo until June 2018. After that, the current director takes office, who, in agreement with the then only internal auditor in the company and two potential candidates for trainees, establishes an *Internal Audit Unit*. At the suggestion of the internal auditor expands Charter and Code of Ethics from 2015. Starting from 2019, the cooperation between the director of PUC Zrenjanin Waterworks and Sewerage and the internal audit unit works flawlessly. By processing the Annual reports on performed audits and internal audit activities, the ratio of given, implemented, partially implemented and rejected recommendations in the period from 2015 to 2020 is graphically presented in Graph 1.



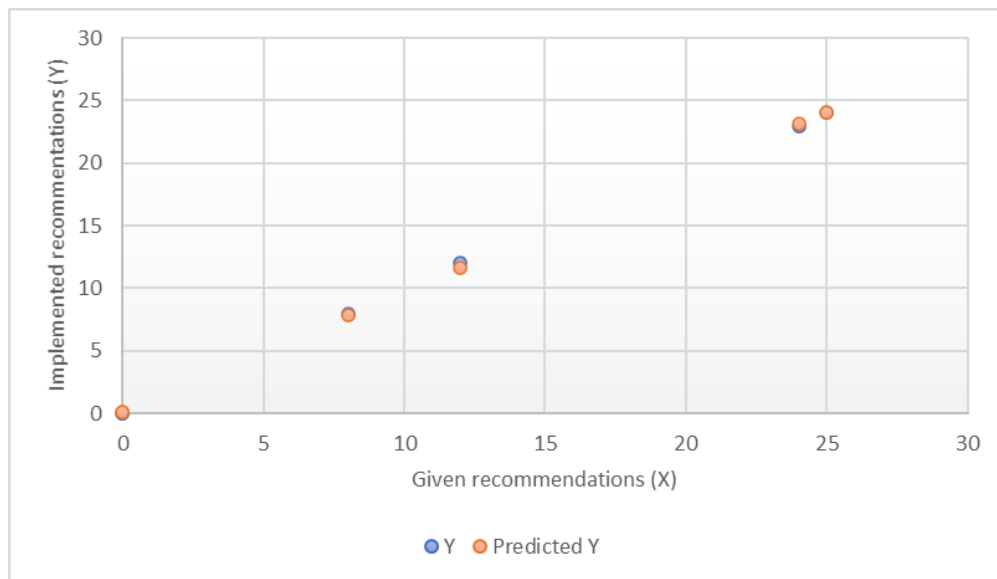
Graph 1. The ratio of internal audit recommendations

Source: Own elaboration of collected data

It is immediately noticeable that in the period from the middle of 2016 until almost the end of 2018, the IAF did not give any recommendations, because it did not have support of the current executive. In 2015, 2019 and 2020, when the cooperation with the director of the company was to the mutual satisfaction, the number of given recommendations increased, and thus the number of implemented ones. Based on the above data, we confirm *Research Question No.2 - Only close cooperation and good teamwork between the executive and the internal auditor can achieve an effective internal audit in a public company*.

Before making new recommendations in the current year, the internal auditor has the obligation to check the extent to which the previously made recommendations have been implemented (follow-up process). *Follow-up* is a process by which internal auditors evaluate the adequacy, effectiveness, and timeliness of actions taken by management on reported observations and recommendations, including those made by external auditors and others.[16]

Graph 2. shows the number of given IAF recommendations, as an independent variable (X) and the number of implemented recommendations, as a dependent variable (Y) in the Public Utility Company Zrenjanin Waterworks and Sewerage in the period from 2015 to 2020.



Graph 2. Correlation between the number of given and the number of implemented recommendations

Source: Own elaboration of collected data

Through the *Regression function* in SPSS (Microsoft Office365 Excel), an extremely strong correlation was obtained (0.9997919). On the regression line on the graph, we can predict that with each change in the number of given recommendations, the number of implemented recommendations changes by 0.9997919 (the slope of the curve of the dependent variable based on the collected data - *Y* and the slope of the curve of the projected level of the dependent variable – *Predicted Y* is almost identical), which was the leading goal of this research.

CONCLUSION

The business concept of public companies is largely complex. Various stakeholders are involved and it is a huge challenge to reconcile these differences. In these circumstances, Internal Audit appears as a tool for adding value to the company, which in the Republic of Serbia is relatively young and insufficiently applied, especially in public companies. The biggest limitation of the IAF in the public sector is that its work must be fully supported by the executive as we proved in the *Research Question No. 2: Only close cooperation and good teamwork between the executive and the internal auditor can achieve an effective internal audit in a public company*. The most important task of an internal auditor is to gain and maintain the trust of executive, as well as their colleagues in the company. On the example of PUC Zrenjanin Waterworks and Sewerage, we have seen that their internal audit unit consists of people who have been employed in the company for many years, who know every segment of the business to the smallest detail. Therefore, communication between colleagues, searching for the necessary documents and obtaining the right and accurate information is much easier. In this way, the internal audit recommendations themselves will be implemented more efficiently and thus business results will be better, which we have proven in *Research Question No. 1: The implementation of internal audit techniques in a public company lead to improved business effects*. The number of given recommendations certainly isn't a measure of the efficiency of internal audit, but their application and monitoring of the results they bring is important. However, on the example of PUC Zrenjanin Waterworks and Sewerage, we saw an extremely strong correlation between the number of given and implemented recommendations, because the percentage of those recommendations that were implemented is extremely high compared to the number of recommendations made. In this regard, the predictions are that with increase in the number of given recommendations in the coming period, the efficiency of internal audit will increase as well.

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INVESTMENT PERFORMANCE ATTRIBUTION USING ASSET-GROUPING APPROACH – FIDELITY MUTUAL FUNDS EQUALLY WEIGHTED SECTOR PORTFOLIO

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Abstract

The aim of this paper is to look beyond return-based models by incorporating the holdings data to provide additional insight. The study examines performance of Fidelity mutual funds equally weighted sector portfolio in relation to the broad market index S&P 500 for period 2011 to 2020. Brinson-Fackler and Brinson-Hood-Beebower attribution models were used including different model versions. In addition, geometric attribution model was used to provide analytical consistency for multi-period attribution. Our findings suggest that total allocation and selection effects are negative for the observed period. However, the effects are quite heterogeneous across and within sectors. Overall, due to equally weighted sectors in portfolio, the allocation effect was negative for the sectors that had aggressive growth in the past decade. In addition, the “smart money” did not produce the value relative to the benchmark, even before management fees and tax burden.

Keywords: investment performance attribution, mutual funds’ performance, asset-grouping models, Brinson models, holdings-based attribution

1 INTRODUCTION

Investment performance attribution is the component of investment performance evaluation process. It covers all aspects of explaining the sources of return and risk of investment portfolios, including quantification of the sources of investment performance and provides feedback on how investment decisions affect both risk and return.

Absolute performance attribution comes down to the return contribution analysis that identifies what are the main contributors of portfolio performance, and as such, it has limited explanation power. Relative attribution uses the benchmark and deals with the excess return (also known as active or relative return). This type of attribution makes possible to better assess the portfolio/fund performance.

Based on the return track record different risk metrics were calculated. They can be based solely on portfolio return (such as Value-at-Risk) or in relation to the benchmark (such as tracking error). Together with the benchmark return data they are used to present risk-adjusted measures (such as information ratio).

There are plenty of regression based multi-factor models that are used to examine investment performance of the institutional investors. Usually used factors can be related to investment style, macroeconomic or microeconomic attributes.

However, commonly overlooked data by investment data providers platforms are holdings data, for both portfolio and benchmark. To get a deeper level of insight, it is necessary to understand the sources of the investment active performance, thus there is a necessity to look beyond the return-based approach and include holdings data into analysis.

Overall, use of the investment performance attribution is widely applicable, and it is beneficial to different stakeholders, including portfolio managers to critically examine investment decisions that create or

dissolve value. Because it is a tool than explains the sources of the return and risk, it is of critical importance for the current and prospective investors.

The purpose of our study is to examine the investment performance of Fidelity mutual funds equally weighted sector portfolio in relation to the broad market index S&P 500. Furthermore, we broke down the sector allocation and security decisions across 11 sectors, for each of the 10 observed years. Also, the multi-period issue was addressed in appropriate way and the cumulative results were presented.

The assumptions are that an investor assigns the equal weights to sector in the US, and to achieve that exposure he/she uses Fidelity sector mutual funds. This can be observed from the perspective of the fund-of-funds as well, that portfolio is composed out of mutual funds units.

To achieve that we deployed asset-grouping attribution models. Two different arithmetic attribution models were used including different model versions. In addition, geometric attribution model was used to provide analytical consistency for multi-period attribution.

The rest of study provides theoretical background, data source, reasoning for the used methodology, as well as presented results and discussions, followed by conclusions, limitations and future research.

6 LITERATURE REVIEW

Investment performance attribution has two general approaches.

The first one is factor-based attribution (it is commonly used in the academic papers) and it only requires historical returns. Furthermore, we can distinguish between single-factor models (e.g., traditional Capital Asset Pricing Model) and multi-factor models. Including for example, 3-factor Fama-French model [1], 4-factor Carhart model [2] and 5-factor Fama-French model [3]. In practise there are variety of multi-factor models in use. Due to its simplicity CAPM is widely used, despite that it failed many empirical tests [4].

Special sub-group within factor models are non-linear models. Traditional models are Treynor-Mazuy model [5] and Henriksson-Merton model [6].

Another approach is asset-based approach. This approach requires, in addition to returns, beginning period holdings data for the portfolio and benchmark. This approach is not only return-based, like the factor-based approach. Asset-based approach can be holdings-based (including different frequency of holdings data) and transaction-based.

To avoid unexplained residuals, that are especially prominent in the portfolios that deploy strategies with high turnover and whose underlying exhibits high volatility, transaction-based approach is preferred over holdings-based approach [7].

Within asset-based approach the most used models are Brinson models, such as Brinson-Fackler [8] and Brinson-Hood-Beebower models [9]. However, since the introduction of these models both standard terminology and the interpretation have slightly changed.

The terminology that is almost universally accepted now is asset (segment) allocation (term that was used by Brinson and Fachler was market selection), security selection and interaction effect (term that was used by Brinson and Fachler was cross-product).

Interestingly when it comes to the interaction effect, contrary to the original authors that perceived interaction effect (cross-product) as residual value, Spaulding [10], Campisi [11] and Bacon [12] perceive it as direct result of the combined allocation and selection effects. Latter two authors proposed that interaction effect should be included within selection effect, since it is not an inherent part of the investment decision process.

These models can be applied with the arithmetic or geometric versions.

