# Strategies for sustainable socio-economic development and mechanisms their implementation in the global dimension

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**M. Bezpartochnyi**

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The authors of the book have come to the conclusion that it is necessary to effectively use modern approaches to developing and implementation strategies of sustainable socio-economic development in order to increase efficiency and competitiveness of economic entities. Basic research focuses on economic diagnostics of socio-economic potential and financial results of economic entities, transition period in the economy of individual countries and ensuring their competitiveness, assessment of educational processes and knowledge management. The research results have been implemented in the different models and strategies of supply and logistics management, development of non-profit organizations, competitiveness of tourism and transport, financing strategies for small and medium-sized enterprises, cross-border cooperation. The results of the study can be used in decision-making at the level the economic entities in different areas of activity and organizational-legal forms of ownership, ministries and departments that promote of development the economic entities on the basis of models and strategies for sustainable socio-economic development. The results can also be used by students and young scientists in modern concepts and mechanisms for management of sustainable socio-economic development of economic entities in the condition of global economic transformations and challenges.



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# Contents

# INTRODUCTION

Permanent changes in world market conditions, institutional and structural transformations of the national economy of the world countries require the development of strategies for sustainable socio-economic development through appropriate programs, plans and projects to improve, increase the efficiency and development of economic entities, introduce innovations and develop new products and services. Ensuring sustainable socio-economic development of economic entities is impossible without improving the relevant mechanisms of activity and practice of developing a management system.

To ensure sustainable socio-economic development of economic entities in modern conditions of activity the necessary basis is the effective formation and use of resource potential and the intensification of innovative processes. The effectiveness of sustainable socio-economic development of economic entities is determined by the ability of the management system to influence all business processes of the enterprise and coordinate its internal capabilities with environmental challenges in order to ensure competitiveness based on the developed strategies and their realization in the global dimension.

The purpose of writing this collective monograph is to substantiate the theoretical-methodological foundations and formulate strategies for the sustainable socio-economic development of economic entities in the global dimension taking into account transformational changes in the international economic environment.

The object of the author's research was the process of formation and realization of strategies for the sustainable socio-economic development of economic entities under resource constraints, the specifics and trends of the development of economic entities under the influence of global competitiveness factors, the generalization of world experience in implementing the respective development strategies.

The subject of research was the socio-economic and institutional processes of formation and effective implementation of strategies for sustainable development of economic entities; the formation of mechanisms for managing the resource potential of economic entities; the use of modern economic-mathematical models for the development of economic entities; increasing the innovative potential of the development of economic entities; consideration of the practical aspects of development management and introducing the innovation in various sectors of the economy.

# Chapter 1

# THEORETICAL FOUNDATIONS OF FORMATION AND IMPLEMENTATION THE STRATEGIES FOR SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT

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## NON-PROFIT ORGANIZATIONS: SOCIAL PILLAR OF THE SUSTAINABLE ECONOMY. THEORETICAL BASIS

## INTRODUCTION

In developed countries, we see a significant increase in the importance of non-profit organizations thank to public initiative. The primary objective is to improve the quality of life in society. Okuneviciute Neverauskiene and Pranskeviciute (2018) stress that cooperation between private, public and a non-profit sector creates synergy effects. Non-profit organizations are active mainly in social care and education (Okuneviciute Neverauskiene, Pranskeviciute, 2018). Donnelly (2017) analyses the interaction between online and face-to-face problem-based learning tutorials in higher education. Moreover, in the US, the education costs are relative high. Popescu and Ciurlau (2017) assess the success of financial assistance in promoting higher education (Popescu, Ciurlau, 2017). External environment, in the form of development agencies and state support, mostly influences the boom of non-profit organizations. Kliestik, Misankova, Valaskova and Svabova (2018) claim that organizations have economic and moral

responsibility for stakeholders. Nowadays, many businesses are aware not only of economic roles but also of moral responsibility. These attributes affect business goodwill. Kliestik, Kovacova, Podhorska and Kliestikova (2018) focused only on economic factors. These authors created an economic model that includes key factors such as return on equity, net profit from previous years, retained earnings, valuables, marketing costs and investments to the plant as relevant indicators of enterprise goodwill creation. Moreover, many companies cooperate with non-profit organizations for improving sustainable in civic society. In addition, Leber, Ivanisevic, Borocki, Radisic and Slusarczyk (2018) deal with how customers can influence a sustainable product. Olah, Zeman, Balogh and Popp (2018) claim that sustainable product can be improved by IT tools. Non-profit organizations are dynamic and flexible entities, contributing to effective functioning, particularly in the social and educational spheres. The primary problems of non-profit organizations include legislation that does not sufficiently motivate entrepreneurs to support non-profit subjects, but also a shortage of employees and volunteers. On the other hand, Andersson, Bridi, Baez, Maldonado, Forcellini and Moraes (2018) explain that public sector is characterised by bureaucracy. Their aim was to create model to improve public service.

The contribution deals with importance of non-profit organization. Firstly, we explain historical development of non-profit sector based on primary theoretical approaches. Secondly, we describe non-profit sector on American and European continent. In other words, the contribution summarises theoretical and empirical knowledge on importance of non-profit sector in various countries all around the world. The results show that non-profit sector plays significant role in building national economies.

## NON-PROFIT THEORIES

Many economic theories, namely theory of governmental and market failures (theory of public goods), contract failure theory, welfare state theory, interdependence theory and social origins theory, explain the origin of non-profit organizations.

*Theory of governmental and market failures (theory of public goods)* is one of the key theories of the non-profit sector. This theory is based on the theory of heterogeneity (supply side theory), which is related to the market failure theory and government failure theory in the provision

of public services. According to Olson Theory, the main reason for market failure is the inability of individuals to cooperate. Many states with a democratic system are trying to satisfy the so-called median voter. This means that many of population needs are not satisfied by the state and the market. These circumstances have created a space for non-profit organizations. Critics point out that some non-profit organizations do not arise due to an inefficient market mechanism, and not every non-profit organization is successful (Zacharova, 2015).

*Contract failure theory.* According to this theory, the consumer does not have much information for assessment of the quality and availability of goods and services. Therefore, consumer seeks to find a trusted provider to minimize the consequences of information asymmetry. Critics of the theory point to the assumption that entrepreneurs abuse information asymmetry, which may not be true. On the other hand, certain manifestations of unserious behaviour may also occur in non-profit organizations (Zacharova, 2015).

*Welfare state theory.* In the past, non-profit organizations have arisen because of an undeveloped welfare state. Non-profit organizations partly address marginal (residual) social problems. The theory assumes that the importance of non-profit organizations will diminish in the future due to the improvement of the market mechanism and the strengthening of the state's responsibility. According to the welfare state theory, non-profit organizations represent a residual that only compensates for a set of services provided by the state and the market (Stejskal *et al*, 2012).

Furthermore, *interdependence theory* was proposed by Thibaut and Kelley (1959). According to the theory, the non-profit public sector and the non-profit private sector are interdependent. They can cooperate in the production of mixed collective assets. Based on empirical studies, we can argue that cooperation arises especially in health care, education and social services. The theory of three sectors emphasizes that the non-profit sector responds more flexibly to changes in demand for services compared to state organizations (Anheier, 2005).

This theory is based on cooperation. Nevertheless, non-profit organizations may fail. The primary reasons include:

- *philanthropic insufficiency* means that non-profit organizations have a lack of volunteers and resources for operation.
- *philanthropic paternalism* means that the ideas of non-profit organizations differ with the expectations of the recipients of assistance.
- *philanthropic amateurism* means that there is not enough

qualified staff in non-profit organizations. Most volunteer organizations are mostly volunteers. The reason is lack of funds.

- *philanthropic particularism* means that non-profit organizations focus on a specific area of assistance, not cooperating to solve other problems. Thus, non-profit organizations are oriented towards partial parts rather than the complex nature of services (Stejskal *et al*, 2012).

*Social origins theory* is presented by B. Moore (1993). This theory is considered significant because Johns Hopkins University researchers compared the non-profit sector in various countries. The research idea was to explain current events based on the past. L. M. Salomon and H. K. Anheier (1998) suggested models of relationships based on comparisons of relations between the public, commercial and non-profit sectors. Salamon and Anheier argue that the non-profit sector in different countries has a different historical beginning and reveals various social and economic aspects. These models deal with the extent and intensity of co-operation of individual sectors in addressing problems in the provision of mixed collective assets. L. M. Salomon and H. K Anheier (1998) deal with two variables, namely government social spending and the non-profit sector economic size. Based on the results of the study, the authors defined a liberal, social-democratic, corporatist and statist model of the relationship between state and non-profit sector.