Arithmetic attribution has disadvantage over geometric attribution when it comes to multi-period attribution. Arithmetic return for the multi-period fails to include the compound effect over time. To overcome this issue different algorithms have been used for smoothing and linking returns. Initially, they were introduced by GRAP [13] and Carino [14] and additional solutions have been offered by Menchero [15], Frongello [16] and Bonafede and others [17].

On another side, geometric excess return for the full observed period can be calculated from the compounded total allocation and selection effects, without residual. For multi-period attribution geometric approach is preferable [18].

However, when it comes to allocation, selection and interaction effect for the individual segments, their total geometric values for the whole period do not compound to the total excess return. This is the reason why Weber [19] addresses them as semi-geometric models.

Also, Menchero [20] presented a model that could be perceived as fully geometric, since individual allocation and selection effects compound through time.

When it comes to multi-currency attribution, traditional Brinson model was adjusted initially by Ankrim and Hensel [21] followed by Karonsky and Singer [22]. There are also fixed-income attribution models, that are out of the scope of our interest for this purpose.

7 DATA AND METHODOLOGY

7.1. Data

Data that were used for the calculations includes the following inputs portfolio sector weights (w_i), portfolio sector returns (R_i), benchmark sector weights (W_i) and benchmark sector returns (B_i), for the period 2011 to 2020. Holdings-based approach with the annual frequency was deployed. Portfolio with the equal sector weights was used.

Data was obtained from S&P Global and Fidelity mutual funds data base. Total sector returns were used.

Mutual funds that were used to construct the portfolio are the following ones: Fidelity Select Communication Services Portfolio (FBMPX), Fidelity Select Consumer Discretionary Portfolio (FSCPX), Fidelity Select Consumer Staples Portfolio (FDFAX), Fidelity Select Energy Portfolio (FSENX), Fidelity Select Financial Services Portfolio (FIDSX), Fidelity Select Health Care Portfolio (FSPHX), Fidelity Select Industrials Portfolio (FCYIX), Fidelity Select Technology Portfolio (FSPTX), Fidelity Select Materials Portfolio (FSDPX), Fidelity Real Estate Investment Portfolio (FRESX), and Fidelity Select Utilities Portfolio (FSUTX).

During the observed period S&P 500 index composite sectors have changed.

Real Estate was spun off from the Financial sector post September 16, 2016. Due to that we decided to include allocation towards FRESX post-2016, to make it more comparable to the S&P 500 benchmark.

Telecommunication Services sector was renamed to Communication Services, with issues added from other sectors post September 20, 2018. We use the latter name throughout the whole observed period.

7.2. Methodology

Asset-grouping models used in research are two Brinson models, as well as geometric approach.

7.2.1. Brinson-Hood-Beebower model

The first one is Brinson-Hood-Beebower model, where total allocation effect is calculated in the following way.

Benchmark return (B) is the weighted sum of the individual segment returns. Semi-benchmark return (B_s) is a hybrid measure, that uses portfolio weights and benchmark segment returns.

$$B = \sum W_i B_i \quad B_s = \sum w_i B_i$$

Allocation effect for the individual segment (A_i):

$$A_i = (w_i - W_i) B_i$$

Total allocation effect can be expressed as:

$$B_s - B = \sum w_i B_i - \sum W_i B_i = \sum (w_i - W_i) B_i = \sum A_i$$

It represents the value that is added/lost by having different segment weights in portfolio than the segment weights in the benchmark. As long the portfolio has overweighted the sector in which benchmark has delivered positive results the allocation effect will be positive.

Next, for securities selection within the sector we need to take in consideration the selection effect, that is calculated in the following way.

In addition to previously used benchmark return (B), another hybrid metrics needs to be used, and that is semi-portfolio return (R_s). It uses the benchmark sector weights and portfolio sector returns.

$$R_s = \sum W_i R_i$$

Selection effect for the individual sector (S_i)

$$S_i = W_i (R_i - B_i)$$

When it comes to total selection effect, it is expressed as following:

$$R_s - B = \sum W_i R_i - \sum W_i B_i = \sum W_i (R_i - B_i) = \sum S_i$$

It represents the value that is added/lost by having different securities weights in the portfolio segment than the securities weights in the benchmark segment.

This version of the model has a residual, when compared to the total excess return. The residual can be explained by interaction effect, and when included it fully explains the excess return. The excess return can be obtained in the following way.

$$B_s - B + R_s - B + R - R_s - B_s + B = R - B$$

7.2.2. Brinson-Fachler model

We used two different versions of Brinson-Fachler model.

Allocation in both versions is the same. However, it is different than in BHB model because it takes in account not only individual sector benchmark return but also total benchmark return.

$$B_s - B = \sum (w_i - W_i) (B_i - B) = \sum A_i$$

On another hand, selection effect can be shown in two different versions (with and without interaction effect).

Version with the self-standing interaction effect.

Pure selection is expressed as: $R_s - B = \sum W_i (R_i - B_i)$

Interaction effect is the following: $R - R_s - B_s + B = \sum (w_i - W_i) (R_i - B_i)$

Version with the combined selection and interaction effects.

In this version of the model, the selection is expressed as following:

$$R - B_s = \sum w_i (R_i - B_i) = \sum S_i$$

To summarize, BHB and BF models' attribution results difference is due to individual segment allocation effect. However, the total allocation effect results are the same.

Selection effect is the same based on these two models and is presented in that manner.

7.2.3. Geometric model

In addition, we used geometric attribution approach, where:

Individual sector geometric allocation effect is the following: $A_i^G = (w_i - W_i) \left(\frac{(1 + B_i)}{(1 + B)} - 1 \right)$

Total geometric allocation effect is: $A^G = \frac{(1 + B_s)}{(1 + B)} - 1 = \sum A_i^G$

Individual sector geometric selection effect is: $S_i^G = w_i \left(\frac{(1 + R_i)}{(1 + B_i)} - 1 \right) \frac{(1 + B_i)}{(1 + B_s)}$

Total geometric selection effect is: $S^G = \frac{(1 + R)}{(1 + B_s)} - 1 = \sum S_i^G$

Lastly, geometric excess return is expressed as: $\frac{(1 + R)}{(1 + B)} - 1$

Important property, for the multi-period attribution of the geometric approach is the following:

$$(1 + S^G)(1 + A^G) - 1 = \frac{(1 + R)}{(1 + B)} - 1$$

The most prominent outlier is the IT sector. This is due to the constant outperformance of this sector for the past decade. As expected, we see the negative allocation effect for the mentioned sector. However, the so called “smart money” was able to produce value in tactical security bets and timing within the IT sector, because of that the selection effect is positive for most part of the observed period.

Another sector where Fidelity investment team was able to produce a value to investor is Communication Service. Moreover, not only that the selection effect is positive, but the positive allocation effect is also present. This is due to the positive sector benchmark return (as per BHB model) and abnormal return relative to the benchmark return (as per BF model) and at the same time overweighted sector allocation relative to the benchmark in period from 2011 to 2018.

When it comes to total allocation, total selection, and excess return, they are presented in Fig. 1. Arithmetic attribution results are most of the time preferred by investors, nevertheless they come with costs. These results are true for any given period, but we can not simply add them because it will lead to unexplained residual for the whole observed 10-year period.

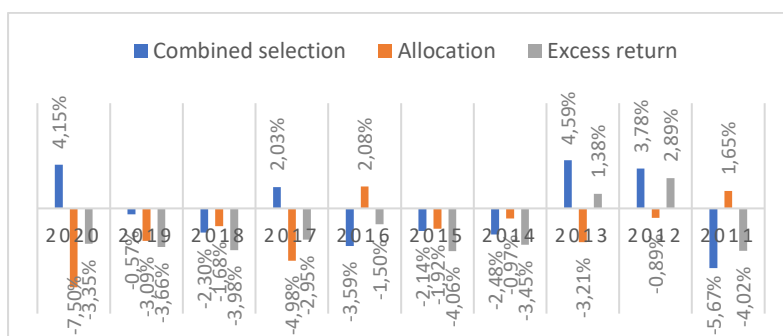


Figure 1. Total Allocation, selection and excess return (2011-2020)

To overcome the drawback of the arithmetic attribution models, we have used the adjusted BF model version with geometric approach (Table 2). Our intention here was to analyze the allocation, selection, and total effects for the whole decade.

Table 2. Geometric attribution based on adjusted BF model–

Fidelity mutual funds equally weighted sector portfolio vs. S&P 500 index (2011-2020)

		Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Health Care	Financials*	Information Technology	Communication Services**	Utilities	Real Estate*	Total
2020	Geometric selection	0.10%	0.09%	0.06%	0.20%	0.07%	0.90%	0.22%	1.62%	0.97%	0.01%	-0.47%	3.74%
	Geometric allocation	-2.09%	0.13%	0.00%	-0.08%	-0.12%	0.21%	0.65%	-3.04%	-0.06%	-0.87%	-1.07%	-6.34%
	Total geometric effect	-1.99%	0.21%	0.05%	0.11%	-0.05%	1.11%	0.87%	-1.41%	0.91%	-0.87%	-1.54%	-2.59%
	Geometric selection	-0.14%	-0.86%	-0.10%	-0.06%	0.29%	0.75%	0.15%	0.06%	0.00%	-0.26%	-0.27%	-0.44%
2019	Geometric allocation	-0.57%	-0.33%	0.00%	0.02%	-0.05%	0.52%	-0.02%	-1.58%	-0.01%	-0.23%	-0.12%	-2.35%
	Total geometric effect	-0.70%	-1.20%	-0.10%	-0.04%	0.24%	1.28%	0.13%	-1.52%	-0.01%	-0.49%	-0.39%	-2.79%
	Geometric selection	-0.66%	-0.87%	-0.19%	-0.17%	-0.72%	0.09%	-0.28%	-0.83%	0.90%	0.43%	-0.17%	-2.46%
	Geometric allocation	-0.42%	-0.63%	0.10%	-0.18%	-0.03%	-0.56%	0.49%	-0.69%	-0.57%	0.58%	-0.17%	-1.76%
2018	Total geometric effect	-1.08%	-1.50%	-0.09%	-0.36%	-0.76%	-0.47%	0.22%	-1.52%	0.33%	1.01%	0.00%	-4.22%
	Geometric selection	-0.13%	0.19%	-0.07%	-0.07%	-0.11%	0.15%	-0.10%	0.86%	1.08%	0.46%	-0.51%	1.74%
	Geometric allocation	-0.29%	0.10%	0.01%	-0.03%	0.02%	-0.01%	-0.02%	-1.63%	-1.22%	-0.47%	-0.56%	-4.09%
	Total geometric effect	-0.41%	0.29%	-0.07%	-0.10%	-0.09%	0.14%	-0.11%	-0.77%	-0.14%	-0.02%	-1.07%	-2.35%
2017	Geometric selection	0.56%	-0.41%	-0.29%	-0.15%	-0.20%	-0.70%	-0.36%	-0.17%	-1.22%	-0.20%	0.00%	-3.12%
	Geometric allocation	0.45%	0.25%	0.00%	0.17%	0.00%	0.71%	-0.58%	-0.11%	0.72%	0.22%	0.00%	1.85%
	Total geometric effect	1.02%	-0.15%	-0.29%	0.03%	-0.20%	0.01%	-0.94%	-0.27%	-0.50%	0.02%	0.00%	-1.27%
	Geometric selection	0.06%	-0.03%	0.06%	-0.47%	-0.47%	-0.03%	-0.24%	0.15%	-0.56%	-0.61%	0.00%	-2.15%
2016	Geometric allocation	-0.35%	-0.66%	0.02%	-0.18%	0.01%	-0.23%	0.19%	-0.43%	0.15%	-0.42%	0.00%	-1.89%
	Total geometric effect	-0.29%	-0.69%	0.07%	-0.65%	-0.46%	-0.26%	-0.05%	-0.28%	-0.41%	-1.02%	0.00%	-4.04%
	Geometric selection	-0.43%	-0.62%	-0.36%	0.05%	-0.09%	0.67%	-0.40%	-0.84%	0.47%	-0.65%	0.00%	-2.20%
	Geometric allocation	0.05%	-0.39%	0.03%	0.09%	0.00%	-0.30%	-0.08%	-0.49%	-0.73%	0.95%	0.00%	-0.86%
2015	Total geometric effect	-0.38%	-1.01%	-0.32%	0.14%	-0.09%	0.37%	-0.48%	-1.33%	-0.26%	0.30%	0.00%	-3.06%
	Geometric selection	-0.07%	-0.29%	-0.06%	-0.16%	-0.35%	1.15%	-0.15%	0.26%	2.65%	0.57%	0.00%	3.55%
	Geometric allocation	0.05%	-0.32%	-0.01%	-0.12%	0.03%	-0.14%	-0.14%	0.26%	-1.09%	-0.95%	0.00%	-2.43%
	Total geometric effect	-0.01%	-0.61%	-0.07%	-0.28%	-0.32%	1.01%	-0.29%	0.52%	1.56%	-0.37%	0.00%	1.13%
2014	Geometric selection	0.00%	0.45%	0.37%	-0.24%	0.40%	0.30%	-0.09%	0.20%	1.38%	0.50%	0.00%	3.28%
	Geometric allocation	0.22%	-0.06%	0.00%	-0.05%	0.07%	-0.03%	-0.38%	0.09%	0.14%	-0.78%	0.00%	-0.77%
	Total geometric effect	0.22%	0.40%	0.37%	-0.29%	0.47%	0.27%	-0.47%	0.29%	1.52%	-0.28%	0.00%	2.52%
	Geometric selection	-0.92%	0.15%	-0.41%	-0.75%	-0.50%	-0.47%	-0.32%	-1.15%	-0.43%	-0.66%	0.00%	-5.46%
2013	Geometric allocation	-0.05%	-0.73%	0.03%	-0.02%	-0.07%	-0.09%	1.14%	-0.02%	0.27%	1.16%	0.00%	1.61%
	Total geometric effect	-0.97%	-0.58%	-0.39%	-0.77%	-0.57%	-0.57%	0.83%	-1.17%	-0.15%	0.50%	0.00%	-3.84%

Using two different calculation approaches, we have obtained the results for the 10-year period, without the residual (Table 3).

Table 3. Cumulative results for the period 2011-2020

Portfolio compounded return	196.89%
Benchmark compounded return	267.89%
10y excess return	-19.30%
Allocation compounded effect	-16.01%
Selection compounded effect	-3.92%
10y total effect	-19.30%

Fidelity mutual funds equally weighted sector portfolio has underperformed the benchmark. The negative allocation effect can be expected due to aggressive growth of the specific sectors in S&P 500. What might be surprising is the negative selection effect. This led to the negative excess return of the portfolio relative to the benchmark for the whole observed period.

9 CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

Asset-grouping approach gave additional insight, due to portfolio and benchmark data that it used. Moreover, it pointed out sectors that outperformed and underperformed in relation to the benchmark. Due to equally weighted sectors in portfolio, the allocation effect was negative for the sectors that had aggressive growth in the past decade. All together, it resulted in the total negative allocation effect.

Selection effect is quite heterogenous within different sectors. However, the total selection effect is slightly negative. Overall, that means that the “smart money” did not produce the value relative to the benchmark.

Furthermore, the attribution for self-standing years is more intuitive for users using arithmetic models. However, when it comes to multi-period, the whole 10-year period was more adequate to be analyzed by geometric attribution.

Finally, we presented the multi-period excess return in relation to total effect, without residual.

There are certain limitations when it comes to used methodology. First, asset-grouping attribution models are most suitable for equity portfolios. Second, we used holdings-based approach that works fine with our assumptions of buy-and-hold mutual funds units for 1-year period. However, with the portfolios that have high turnover, transaction-based approach would be more appropriate. Third, we used total returns to calculate portfolio return. From the perspective of an investor, he/she would inquire mutual funds fees, as well as tax burden. Lastly, in addition it would be valuable to test different portfolio assigned sector weights against the benchmark.

For example, assigned sector weights could be based on expected sector performance, in line with the sector rotation investment strategy. This is a topic that we intend to explore in further research.

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PARTICULARITY OF BANKS IN PAYMENT OPERATIONS IN RELATION TO OTHER FINANCIAL INSTITUTIONS

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Abstract

The aim of this paper is to analyze the characteristics of banking operations, in relation to other financial institutions. We will try to show why banking is specific, through an overview of the development of banking and the criteria that distinguishes banking from other institutions, by theoretical methods. The results indicate three special rules that apply to the organizational form, establishment and operation of the bank, the services it provides to its clients, as well as the economic function that the bank has in the economic system. The existence of banks' susceptibility to panic and the domino effect that is created due to even rumors about bad business was pointed out, and the modalities of banks' roles in conducting monetary policy and payment operations were also discussed.

Keywords: Banks, Financial institutions, Specificity of banking, Payment operations

1 INTRODUCTION

As financial markets are difficult to define and delimit, and thus regulate, the competent state authorities place greater emphasis on the regulation of participants in financial markets, which are primarily financial institutions. In theory, there are several divisions of financial institutions. According to the division of the financial system into three basic sectors: banking, insurance and capital market (ie financial market in the narrow sense), the basic types of financial institutions are deposit - credit institutions, insurance companies and financial intermediaries in the capital market [1]. One of the clearest classifications distinguishes two homogeneous groups of financial institutions: deposit and non-deposit financial institutions. Banks and a number of non - bank financial intermediaries, such as savings and loan associations, savings banks, credit unions, etc., are classified as deposits. [2] Non-deposit financial institutions include institutional investors (insurance organizations, pension and investment funds), various forms of non-deposit financial institutions such as financial companies, investment and asset management companies, etc. The essence of banks and other deposit-lending institutions is reflected in the certainty of their obligations, but also in the uncertainty regarding the return on invested funds, mainly due to the existence of credit risk. On the other hand, insurance companies have uncertain liabilities (hence the need for actuarial valuation), but certain assets, as well as capital market intermediaries that have both certain assets and liabilities that are primarily exposed to market risks and are less exposed to liquidity risk compared with banks [3]. Until the mid-1970s, deposit-credit institutions, primarily banks, played a dominant role in financial intermediation between savings and investment entities. Although exposed to fierce competition from non-deposit financial institutions, banks are still considered the most important financial institutions. In this paper, we will try to show why we use theoretical methods to analyze the characteristics of commercial banks in relation to other financial institutions, with the aim of examining why banking is special in relation to all other activities.

The paper consists of four separate but interrelated parts, in addition to introductory (at the beginning of the paper) and concluding considerations (at the end of the paper).

DEVELOPMENT OF BANKING BUSINESS TO DATE

Although the first jobs of the Italian medieval institutions that represented the beginnings of modern banks were exchange jobs, credit jobs as the first banking jobs originated in the early periods of world history [4]. The existence of the first banks was recorded in Asia 3000 BC, in temples, where exchange and deposit operations were performed, as well as lending of goods and money with interest. Banks,

through their intermediary and credit function, contributed to the mobilization and use of money capital and the improvement of payment operations, and the banking system became a key factor in the development of the economy, primarily in the countries of Central, Eastern and Southeastern Europe. In the early 2000s, when the mentioned regions opened up to foreign capital, the banks became new markets and thus transferred their paradigms of successful business to the mentioned regions [5]. Therefore, we can say that banks are the most important form of credit institutions that represent financial institutions and are engaged in intermediary financial activities in the field of collecting deposits and approving loans [6]. Second, banks form sources of funds in the form of deposits, which they collect most often from the population, as a traditionally surplus sector, and later place them in the form of loans to the population, but also to economic entities that are traditionally a deficit sector. Third, banks perform maturity transformation of assets by transforming short-term deposits (liabilities) into long-term loans (assets), and vice versa [7]. In order not to run the risk of illiquidity due to the gap between short-term deposits and long-term loans, banks issue bonds or take loans from other banks. And finally, banks are institutions that assess the risk of each client in order to issue placements as rationally as possible. Whether the business model will be oriented towards higher risk, which is mainly correlated with higher returns, or will be less risky, but also less profitable, depends on the business policy model chosen by the bank's management. When we look at the group of selected countries, the entry of foreign banks in the previous decade was the main impact that led to the restructuring of the ownership structure of the banking sector [8]. Foreign banks most often took over domestic banks and, in order to increase business efficiency, introduced their paradigm of more successful business into everyday work [9]. That is how we came to the situation that today foreign capital dominates in the banking sector of the Western Balkan countries. However, in the performed analyzes, Marinković and Radović (2010) found that the entry of foreign capital into the Serbian banking market to a greater extent was not accompanied by a statistically significant decline in credit interest rates, as well as the range between credit and deposit interest rates [10]. It is true that the position of banks in the financial sector is collapsing from year to year due to the proliferation of financial intermediaries in the capital market, which often offer a higher return on investment compared to commercial banking. One of the reasons why banks are not competitive enough lies precisely in the limitations of the regulatory regime to which their operations are subjected. However, the need for increased competitiveness of banks within the financial sector should not lead to a drastic weakening of the regulatory regime, given that banks are still the *sui generis* of financial institutions. Therefore, the elements of the *sui generis* status of banks should be considered, by considering both the criteria for defining banks and the characteristics that require their special regulation. These characteristics will be summarized to the extent that they reflect the economic function of banks in the economy.

SPECIAL CRITERIA FOR DEFINING BANKS

We can distinguish it from other economic entities and other financial institutions of the bank according to three basic criteria that are useful from the point of view of defining the bank [11]:

- I. special rules applicable to the organizational form, establishment and operation of the bank;
- II. services it provides to its clients;
- III. the economic function that the bank has in the economic system.

Special rules that apply to the organizational form, establishment and operation of a bank - The simplest way to define a bank is to refer to its legal form and special status based on the *lex specialis* governing their establishment and operation, which distinguishes banks from most other companies. . However, banks cannot be defined having in mind only their legal form, and therefore the nature of banking services and economic reasons that justify the existence of special laws on banks should be considered. The job of a bank, however, involves defining those jobs, either descriptively or targeted. Therefore, it is a common practice that the legal definition of a bank includes the provision of banking services. In the definitions of formal - legal character, a bank is regularly defined as a financial organization whose subject of business is the conclusion and execution of banking operations - therefore, the term bank is derived from a credit institution often using the generic term deposit-credit or credit institution. However, the term credit institution as a generic term is not synonymous with the term bank. The main characteristic of credit institutions is that they, based on the formed financial potential, place funds mainly in the form of loans [12].

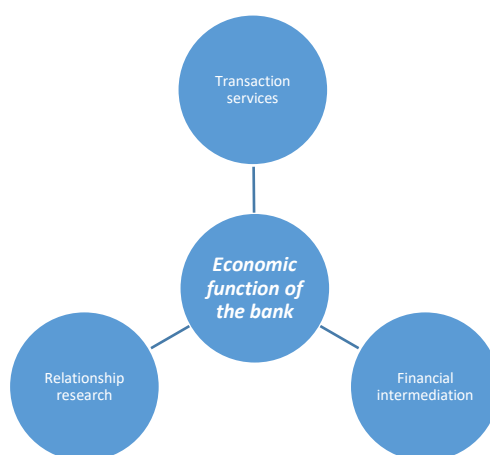
Services provided by the bank to clients - The basic motto of banks' operations is the satisfaction of clients, employees and shareholders [13], ie the wider community [14, 15]. The traditional understanding

of the bank is reduced, first of all, to the institution that accepts deposits and gives loans, that is, which deals with credit and money transactions, which professionally deals with taking and giving loans and mediation in payment. However, given that people direct their savings to other forms of investment, such as units of investment funds and other forms of investment where the invested money is fertilized, the differentiation of financial institutions according to this criterion is not appropriate, especially since today there is no type a service that only banks provide to their clients, and even current account management.

Economic function that a bank has in the economic system - Functional approach to defining a bank observes every service that a bank provides to clients, as part of its role of financial intermediation in providing transaction services, ie payment operations. This approach implies a further breakdown of its economic role into:

- a) financial intermediation and role in the money creation process,
- b) transaction services, ie payment transactions,
- c) research into the relationship between financial intermediation and the provision of transaction services.

Figure 1: Economic function of the bank



Source: Authors

As financial intermediaries, banks raise funds, concentrate them and direct them to those who need the money. This mobilizing and directing function is one of the manifestations of the intermediary role of banks. In this sense, not only banks but also other financial intermediaries (eg institutional investors) provide investors with certain benefits that they would not have to invest their money without relying on financial intermediaries. Performing an intermediary function, the banking mechanism changes the quality of a certain part of assets through the process of maturity transformation of assets, which represents the bank's ability to direct funds from short-term sources to placements of higher quality. These benefits include the following: diversification, expertise, economies of scale, liquidity effect ... Portfolio diversification reduces investment risk. Risk management or risk management is, in a broad sense, the art of decision making in an unpredictable environment [16]. As a financial intermediary, the bank can reduce the investment risk, ie help the investor to diversify the risks of invested funds in a cheaper and simpler way. When investing money in a bank, depositors do not have to have specific knowledge of the markets in which the bank invests the funds raised. Thus, clients rely on the expertise of the bank. However, as markets become more efficient, especially the capital market, the importance of a bank's expertise primarily relates to relatively inefficient markets (such as the credit market). Banks as financial intermediaries provide the effects of economies of scale, given that certain investments are not available to small investors. More than other financial intermediaries, banks convert illiquid receivables into liquid ones. By investing in illiquid forms, they provide depositors with liquid claims in terms of their assets, and this possibility of conversion is one of the most significant benefits for depositors. However, many of these financial intermediation functions are also provided by other financial institutions.

Banks are financial intermediaries that provide transaction services, ie perform payment operations. In addition to them, today there are other payment institutions that exist in the financial systems of the observed countries. As an example, we could cite a large number of payment institutions, electronic

banking institutions and institutions that deal exclusively with foreign exchange transactions. These institutions are supervised by the Central Banks.

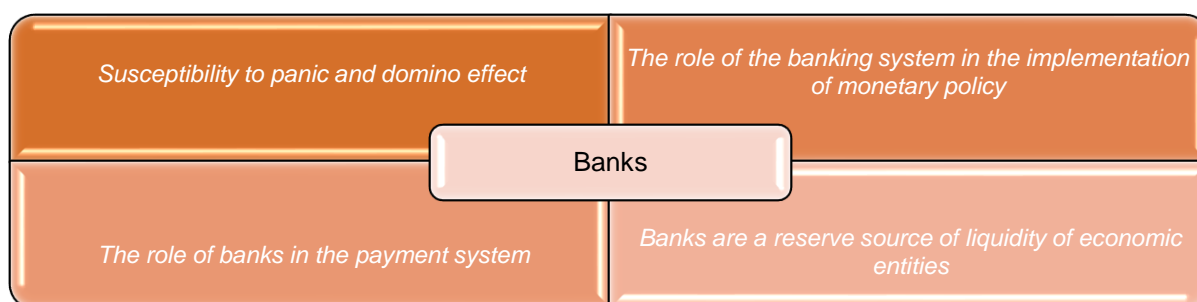
By transferring money, which took place today in the first place, the so-called "Book money", banks transferring wealth from one economic entity to another participate in the creation of money, or increase the money supply. The transactional role of banks would not be efficient without the existence of a payment system through which payment transactions take place. In many countries, banks have a monopoly on access to payment system infrastructure. The question is, what is the relationship between financial intermediation and the provision of transaction services? First of all, a financial intermediary does not have to be able to perform transaction services. For example, institutional investors (insurance companies, pension funds, etc.) are financial intermediaries, but they do not provide services that are considered payment services. On the other hand, a non-banking financial institution that is not a financial intermediary may provide payment services (eg Western Union). However, banks are institutions that simultaneously perform the function of financial intermediation and provide payment services. Karakteristike bankarskog poslovanja.

The banking sector is specific in that it is more closely monitored by regulators than in the rest of the corporate sector. The high level of interest of regulatory bodies in the establishment of banks was chosen mainly by its public function because banks keep and place the money of their depositors, approve loans to their clients and are the bearers of payment operations both in the country and abroad. As capital is the primary position that guarantees the solvency of the bank, it is required to provide the required level of capital adequacy, which is represented by the coefficient:

$$CAR = \frac{\text{Available capital}}{\text{Risk assets}} \times 100$$

The criteria listed in the third chapter of the paper, primarily in the spirit of economic function, can be broken down into several characteristics that require a special regime for regulating their business.

Table 1: Characteristics of banks



Source: Authors

1) *Susceptibility to panic and domino effect*

Banks, as well as the entire banking sector, are subject to panic behavior of depositors, which is one of the reasons for bank regulation. Even rumors of poor business and temporary illiquidity of the bank create fear among depositors regarding their roles, that is, fear that the bank will not have enough money to pay everyone. The bank assault is the primary mechanism that spreads the germs of the domino effect. A bank's poor performance can jeopardize the entire financial system, especially if the root cause of a bank's poor performance is a general problem within the financial sector. High financial leverage and operations based on partial reserves, as one of the most important characteristics of banks, has its downside. Unlike a company that has borrowed on the financial market and pays its debt at certain intervals, bank depositors have the right to withdraw their term deposits whenever they wish [17].

Without the injection of liquidity by the central bank, no bank, no matter how solvent, would be able to defend itself from the onslaught of depositors. In order to alleviate psychological pressure and prevent the domino effect, in addition to the implicit, and in theory so much discussed financial support by the central bank, a deposit insurance system was developed, as well as other client compensation systems, which usually take the form of a fixed maximum deposit amount. depositor in a particular financial institution. This makes it possible to open several accounts with different financial intermediaries and protect wealthier depositors. However, even today, despite the existence of all precautionary measures, the implicit guarantee of the bank's liquidity and the deposit insurance system, modern practice shows that the "rush" of depositors to the bank has not disappeared.

2) The role of the banking system in the implementation of monetary policy

Although a large number of non-banking financial institutions are directly involved in the implementation of monetary policy (eg broker-dealer companies when distributing government securities), and the basic interest rate of the central bank affects the behavior of all financial and non-financial entities, the banking system has a specific role. monetary policy. Banks have a central role in creating and withdrawing money. The reason for this is deposits, primarily demand deposits, which are the functional equivalent of money. Given that other factors determine the performance of the economic system, such as growth rate of production, unemployment rate, surplus or balance of payments deficit, etc., the monetarist postulate that it is enough to regulate the monetary sector to control the movement of the real sector of the economy cannot be accepted. . Uncontrolled growth of the money supply causes inflationary movements, worsening of the balance of payments position and general economic stability of the country. That is why modern central banks are obliged to take care of the growth of the money supply.

The monetary school starts from the position that money is an independent variable that the central bank can determine independently. Representatives of this school, in case of imbalance of supply and demand, believe that market mechanisms are automatically activated which establish a new balance with the help of the rate of real economic growth and changes in the level of prices of goods. In contrast, the Keynesian school sees money as a dependent variable and emphasizes the importance of short-term demand for money by non-banking entities. We should also emphasize the financial theory of money supply formation, which emphasizes the primary importance of the demand and supply of bank loans as a factor in creating money supply. By influencing interest rates and reserve money, the central bank affects the credit potential of banks and the demand for credit, which is inverse to the interest rate. In that sense, the difference between the demand for money and the demand for bank loans should be pointed out. The demand for money is the amount of money that transaction holders hold to provide liquidity, while the demand for credit is partly used to cover the demand for money, and partly to finance investments and consumption [18]. In developed financial systems, the corporate and retail sectors tend to reduce liquid assets in the form of transaction money and to increase other interest-bearing liquid assets. The volume of money supply depends on the form of money that enters its composition. The basis of the theoretical concept of money supply is transaction money, the volume of which should be controlled by the central bank, given that the expansion of transaction money accelerates inflationary flows. The Keynesian narrow concept of money supply expanded with the development of financial instruments and thus came into contact with the overall liquidity of the economy. The narrowest understanding of the money supply includes all forms of transaction money owned by non-banking entities, while the broader concept includes all liquid financial assets of non-banking entities (money supply in the narrowest sense and quasi-money). The money supply represents the monetary obligations of the banking sector towards non-banking entities, and the main mechanism for the expansion of the money supply is the lending activity of banks. In modern business conditions, the term money supply means the sum of all financial forms that are considered money in the economy of a country (Barjaktarović, 2010). In addition to credit placements of banks, the increase in money supply is also influenced by foreign exchange transactions of domestic and foreign entities, ie the inflow of foreign money through an increase in foreign exchange reserves of the banking sector which pay domestic entities the equivalent in domestic currency [19]. However, the final formation of the money supply on the basis of the increase in foreign exchange reserves is influenced by the balance of payments and changes in the net liabilities of non-banking entities abroad. Primary money created by the central bank and which determines the maximum amount of money created in circulation is in the liabilities of the central bank's balance sheet, and in the assets of financial and nonfinancial entities, while money created on the basis of primary money is in the liabilities of banks and non-monetary financial assets. institutions and economic non-financial entities. This brings us to the concept of money multiplication. The amount of money in circulation depends on the primary money and the monetary multiplier and is calculated using the formula:

$$M = b \cdot B$$

where are they:

M - amount of money in circulation,

m - monetary multiplier,

B - monetary base, ie primary money.