- The liberal model is characterized by the low social costs of the state and a high share of NGO funding. It is based on a private initiative and voluntary basis. This model is mainly applied in countries with a high level of middle-level representation, which is not interested in raising social benefits, for instance, USA and United Kingdom.
- The socio-democratic model is typical of high public spending on social benefits. There is little scope for non-profit organizations. Based on these facts, Stejskal, Kuvikova and Matatkova (2012) claim that the social-democratic model is the opposite of the liberal model. The state provides social services using its own facilities. Socio-democratic model is applied by Scandinavian countries.
- The corporatist model represents a combination of previous models. This model is characteristic of the large non-profit sector in the existence of social programs that the state finances. Social services are implemented through state and private non-profit organizations (subsidiary model). Germany, Belgium, Netherlands, Austria and France apply this model.
- The static model is the opposite of the corporatist model. It is

characterized by low third-sector scope and low social spending by the state. Non-profit organizations are dealing with marginal interests and are being printed on the periphery of interest by government institutions. It is the result of a long-term high number of farmers in the national economy and a low industrialization rate. Japan and Brazil belong to the countries applying this model (Stejskal et al, 2012).

## NON-PROFIT SECTOR ON AMERICAN AND EUROPEAN CONTINENT

*United States of America.*

In 2013, the total income of US non-profit organizations reached more than 2.26 billion USD and the total assets amounted to more than 5.17 billion USD. We see healthy financial developments between 2003 and 2013, because total revenues and assets rose faster than GDP.

Most of non-profit organizations consist of public charities with more than 30 types of non-profit organizations exempt from income tax. Public charities are made up of artistic, cultural, humanitarian, educational, health organizations and organizations to protect human services. Specifically, in 2013, public charities represented more than 950,000 organizations, representing 67.5% of non-profit organizations. The number of registered public charities grew faster than other non-profit organizations, while private foundations declining by 8.3%. Most of public charity revenues is generated by fees for services and goods from private sources, which is almost 47.5%. Another significant revenue is government revenue (24.5%). Furthermore, private charitable donations account for 13.3% of total revenues and state subsidies represent 8% (McKeever, 2015).

Foundation Center (2014) reports that the number of US foundations has risen steadily since 2003, apart from the economic crisis in 2010-2011. In 2012, the number of foundations was 82,192 divided into independent foundations, operating foundations operating foundations, corporate foundations, and community foundations (Foundation Center, 2014).

*Canada.*

National Survey of Non-profit and Voluntary Organizations (2005) states that in 2003, approximately 161,000 Canadian non-profit and voluntary organizations have employed more than 2 million workers.

In addition, more than 19 million volunteers. Interestingly, many non-profit organizations rely heavily on volunteers. It is confirmed by

the fact that 54% of non-profit organizations do not employ any paid employee (Statistics Canada, Highlights of the National Survey of Non-profit and Voluntary Organizations, 2005). Imagine Canada (2017) indicates Canada's non-profit sector is the second largest in the world, on the first place is Netherlands. There are approximately 170,000 Canadian non-profit organizations where volunteers represent a significant group of workers. In addition, the Canadian non-profit sector contributes 8.1% to GDP, representing a larger share than the automotive or manufacturing industry (Imagine Canada, Key Facts about Canada's Charities, 2017).

Turcotte (2015) states that in 2013, 12.7 million Canadians aged over 15 (44%) worked as volunteers, working together for nearly 2 billion hours. However, from time perspective, we can see a smaller decrease, as in previous years the level of volunteering for the public over 15 years was higher, in 2004 (45%), in 2007 (46%) and in 2010 (47%). Furthermore, the average number of hours worked per volunteer is 154, which is at least since 2004. Moreover, more than 80% of Canadians donated a financial contribution to a charity or non-profit organization. Although the number of contributors decreased by 2%, the total increased by 14% to $ 12.8 trillion in 2013 compared to 2010 (Turcotte, 2015).

On the European continent, specifically in the United Kingdom, Phoaraoh, Goddard and Jenkins (2014) wrote study about charitable income and spending in the 100 family foundations and family trusts. These authors demonstrate that most of the funds (56%) come from family foundations in nonprofit sector, unlike the US (Phoaraoh *et al*, 2015).