The central bank affects the amount of money in circulation by affecting the volume of reserve money, or by influencing the size of the monetary multiplier. However, since the monetary base, ie primary

money, depends on the reserve rate, which is under the direct control of the central bank, it is clear how the central bank acts on the money multiplication process. It has been empirically proven that the amount of money in circulation must grow from year to year, and it is the central bank that must enable that. In developed economies, the amount of money in circulation increases primarily through the purchase of government securities, and not by lending to the state. Loans are less often granted to banks, given that they are allowed to participate in the credit multiplication process. The monetary base that the central bank creates through the issue of primary money and which is normally increasing is the basis for the subsequent issue of money (secondary issue) by central banks. Commercial banks influence the amount of money supply through the process of monetary - credit multiplication. While the monetary multiplier shows the ratio of the primary issue and the total amount of money in circulation (ie the increase in the money supply in relation to the initial amount of the primary issue), the credit multiplier indicates the ratio of the primary issue and the total volume of bank loans. by the central bank.

3) The role of banks in the payment system

Banks almost have a monopoly in the payment system, performing the transfer of money through a clearing institution, which today is mainly managed by central banks [19]. It is considered that this monopoly is one of the most important reasons for special regulation of banks' operations, in relation to other financial institutions. In most financial systems, only banks maintain current accounts and undertake to pay the depositor a specific amount upon request or transfer it to a third party account. These accounts provide liquidity of funds and flexibility of payments and enable fast operation of the modern economy. There are several reasons for the dominant participation of banks in the payment system. The first reason is of a historical nature: national payment systems emerged from a network that was developed among banks before the central bank was involved in order to clear each other and settle receivables [20]. An important reason, of course, is the fact that clients prefer the possibility to find their funds directly in their accounts after the calculation. Furthermore, clearing through the banking system provides a guarantee that the participants in the transaction are protected from various abuses. Although modern payments and clearing are now made without the participation of banks in the direct settlement of transactions (eg switching centers where payment card payments are made), the fact that the settlement of transactions is most often recorded on current or deposit accounts in banks suggests that banks are an indispensable part of the payment system.

4) Banks are a reserve source of liquidity of economic entities

Although alternative ways of financing the current needs of economic entities are appearing on the financial market, banks are still the primary reserve source of liquidity. The ability of banks to perform the function of a reserve source of liquidity in the first place depends on the credit risk assessment. In order to preserve their outstanding assets, banks must assess credit risk impartially, rigorously and objectively [21]. Confidence in banks depends not only on the ability to meet the requirements of depositors, but also to provide liquidity to almost all market participants. On the other hand, the dominant role of banks within the payment system exposes the payment system to the negative impact that the bankruptcy of an individual bank or disturbances in the banking system may have and imposes the need for stricter control of banks' operations. Thus, the specificity of banks in comparison with other financial institutions lies in the ability to assume the obligation to pay the agreed value at the request of the client and easy transfer to third parties. However, their obligation to pay at all times affects the mismatch between the structure of banks' assets and liabilities, especially in times of financial crisis.

CONCLUDING REMARKS

In this paper, we have pointed out the key characteristics that separate the operations of banks from other financial institutions. Banks are the primary source of liquidity for all economic entities, although alternative ways of financing the current needs of economic entities are emerging in developed financial markets. The essence of banking operations is reflected in the certainty of the realization of contractual obligations, but also the uncertainty regarding the return on invested funds, mainly due to the existence of credit risk, as the most dominant risk that banks face. Banks, through their intermediary and credit function, contributed to the mobilization and use of money capital and the improvement of payment operations, and the banking system became a key factor in the development of the economy, primarily in the countries of Central, Eastern and Southeastern Europe.

As key criteria in defining banks, the paper highlights special rules that apply to the organizational form, establishment and operation of the bank, the specifics of the bank's services provided to its clients, as well as the economic function that the bank has in the economic system. *Lex specialis*, which regulates

the establishment and operation of banks, is one of the factors that distinguishes banks from most other companies. Furthermore, the nature of banking operations and the work with money itself are characteristic only for banking institutions. We have reduced the traditional understanding of the bank, first of all, to an institution that accepts deposits and gives loans, that is, which deals with credit and deposit operations. It is an institution that professionally deals with taking and giving loans and mediation in payment. However, part of the financial-intermediary role, ie payment operations, provide a functional approach to defining the bank for each service that the bank provides to clients, because investing money in the bank depositors do not have to have specific knowledge about the markets in which the bank invests. Thus, clients, among other things, rely on the expertise of the bank. It is also true that many of these financial intermediation functions are provided by other financial institutions, but in many countries (especially in less developed ones) banks have a monopoly position in terms of access to the infrastructure of the payment system. The declining trend in the number of banks indicates the fact that the banking sector in the Western Balkans is being enlarged. The pandemic of the Covid-19 virus has influenced bankers' recommendations to clients to be directed towards the use of online applications through which they can view account balances, exchange operations, internal transfers, submit a product request and more. Furthermore, the recommendations are to use card payments in stores and contactless payments for cards that have the ability, or better yet, to buy online, without going to the store. However, the effects of economies of scale are provided by banks, as financial intermediaries, given that certain investments are still not available to small investors. More than other financial intermediaries, banks convert illiquid receivables into liquid ones. By investing in illiquid forms, they provide depositors with liquid claims in terms of their assets, and this possibility of conversion is one of the most significant benefits for depositors. An additional reason for regulating the banking system is that the entire banking sector is prone to panic because information about a bank's poor performance can jeopardize the entire financial system, especially if the root cause of a bank's poor performance is a general problem within the financial sector.

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FINANCIAL CRISIS AND ITS IMPACT ON THE BANKING SECTOR OF BOSNIA AND HERZEGOVINA

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Abstract

At the root of the last great crisis in the world, it can be said that it was a banking crisis that directly affected the economic system of a large number of very heterogeneous economies. It should be noted that stronger economies have suffered less from the impact of the financial crisis from the environment. Apart from that fact, it is necessary to emphasize that the financial crisis in the world has essentially started since 2008 and that it has had a different degree of impact on a large number of different countries according to the level of development. The basis for starting the crisis was based on the real estate crisis, the leading economic power at the time, ie the United States, where there was a pronounced fluctuation in real estate prices on which banks gave mortgage loans. In essence, it can be said that the growth of the economy of the most developed countries was based on the growth of mortgage loans, which led to the growth of crisis strikes on the economy of each of these countries, which again greatly affected the crisis of less developed countries. economy of large economies, ie. to the economy of the most developed economies of the world.

Keywords: financial crisis, bank, economy, Bosnia and Hercegovina

1. INTRODUCTORY CONSIDERATIONS

The financial crisis of 2008, due to its depth and comprehensiveness, became an inspiration to researchers of various professional profiles and political beliefs, which resulted in the emergence of extensive literature in a period of only ten years.

Based on an estimate made based on the offer of new books that deal with the topic of the financial crisis in the world, about a thousand new titles and more than three million different articles and publications have appeared since the financial crisis.

Unfortunately, many of these researches do not deserve more serious attention, because they are based on dark conspiracy theories and ideological platforms.

The scientific approach to the crisis is facing the facts that caused the crisis, the consequences of the crisis and the necessity of changes that need to be made in order for economic and banking systems to be more stable and resilient to the crisis in the future.

A special problem in the analysis of the financial crisis from 2008 is the fact that it has its temporal and spatial dimension, so that individual research cannot explain all the complexity and comprehensiveness of the crisis. It should be noted that the focus of the financial crisis in 2008 is placed on researchers by starting to explain the situation on the US real estate market and the rise in their prices, which have significantly affected a large number of economies in the world, especially countries affected by transition processes and economic reforms, such as Bosnia and Herzegovina, which has been the focus of the research disclosed in this paper.

2. GENERAL ATTITUDES OF THE AUTHORS REGARDING THE CAUSES OF THE FINANCIAL CRISIS FROM 2008

The literature on the financial crisis of 2008 does not begin to be created that year. There were warnings of a crisis even before the crisis. In the early 1980s, the author Minsky laid the theoretical foundations for generating the crisis that emerged in 2008 [1], which was the basis for consideration in this paper.

In addition to the above, most authors point out that the crisis began in 2008 when the situation on the real estate market in the United States led to a real uncontrolled rise in their prices. Back in 2005, Nobel laureate Schiller warned of the possibility of inflating real estate price bubbles, as a kind of psychological epidemic, and of reducing credit conditions, which are indications of the collapse of the real estate market and stocks [2].

On the eve of the crisis, Gramlich [3] warned of the dangers posed by the rapid growth of the mortgage market. In essence, he pointed out the absurdity of accumulating household wealth through rising real estate prices while accumulating debts in conditions of unstable incomes. In such conditions, it is very certain that these households will at some point lose their income and fall into a debt crisis, dragging many into collapse. The same author points out that the primary goal of the nation is to avoid the domino effect of the financial crisis on the economy as a whole in the coming years.

McLean and Nocera [4] in their research focuses on the study of long-standing innovations in government policy and their impact on business. They found that government policies promoted a housing boom and credit expansion that ended in collapse. A number of authors see the serious cause of the crisis in 2008 in overconfidence, ie belief in information from financial markets. Under this influence, investment decisions were made biased.

One of the greatest authorities for the study of modern financial crises, Gorton [5], notices that too much self-confidence always precedes the financial crisis. According to him, asymmetric information is the main cause of race, panic and crisis. The attitude of banks and their creditors towards the given real state of the economy is different. As long as the bank's assets are well rated, while the credit rating is satisfactory, the bank's creditors are generally indifferent to the details of the bank's situation, because the owners of capital and state guarantees are able to amortize minor disturbances, even losses, in business.

In a situation where a shock occurs, such as a fall in house prices, doubts about the value of a bank's assets and its solvency rise sharply and the market panics. In such circumstances, an increase in the bank's capital or an increase in government guarantees for the bank's liabilities would usually be sought.

The mentioned author points out that the problem of banks' operations was not in capital adequacy, but in liquidity. In his opinion, the worst sales took place in 2008 mainly outside regulated banks, among dealer banks, where regulatory authorities least expected such transactions. Also, a significant cause of the collapse of the financial market in 2008 is poor management and inappropriate reaction of regulators [5]. In a book that appeared two years later (*Misunderstanding Financial Crises-Why We Don't See Them Coming*),

Gorton [5] that economists misunderstand financial crises. He is of the opinion that financial crises are inherent in the creation of bank debt, which is used to conduct transactions, and that crises will be repeated if the government does not create intelligent regulations. Investing in real estate seemed like a completely safe investment.

Thus, Schleifer [6] sees the causes of the crisis in excessive self-confidence and shows how the strength of human belief affects the formation of financial markets, credit expansion, rising prices and indebtedness, and exposes the entire economy to great risks. They observed that people in the years before the crisis reacted correctly to macroeconomic information, but much more strongly than would be appropriate to the real situation. Using the latest research in psychology and behavioral economics, they presented a new theory of trust formation that explains why the 2008 financial crisis caused so much shock and why its traces are still being felt around the world.

In many countries, the financial crisis was felt before 2008, so it is often possible to find in the literature that the crisis began in 2007.

However, as this is the banking sector of Bosnia and Herzegovina, a country where the more serious blows of the crisis to the banking sector were felt in 2008. 2008 is the year that is considered as the

reference year where it is registered in the statistics as the year of the financial crisis, as well as in the public in the decisions of regulatory state institutions.

3. EXPLANATIONS OF ATTITUDES THAT AFFECT THE EMERGENCE OF THE FINANCIAL CRISIS IN THE WORLD (2008)

In addition to the general views expressed regarding the formation of the financial crisis in 2008, it should be noted that there is an emphasis on accumulated shortcomings in the management of the processes that led to the crisis, within national economies.

In an effort to avoid irrational conspiracy theories, it should be noted that the functioning of the financial market, through financial innovation, has moved into the shadows and regulators have not been able to see clearly what is happening.

A powerful oligarchy of bankers has been established, holding the global economy hostage and using its political power to fight reforms to prevent new financial disasters.

The banking oligarchy poses a great threat to the prospects of the middle class in most economies, and thus in the most developed economy at the time of the crisis (USA). Opinions that the causes of the crisis were the greed of banks and poor regulation were in support of the adoption of the well-known Dodd-Frank Wall Reform and Consumer Protection Act. With this law in 2010, the financial regulations were changed and the way of work of financial institutions was changed.

However, a number of authors believe that the causes of the crisis are not in the greed of bankers and in poor regulation, but also in the Government's housing policy.

In addition, there are works that compare the Great Depression of 1929-1933. and the Great Recession of 2008. Essentially, these two forms of crisis are fundamentally different. After 1933, there was a sharp rise in labor productivity, which did not happen after 2008. He sees the reason for this in the diametrically opposed reactions of monetary and fiscal policy. After 1933, the governments of the USA and European countries reacted with a synchronized aggressive monetary and fiscal policy, while after 2008, the fiscal stimulus was almost absent, and the monetary adjustment was overemphasized.

The depth of the crisis, the slow resolution and the sporadic outbreak of new minor crises have made economic growth unstable in the years following the great recession of 2008. This was reflected in the change in the political sphere of a number of countries. Populism became very popular all over the world, it experienced its rebirth. Populists are thriving most easily thanks to the economic crisis.

Eichengreen hints at the uncertain outcome of the 2008 crisis, because, on the one hand, there are facts that bankers, financiers and 'bought' politicians are responsible for the mess, and, on the other, populist solutions tend to be simplified and economically counterproductive.

Preventing a crisis in some authors justifies serious state intervention. Hesitations that bring the economy into a state of deflation create great economic and social costs for society in the long run.

Fiscal incentives are brought in very slowly, and implemented even more slowly, so that they advocate liberal conditions for rescuing banks through recapitalization and bank restructuring.

The financial crisis was preceded by a multi-year expansion of credit and liquidity, accompanied by relatively low risk and rising real estate prices. This was particularly noticeable in the period 2002-2007. years. The well-known economist Minsky put forward views on this in 1982, long before the onset of the current financial crisis.

He theoretically linked the sensitivity of the financial market, inherent in normal cycles in the economy, to speculative financial bubbles. When the company's income exceeds the payment of debts, speculative euphoria is created, and after that the debts are higher than the current income of the borrowers, which creates a financial crisis.

At the beginning, no one considered or used this theory in detail, especially at the beginning of this financial crisis. Only with the first blows of the financial crisis does his theory become relevant, according to which the pro-cyclical changes in the supply of loans stand out, which grew when one country was developing and decreased during the economic slowdown.

Namely, in periods of expansion, investors preferred to take loans, because the economic forecasts were encouraging, and creditors reduced their rigor in risk assessment, so that they uncontrollably approved loans with worsening economic conditions and thus the opposite reaction occurred, whereby investors became pessimistic and lenders more cautious in approving loans.

The probability of a crisis increased with the cyclical shift of rapid growth and a sharp withdrawal of the credit supply depending on expectations.

4. THE RESPONSE OF SMALL COUNTRIES IN TERMS OF SIZE AND INFLUENCE ON TRENDS IN THE WORLD ECONOMY ON THE EXAMPLE OF BOSNIA AND HERZEGOVINA

The financial crisis of 2008 had the effect of adapting a large number of economies to the conditions in which the economic lag was dominated by economic activities, each in its own way. Most economies that wanted to catch up with economically developed economies began to take various measures to adjust economic activities.

In the following, the author gives an overview of the visible effects of the adjustment of the countries that wanted to achieve the connection of economic activities of similar activities that the developed countries had in the form of the illustration in Figure 1.

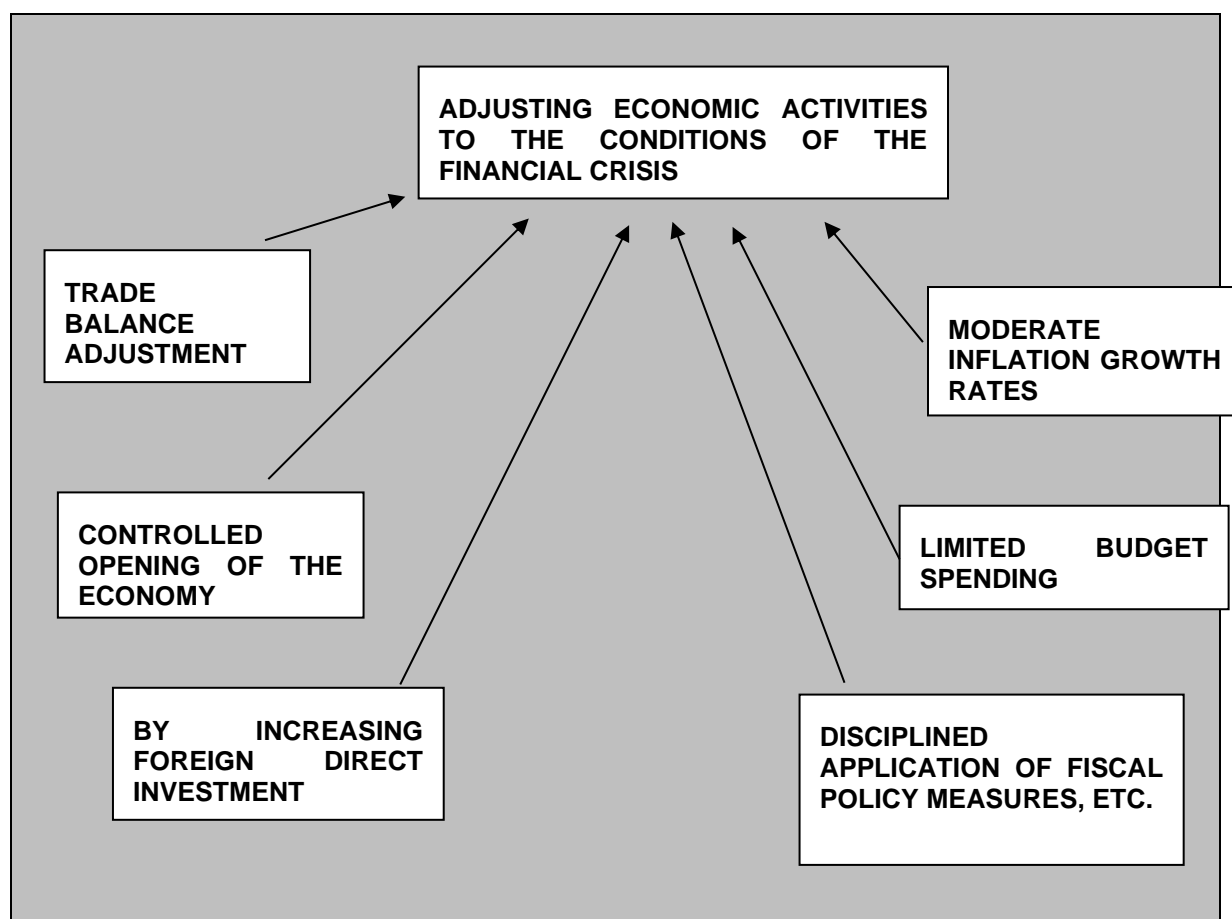


Figure 1: Presentation of possible adjustment of weaker economies to economic conditions characterized by the existence of the financial crisis.

In addition to the general response of countries that wanted to join developed economies, such as Bosnia and Herzegovina (small countries with weak economic activity), they began to take various measures of organization and reorganization, primarily in the banking sector as an essential response to the financial crisis.

In preparing this research of the author in this paper, the author took into account the already published views of the authors which were aimed at giving answers regarding the existence of the financial crisis.

The same authors pointed out another important statement that the banking oligarchy tried to use its influence on the policy of macroeconomic management of the economy as part of the existence of reforms that began to be implemented by the world's leading economies. The author acknowledged the existence of an even more radical attitude of authors who emphasized in their works that the state should embark on reforms that would break the banking oligarchy (or even nationalize large banks) to prevent new financial disasters, such as [8]. In addition, similar attitudes are promoted by the mentioned author in his works, he points out that the banking oligarchy represents a great threat to the perspective of the middle class in society, stating that the middle class is the leading pillar of American society.