*United Kingdom.*

Association of Charitable Foundations (ACF) brings together more than 300 foundations and charitable funds in connection with grants. Pharoah, Jenkins, Goddard and Walker (2016) claim in the publication "Foundation Giving Trends 2016" that independent charitable foundations provide an effective, transparent and yet deliberate way of irreversible transformation of private wealth into a publicly beneficial character. Many foundations help volunteer sector, but foundations are not limited to funding registered charities, social enterprises, universities, individuals and public and private sector bodies. They estimate that funding through charitable foundations accounts for 15% of the total revenues. Interestingly, in 2015, the total was down to 17.8 billion GBP from 19 billion GBP in previous year. This decline is

probably associated with a decline in public confidence in non-profit organizations (Phoaraoh *et al,* 2015).

*Czech Republic.*

Neziskovky.cz (2017) states that non-profit organizations are non-profit-making organizations for redistribution between owners, trustees or founders. It means that profit is used to develop the organization and fulfil the mission of non-profit organization. Since the beginning of 2014, the recodification of private law regulating non-profit organizations has entered into force in the Czech Republic. Later, the name of the civic associations was changed to the societies. Furthermore, foundations and endowment funds concentrate on collecting assets for given purpose.

## CONCLUSION

The origin of non-profit organizations is explained by various economic theories, such as government and market failures theory, information asymmetry theory, welfare state theory, interdependence theory and sector coexistence model. In our opinion, the theory of government and market failures best explains the origin of the non-profit sector. As has been mentioned, the number of non-profit organizations is constantly rising in several developed countries. For the primary reason, we consider the inability of market players and government institutions to respond flexibly to public demands. This is confirmed by the fact that non-profit organizations occur mainly in neglected areas such as health, education, environmental protection, etc.

On the other hand, we do not agree with the ideas of the welfare state theory, according to which the number of non-profit organizations will decrease with strengthening the responsibility of states. The reason is that many state institutions rely solely on non-profit organizations and ultimately replace the state in fulfilling their elementary obligations.

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# STUDY OF ETYMOLOGY OF CONCEPT "THE ECONOMIC DIAGNOSTICS OF AGRICULTURAL ENTERPRISES"

## Introduction

In the process of economic activity the entities they use a wide methodological toolkit for evaluating their own activities, analyzing the relevant indicators, based on which they make informed management decisions to improve efficiency. Modern business conditions necessitate the use of both applied methodological tools for assessing economic activity, and specific, which depends and is characterized by the affiliation of entities to a specific industry or field of activity, production conditions, use of resource potential, territorial factors, environmental impact, strategic goals, etc. These aspects also apply to the economic

activities of agricultural enterprises.

Significant attention has been paid to questions of increasing the efficiency of economic activity of agricultural enterprises by agricultural economists for a long period of time. The currently existing set of scientific developments, conceptual approaches, methods and ways of analysis, assessment of economic activity significantly contributes to solving the tasks to improve efficiency, however, the development of theoretical, methodological and practical approaches reveals new problems of modern agricultural enterprises as a socio-economic system, which are influenced by a number of internal and external factors. Ensuring the effective functioning of agricultural enterprises in modern conditions requires the search for new methodological tools, in particular, to methods of research and evaluation of their economic activity. The need for improvement of the existing today and the development of new theoretical, methodological and applied solutions aimed at ensuring the effectiveness of the analytical and managerial activities of agricultural enterprises in modern conditions is becoming more clearly apparent. Therefore, taking into account the foregoing, there is a need to use a tool in the management system of agricultural enterprises that will allow for analytical research, to obtain reliable and complete information about economic activities, which will serve as the basis for the development and adoption of effective management decisions. In our opinion, should be such a tool the economic diagnostics.

**Literature review**

The problems of using the methodological tools of economic diagnostics at different times were investigated and solved by many Ukrainian scientists, namely: I.M. Bagrova, L. Butenko, V.A. Vasilenko, A.E. Voronkova, A.I. Gadzevich, V. Gerasimchuk, A.A. Getman, T.A. Ogorodnaya, A.I. Dmitrenko, V.V. Dorofienko, V.A. Zabrodsky, V.A. Zinchenko, N.M. Evdokimov, A.K. Eliseeva, L.A. Zhilinskaya, T.A. Zagornaya, S.V. Kozachenko, N.A. Kizim, A.V. Kiriyenko, T.D. Kostenko, L. Kostyrko, E.E. Kuzmin, Yu. Lozovik, A.G. Melnik, I.P. Moiseenko, A.I. Oleksyuk, E.A. Pidgora, A. Semenov, I.V. Simenko, I. Sokirinsky, L.V. Frolova, G.A. Shvidanenko, A.A. Shubin et al. Theorists of the Russian scientific school of research on the mechanisms of applying economic diagnostics in the activities of economic entities should include: V. Andreeva, T.B. Berdnikova, A.S.