The presented views of the authors served the author of this study to do an original research in a small country that tried to respond to the financial crisis by its way of fighting in the reform processes that may occur during the conduct of macroeconomic policy. This was done by the authors in a way that collected data on the origin of capital in banks in Bosnia and Herzegovina.

The goal of the undertaken activities was done with the desire to see the possible existence of diversification of the origin of capital in Bosnia and Herzegovina.

This was the author's position to reveal the structure of ownership of the banking system in Bosnia and Herzegovina, because the existence of ownership diversification can have positive trends in the overall development of the banking system in one country. After the collected data, the obtained results are presented in table number 1 [9].

Table 1. Banks in Bosnia and Herzegovina, origin of founding capital, headquarters and shareholders, situation in 2020

Serial number	Name of the bank	Origin of the founding capital	Headquarters	Shareholders
1	Addiko Bank	Austria	Banja Luka	Addiko Bank
2	Addiko Bank	Austria	Sarajevo	Addiko Bank
3	ASA banka	Bosnia and Hercegovina	Sarajevo	
4	Bosna Bank International	Saudi Arabia	Sarajevo	Islamic Development Bank
5	Intesa Sanpaolo banka	Italy	Sarajevo	Intesa Sanpaolo
6	Komercijalna banka	Serbia	Banja Luka	Komercijalna banka
7	Komercijalno-investiciona banka	Bosnia and Hercegovina	Velika Kladuša	
8	MF banka	Bosnia and Hercegovina	Banja Luka	
9	Naša banka	Bosnia and Hercegovina	Bijeljina	

11	NLB banka a.d.	Slovenia	Banja Luka	NLB Group
10	NLB banka d.d.	Slovenia	Sarajevo	NLB Group
12	Nova banka	Bosnia and Hercegovina	Banja Luka	
13	Privredna banka Sarajevo	Bosnia and Hercegovina	Sarajevo	
14	ProCredit Bank	Germany	Sarajevo	ProCredit Bank
15	Raiffeisen Bank	Austria	Sarajevo	Raiffeisen Bank
16	Sberbank a.d.	Slovenia	Banja Luka	Sberbank Europe
17	Sberbank BH	Slovenia	Sarajevo	Sberbank Europe
18	Sparkasse Bank	Austria	Sarajevo	Erste Group
19	UniCredit Bank	Italy	Mostar	UniCredit
20	Uni Credit Bank Banja Luka	Italy	Banja Luka	UniCredit
21	Union banka	Bosnia and Hercegovina	Sarajevo	
22	Vakufska banka	Bosnia and Hercegovina	Sarajevo	
23	ZiraatBank BH	Turkey	Sarajevo	Ziraat Bank

DISCUSSION

Based on the presentation in this paper, it can be seen that the set financial crisis of 2008 indicated the existence of a large number of structural problems at the level of the overall observed global economy. Essentially, the non-transparent behavior of large banks was reflected in the interference and attempts of political interference in conducting economic activities, which in the conditions of the crisis began to be introduced by all countries in response to the financial crisis. In the conditions of the financial crisis, the existence of bad regulatory measures on the market is even more pronounced. In such conditions, the attempt of the banking oligarchy to establish a strong influence on the state financial structures, as well as to try to achieve benefits when making legal solutions by which the state authorities try to reduce the effects of the financial crisis on the country's economy. The above served as a basis for conducting this research in the sense that the author decided to investigate the existence of possible diversification of ownership of banks in a small country on the example of Bosnia and Herzegovina. This study unequivocally confirmed this and the same research can serve as a number of other studies as a basis for analysis that will be more comprehensive in both small and large countries primarily as one of the possible responses to breaking banking oligarchy and monopolies in a single economy. of some banks, that there will be a higher probability that several different owners from several countries will not have a monopoly agreement on the appearance and conditions of banking functioning in the economy of one country.

CONCLUSION

In the basis of the existence of the great economic crisis, ie the financial crisis from 2008, which affected most of the countries in the world, it can be said that all economies are adapting to the new conditions in different ways. In this paper, the author gives an overview of the adjustment of countries with weak economies on the example of Bosnia and Herzegovina. The results show that such countries are taking various economic policy measures, such as balancing the trade balance, controlling the opening of the economy, changing the sources of financing the trade deficit, reducing the inflation rate, limiting budget spending, increasing financial discipline and other measures. In addition to the general emphasis on adjusting to the conditions of the crisis, the author gave an overview of the results of research on the ownership structure of the banking system in Bosnia and Herzegovina. The results clearly show the existence of diversification in terms of ownership of banks in Bosnia and Herzegovina, which may have positive effects on the development of the banking system in the coming years, and thus on the strengthening of real economic activities expected in the coming years.

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IMPROVING THE ASSESSMENT OF GAPS IN THE CORPORATE FINANCIAL MANAGEMENT SYSTEM

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Abstract

The authors have improved the methodology for assessing gaps in the financial management system, based on GAP-analysis, including a comprehensive system of financial indicators, a distinctive feature of which is the developed scale of gaps.

The methodological base of the research includes general scientific and special methods of cognition. The solution to the research problems was determined with the using a set of additional methods: economic and statistical methods, such as comparison, groupings, methods of system-functional analysis, analytical modeling and methods of consistency, complexity, logical modeling, etc.

The results of the study demonstrate that the adaptive application of the methodology developed by the authors will make it possible to assess gaps and make management decisions to stabilize the company's activities.

Keywords: corporate financial management, gap analysis, financial analysis tools, corporate financial strategy, methods of making managerial decisions

1. Introduction

Building a scientifically based financial strategy in combination with its effective and flexible implementation allows business entities to successfully resist the actions of negative environmental factors and improve their financial situation. Management of resource flows based on the formation of an effective strategy has proven its viability abroad and in domestic conditions: the most competitive regions today are those whose economic entities adhere to a clear strategy in their development and pay considerable attention to its formation and adjustment in accordance with changes in the external environment.

All of the above necessitates improving methodological approaches to assessing and implementing the financial strategy of an organization in relation to the regional specifics of their functioning. Therefore, the research topic is relevant, has an important theoretical and practical significance and requires further development.

The study is based on the works of domestic and foreign scientists in the field of enterprise strategy. R. Ackoff, I. Ansoff, P. Drucker, G. Mintzberg, K. Omae, A. Strickland, A. Thompson, A. Chandler and others made a significant contribution to the formation and development of strategic management;

- various problems of the corporate strategic management are considered in the works of Russian scientists: S. Ayvazyan, O. Balkind, T. Basnin, M. Chernyshev, G. Stepanov, etc. ;

- the concept of regional strategic management is covered in the works of both foreign scientists (P. Krugman, G. Mintzberg, M. Porter) and domestic (A. Granberg, B. Zhikharevich, G. Kleiner, V. Lyubovny, V. Maracha, S. Savelieva, V. Seliverstov, E. Utkin, R. Fatkhutdinov, D. Shmerling, E. Shishkina, K. Yusupov and others);

- the theory and the practice of financial strategic management has been widely studied in the works of many authors: M. Abryutin, A. Amosh, V. Astakhov, M. Bakanov, S. Barngolts, M. Belopolsky, I. Blank, A. Busygin, V. Geyets, B. Grinev, T. Keranchuk, V. Kovalev, L. Kostyrko, M. Kreinina, L. Pavlova, A. Podderegin, V. Rodionova, T. Teplova, N. Chumachenko and others. such foreign scientists as M. Mescon, J.C. Van Horn, G. Wagner, W. Morris, G. Simon, D. Hahn, N. Robert, R. Holt and others. However, some of the theoretical nature issues, for example, the peculiarities of formation, implementation, as well as the methodology of financial strategic management of the company, improvement of the procedure for building the financial strategy of the organization, taking into account the influence of factors of the regional external environment and internal characteristics, are not sufficiently developed and not brought to the level of practical application.

The purpose of the study is to theoretically substantiate and develop methodological approaches to assessing gaps in the financial management system.

It was used in the work a system of general scientific and special research methods to achieve a specific goal and solve the task set: the method of logical generalization - for generalizing theoretical models, disclosing the essential and typological characteristics of foreign economic activity; graphic-analytical and comparative methods - for generalizing the trends in the development of foreign economic activity of business entities in the real sector of the economy of the Stavropol Territory; analysis of the financial aspect of the action of production factors, the impact of the tax burden and changes in exchange rate fluctuations on the conduct of foreign economic activity of business entities; a systematic approach - to substantiate methodological recommendations for the implementation of foreign economic activity, taking into account the factors of changes in its financial component; methods of formalization and economic and mathematical modeling.

2. Methodology

GAP analysis is widely used as a way to measure interest rate risk and to assess the liquidity of organizations [1,5,11,15]. Revealing weaknesses in macrologistic systems based on GAP-analysis allows us to propose a method for calculating coefficients that informs about the presence of gaps [8,9]. V.A. Markovsky [7] proposes to use the formula for the ratio of the absolute deviations of the actual and planned values of indicators to their planned values for calculating the gap ratios. In our opinion, this approach to the calculation gives a narrow characteristic of the relative deviation of the indicator, which is not enough to identify problem areas, taking into account the specifics of the analysis of the activities of organizations in the region.

The advantage of the graphical method for determining discontinuities [8] is its clarity. However, the application of the scenario method proposed by N.N. Romanova to the identified gaps as a strategic controlling tool for calculating partial indicators that are displayed graphically does not allow determining the causes of the gaps. Therefore, it is inappropriate to use a scenario solution to the problem in this case.

The main advantage of using the GAP-analysis method is that it reflects uncovered gaps and stimulates the adoption of targeted management decisions to eliminate them [4]. The advantages of the method include a fairly clear logic of the application, which can be presented in the form of sequential separate stages of its implementation, sufficient versatility in terms of its application for the analysis of various practical problems [6].

The main disadvantage of using the gap analysis method is the limitation of its use in an unstable market. However, this does not diminish its advantages as a tool for searching and adjusting strategic objectives within the framework of considering the region's system.

Other disadvantages of using GAP analysis are following:

1. Achievement of the set goals is a function of many variables, some of which are unmanageable on the part of organizations, and thus limits the possibility of bridging the gaps.

2. In the presence of a general logical scheme for conducting GAP-analysis, there is currently no method of quantitative assessment of indicators at individual stages, insufficiently substantiated and developed a method for finding ways to eliminate gaps.

3. The need to use a forecast data that do not have sufficient accuracy and reliability: the method of expert assessments, forecasting by the extrapolation method. The first one is rather subjective, since it is based on the opinions of a limited circle of specialists. The accuracy of the second method is questionable if the forecast period exceeds one third of the duration of the period under consideration. This is due to the dynamism and variability of the external environment in which the organization operates.

We suggest using the following stages of the GAP analysis as a tool for implementing a financial strategy:

1. Forecast of the implementation of the selected financial strategy by years. At this stage, the step-by-step implementation of the organization's strategy is determined, its level of competitiveness and possible advantages are assessed if the desired goals are achieved.

2. Determination of the current value of the indicator for assessing the implementation of the financial strategy. This stage makes it possible to assess the level of achievement of strategic goals, taking into account the uncertainty and variability of the external and internal environment.

3. Establishing gaps between the target and actual financial indicators of the generalizing integral indicator. In the event that the achieved result exceeds the planned one, this indicates miscalculations in the definition of strategic goals, and requires a revision and adjustment of the strategy.

4. Identification of the criteria for the analysis of "gaps". The overall gap is broken down into sub-divisions that align with the functional strategies of the organization. At this stage, deviations are determined for each of the functional strategies. This allows us to clarify bottlenecks in achieving strategic goals and implementing corporate strategy (Fig. 1).

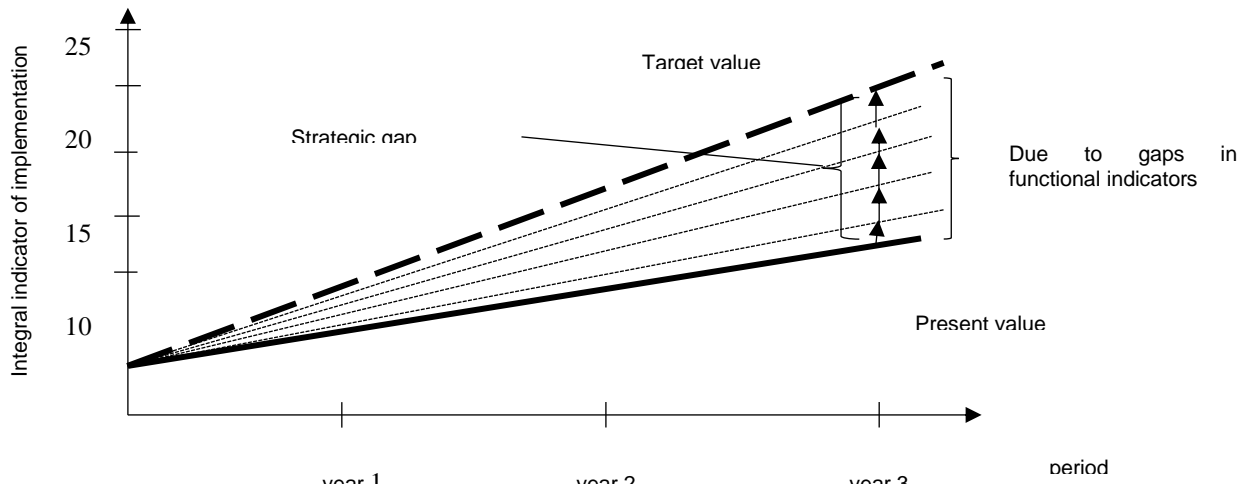


Fig. 1 - Diagram of the strategic gaps analysis in the organization

5. Analysis of the influence of individual factors and the possibility of a positive trend in the change of particular indicators included in each of the functional strategies. At this stage, it is proposed to use a mathematical model for assessing the implementation of corporate strategy.

6. Drawing up an action plan to eliminate (reduce) gaps.

3. Results

It is advisable to use GAP analysis to calculate gaps from a given indicator and to distinguish positive and negative gaps. The positive ones include those gaps that do not require the implementation of any measures. Negative gaps, in turn, indicate the presence of a negative trend in the change in indicators and the need to develop appropriate management decisions.

Currently, there are no methods to determine the impact of financial factors on the absolute value of the gap between the actual indicator and its planned value. Controversial is the ability to determine the absolute gap as the difference between the planned (strategic) and the current value of the indicator and the gap coefficient, which some authors [7,8] propose to calculate by the formula:

$$GAP = \frac{K_{nom} - K_{n.i}}{K_{n.i}} \quad (1)$$

GAP – the gap ratio; $K_{n.i}$, K_{nom} – the current and planned value of the indicator

The gaps that are calculated in this way allow you to determine the level of the resulting indicator achievement. However, it is difficult to assess the need for adoption and the scope of interventions that close or close the gap, as the overall variance is calculated. Therefore, a scale is needed that will allow the manager to assess the extent of the gap. Depending on the degree of the gap, measures are developed to minimize it.

We propose to use the method of analytical grouping to determine the scale of the gaps between the optimal and the current value of the indicator for assessing the implementation of the financial strategy, which allows us to conclude that it is necessary to make a managerial decision,. The interval between deviations is determined by the formula:

$$h = (X_{\max} - X_{\min}) / (r - 1) \quad (2)$$

X_{max} , X_{min} – maximum and minimum values of the integral indicator for assessing the effectiveness of the implementation of the financial strategy; r – the number of intervals.

Based on the studies carried out to assess the implementation of the financial strategy of organizations, their minimum and maximum values are calculated. Using formula (1) and the weight of the strategy factors in achieving the financial strategy, we obtain 5 intervals of deviations from the optimal indicator of the integral assessment of the implementation of the functional indicators of the financial strategy, which correspond to the following types of gaps: insignificant, significant, permissible, critical and catastrophic (Tab. 1).

Tab. 1 - Calculation of the scale of gaps for making management decisions for the selected organizations

Functional components of the financial strategy	Limits				
	Catastrophic	Critical	Allowable	Substantial	Non-essential
Current liquidity ratio	[0;0,836]	[0,837; 1,339]	[1,34;2,16]	[2,333;2,972]	[2,972;+∞]
Working capital utilization ratio	[1,313; 1,481]	[1,482; 3,192]	[3,193; 4,015]	[4,016; 6,044]	[6,044;+∞]
Return on net assets	[0,001; 0,002]	[0,003; 0,008]	[0,009; 0,0619]	[0,077; 0,112]	[0,112;+∞]
Coverage ratio	[0,831; 1,334]	[1,335; 1,494]	[1,495; 2,142]	[2,143; 2,331]	[2,332;+∞]
Accounts receivable ratio	[1,629; 8,479]	[8,479; 42,897]	[42,898; 70,18]	[70,181; 80,864]	[80,865;+∞]

The resulting scale of gaps is applicable to the calculated integral indicators of the financial group for the considered organizations of the Stavropol Territory.

Tab. 2 - Presentation of the results of systematization and classification of financial factors for the implementation of the financial strategy of the organization and the criteria for their assessment

Type of criteria	Enterprises of the Stavropol Territory					
	JSC Dairy Plant Stavropol		JSC "Arnest "		JSC "Energomera"	
	Indicator	Score *	Indicator	Score *	Indicator	Score *
Current liquidity ratio	0,855	0	2,16	0	2,332	1
Working capital utilization ratio	3,192	0	1,313	0	5,225	1
Return on net assets	0,002	1	0,077	0	0,0619	0
Coverage ratio	0,831	0	1,334	1	2,332	1
Accounts receivable ratio	8,302	1	2,376	1	70,18	1

* 1 = indicator value is normal, 0 = indicator value is below normal

At the next stage, we will determine the limits of the functional components of the financial strategy in accordance with the developed methodology for assessing the scales of gaps.

Tab. 3 - Calculation of the integral assessment of the level of implementation of the financial strategy of the organization and the criteria for its assessment

Indicator	JSC "Dairy Plant" Stavropolsky	JSC "Arnest"	JSC "Energomera "
Calculation	$(4-1)*2=6$	$(4-1)*2=6$	$(4-1)*4=12$
Level score	acceptable	acceptable	significant

As a result, we are able to determine the need for activities and management decisions to achieve the maximum value of this indicator. In the case where the gap is insignificant, a management decision is not required.

If the gaps are significant, then it is necessary to monitor the trend of the indicator change. In case of permissible gaps, the manager is recommended to make a decision that will allow maintaining the situation within the limits of significant and insignificant deviations. The critical gap indicates the need to develop measures to stabilize the situation. The meaning of the catastrophic gap indicates a crisis situation in the implementation of the strategy. In the presence of such deviations, it is necessary to develop emergency anti-crisis measures aimed at increasing the effectiveness of the strategy implementation. Summing up the above, we come to the idea of the possibility of adapting the GAP-analysis as a tool of financial strategic controlling for the purpose of increasing the efficiency of the implementation of corporate and functional strategies. The considered approach to identifying gaps allows us to identify bottlenecks in the management of organizations, which will later be used to assess the competitiveness in the process of implementing the financial strategy of the organization. On the basis of GAP-analysis, the author proposes a scale of gaps, which makes it possible to conclude that it is necessary to make a managerial decision to stabilize the organization's activities.

4. Conclusions

As a tool for managing strategy implementation, GAP analysis is an integral part of the corporate strategy management mechanism and can be used to make management decisions in order to achieve the organization's strategic goals, which should ensure growth and stable development. Thus, after analyzing the system for selecting indicators, thinning the system for their assessment and other stages of the formation of a financial strategy, it is necessary, following the logic and stages of the process under study, to determine the features of the implementation of the strategy under consideration on the basis of balanced indicators of the organization's activities. The uniqueness of this study lies in the fact that the possibility of adapting GAP-analysis as a tool of financial strategic controlling for the purpose of increasing the efficiency of the corporate implementation and functional strategies has been proved. The considered approach to identifying gaps allows us to identify bottlenecks in the management of organizations, which will later be used to assess the competitiveness in the process of implementing the financial strategy of the organization. On the basis of GAP-analysis, the author proposes a scale of gaps, which makes it possible to conclude that it is necessary to make a managerial decision to stabilize the organization's activities. As a tool for managing strategy implementation, GAP analysis is an integral part of the corporate strategy management mechanism and can be used to make management decisions in order to achieve the organization's strategic goals, which should ensure growth and stable development. It has been established that the GAP analysis in the organization should be constructed in such a way that at the initial stage an appropriate static model is developed, focused exclusively on determining the state of affairs that has developed in the organization at a basic point in time. In the future, the model should turn into a dynamic one, which, unlike a static one, allows you to calculate possible changes in the future and their likely consequences.

In order to solve the problem of effective formation and development of financial strategy, a methodology is proposed, according to which there is an orientation towards the financial strategy as a management process in the long term and consists of interrelated functions.

Based on the results of the study, methodological approaches to the implementation of the analysis of gaps in the system of strategic financial management of an organization in the region and to ensuring the implementation of the financial strategy based on balanced performance indicators of the organization are proposed. This approach can be applied in other regions of the Russian Federation, however, it must be adapted taking into account external and internal factors in order to more accurately identify possible and weaving strategic gaps.

Thus, on the basis of the proposed analytical tools for assessing the formation and implementation of a financial strategy in organizations of the Stavropol Territory, it became possible to improve methodological approaches to the implementation of an organization's financial strategy in practice.

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