Vartanova, M.M. Glazova, P.V. Egorova, A.P. Kovalev and others.

The need for analytical (diagnostic) research of the enterprise to identify problematic issues of functioning and development of measures aimed at ensuring the efficiency of management and improving its condition is not in doubt and is recognized by the vast majority of researchers [2, 5, 6, 7, 11, 14, 15, 17, 23, 24, 25, 28, 30, 33, 36, 38, 39].

However, as shown by the analysis of individual publications [26, 27], the requirements for the content of the diagnostic process, a list of objects of research, a methodology for summarizing the results are still in the process of formation and are ambiguously interpreted by different scientists [22-24]. Therefore, in our opinion, it is important to clarify the categorical conceptual apparatus of analytical research, justification of the main tasks and decomposition of diagnostic procedures.

**Result research**

In a market environment for recognition, determination of nature, signs, identification of causes of deviations of results from the planned is carried out using diagnostics, which are a means, method and tool for a comprehensive study of the enterprise. The need to improve the enterprise management system and the lack of a methodological basis for research in this area determines the relevance of highlighting the diagnostics of an enterprise's activity in the conditions of changing the internal and external environment of activity into an independent subject of research. Therefore, we consider it advisable to pay attention to the use of the term not "analysis" – the method of studying a certain object that is usual for economic research – but "diagnostics". The need to study the correct application of this term necessitated the implementation of an epistemological study of its essence and features.

Diagnostics is not new in enterprise economics. The development and implementation of a set of preventive measures, recommendations and procedures aimed at improving the state or preventing unfavorable situations and events unfavorable for its functioning in an uncertain market environment depends on determining and assessing the state of functioning of the subjects of the economic process. That is, economic diagnostics should act as a justified and reliable procedure on which the further activities of the enterprise depend. Any incorrectly made diagnostic conclusion can lead to a negative result of activity the enterprise.

The term "diagnostics" comes from the Greek diagnōstikós – it is

able to recognize and is regarded as a doctrine of methods and principles for recognizing problem situations (diseases in medicine, device breakdowns, unsatisfactory results of the functioning of economic entities) and making a diagnosis [10, 22]. In other words, the diagnosis involves: recognition of the state of the object by secondary signs; study of the state of the object; the formation of an idea of the object.

For the first time, diagnostics began to be used in medicine [11]. Diagnostic studies of Hippocrates and the system of these studies he developed are recognized as the beginning of scientific diagnosis [12]. With the advent of complex mechanical devices, diagnostic methods began to actively develop in technology [15]. It is this area that is still considered the main subject area for the application of diagnostic procedures. Until recently, the development of economic research methods was aimed at finding new and improving existing methods of analysis (general economic, functionally cost, operational and marginal, financial) [17]. Moreover, the analysis is considered as a separate management function, should precede and justify the adoption of effective management decisions [23].

Among economists there is no single approach to understanding the essence and content of the diagnostic process, despite the fact that this concept is widely used in the study of all problems of improving the organization of production and enterprise management. A fairly common mistake of managers is to make a decision without establishing the true cause of the problem, that is, without identifying those "diseases" from which it is necessary to "cure" the enterprise [28].

In modern scientific literature [36, 38, 39, 55], one can find various approaches to determining the diagnosis of economic objects; methods of economic diagnostics are intuitively used, but without mentioning it as a method of researching an enterprise. Changing this provision requires a theoretical justification and development of a methodology for conducting economic diagnostics of enterprises, and on its basis a justified methodology for studying the activities and condition of enterprises, including agricultural ones, taking into account their industry specifics and the like.

Despite the long evolution of economic diagnostics as a science at the present stage, problems regarding the development of principles and methods of economic diagnostics, systematization, generalization of approaches to the disclosure of its content remain unresolved; clarification of the complex diagnostic procedures; regulation, formation of information flow and database in the research process; development

of a system of estimated indicators of economic diagnostics.

So, in the economic literature [4, 9, 16, 20, 37, 42, 49] a common narrow approach to diagnosis. So, for example A.I. Muravyov interprets diagnostics as a way to establish the nature of the failures of the normal course of the economic process on the basis of typical signs inherent only to this object [42, p. 24]. That is, the author focuses only on the analysis and control of deviations from the normal course of economic activity of the enterprise, but this does not fully reveal the content of the diagnosis, its potential as a modern management tool. In addition, the concept of "normal course of the economic process" can be interpreted ambiguously, which does not allow to draw final conclusions about the state of the object of study [42, p. 25]. The scientist also believes that "economic diagnostics ... should serve the purpose of express-analysis, that is, analysis of fast and relatively cheap ... It is possible that the definition of economic diagnostics as one of the methods of analysis is more accurate, allows us to conclude on any side of the activity object, not making direct observations (measurements) in this area, but only composing the dynamics of the relevant indicators" [42, p. 73]. That is, economic diagnosis, according to A.I. Muravyov, represents a new area of economic analysis, in connection with which the scientist in 1989 noted: "one of the ways to avoid increasing the complexity of the analysis and the above losses (loss of time in regulating the economic system, that is, loss of effect, profit, incentive funds and material encouragement) consists in the development of economic diagnostics – the direction of analysis of economic activity, allows you to identify and localize violations of the reproductive process on the basis of a minimum indicators in dynamics" [42, p. 85].

This approach to economic diagnostics reflects its dynamic nature, i.e. comparing indicators over time and the need to establish standard values for indicators that are most informative for the various stages of the functioning and development of the enterprise. Thus, taking into account the above, the economic diagnosis of A.I. Muravyov is considered from the point of view of the system of actions necessary for making a diagnosis and identifying the qualitative characteristics of violations in the activity of enterprise.

Similar interpretations of diagnostics are also contained in the works of other authors, in particular A.P. Gradov, N. Danilochkin, E.E. Kuzmin, diagnostics is considered as a direction of economic analysis, helps to identify the nature of the violation of the normal course of economic processes at the enterprise [18, 19, 40].

Some scientists [18, 32, 44] generally identify diagnostics with analysis (economic or financial), without highlighting the special functions and tasks of the actual diagnostics as a separate management stage.

Quite interesting for the purpose of diagnosis is the study of A.A. Getman: "diagnostics as a way of recognizing a socio-economic system through the realization of a set of research procedures and identifying weak links and bottlenecks in them refers to indirect research methods" [15, p. 9]. Close views of E.M. Korotkov, who understands by diagnostics "the determination of the state of an object, the subject of a phenomenon or the management process through the implementation of a set of research procedures, the search in them for weak links and "bottlenecks" [35, p. 146].

From the position of a systematic approach, diagnostics, including economic, are considered in the works of A.S. Vartanov [9], I. Sokirinsky [46-48] and Z.N. Sokolovskaya [49], which allows not only to comprehensively assess the state of an object under conditions of incomplete information, but also to identify problems of its functioning, to determine ways to solve them, taking into account fluctuations in system parameters. A.S. Vartanov, for example, points out significant differences in diagnostics from analysis, are not taken into account by many authors: "unlike economic analysis, which is aimed at studying the dynamics of economic indicators, diagnostics also allows you to show the structure of the relationships between these indicators, the density and dynamics of these relationships" [9, p. 9]. Having examined the main aspects of the implementation of diagnostics and focusing on such a research method as the apparatus of the growth matrix, the author notes that the study of the problems of diagnostics as a whole is just beginning and this requires significant methodological and applied developments.

Proposed by A.S. Vartanov approach is more promising from the point of view of identifying the essence, functions and methods of economic diagnostics, which makes it possible to widely use its capabilities in the process of managing an object as a system consisting of interconnected elements, each of which has its own characteristics and affects the behavior of the system as a whole. From the standpoint of this approach, "economic diagnostics allows us to solve the following problems: to assess the economic situation of the enterprise; stability of its functioning; identify possible options for economic dynamics based on the structural relationship between indicators; evaluate the possible

consequences of managerial decisions related to production efficiency, financial condition, solvency, etc." [9, p. 11].

In the scientific work of Z.M. Sokolovskaya [49, economic diagnostics is considered from the point of view of a systematic approach, which allows not only to comprehensively assess the state of the enterprise in conditions of incomplete information, but also to identify problems of its functioning, as well as determine ways to solve them, taking into account fluctuations in system parameters. In addition, from the standpoint of this approach it is possible to study the modes of functioning of the system as a whole.

V.A. Verba and T.I. Reshetnyak expand the boundaries of diagnosis and focus attention on the relationship of enterprise problems. The authors consider diagnostics as "a process of a detailed and in-depth analysis of problems, identifying the factors that affect them, preparing all the necessary information for making a decision, and also identifying the main aspects of the relationship between problems, general goals and results of activity the enterprise" [10, p. 27]. However, in our opinion, it is not enough to determine the problem situation on the basis of conclusions about the economic condition of the enterprise, it is necessary to develop specific recommendations whose practical significance lies not only in assessing the past activities of the enterprise, but also in preventing the recurrence of identified problems in the future. In this regard, the timely implementation of economic diagnostics of activity the enterprise will allow in advance, before the onset of negative trends to identify the causes of their occurrence and accordingly respond to them.

In a number of scientific works [3, 5, 6, 13, 29, 31, 33, 34, 35, 41, 43, 45, 50-52, 56], diagnostics is considered as part of an assessment of crisis situations in an enterprise or a stage of anti-crisis management along with marketing, anti-crisis forecasting and planning, adoption and organization of the implementation of anti-crisis procedures, controlling of their implementation and motivation and regulation of the implementation of decisions. N.V. Rodionova offers to diagnose the state of the enterprise in two ways (Figure 1.1). The data in Figure 1.1 indicate that the following structural elements for diagnosing the state of the enterprise – financial, technical-economic diagnostics and organizational diagnostics are distinguished, and the corresponding methodological tools are used.

The problems of financial diagnosis are found in theoretical-methodological reflection in a number of monographs by Ukrainian

scientists, in particular V.P. Egorova and V. Andreeva [21], N.A. Kizima, V.A. Zabrodsky, V.A. Zinchenko and Yu. Kopchak [30], L.A. Kostirko [38-39], Z.N. Sokolovskaya [49], G.A. Shvidanenko and A.I. Oleksyuk [55]. The writings set forth the principles, laws, and methodological foundations of integrated dynamic and static, quantitative and qualitative approaches to assessing the financial-economic activities of an enterprise. So, for example, V.P. Egorov and V. Andreeva note: "the main goal of diagnostics, as an effective management tool is to solve the problems of rationalizing the decisions making process in the field of managing the financial activities of an enterprise" [21, p. 79].

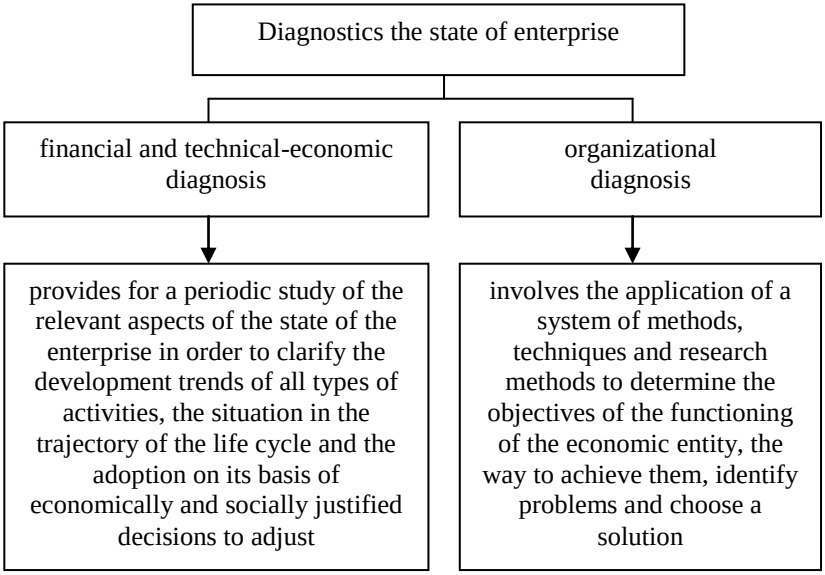


**Figure 1.1 Types of diagnostics the state of enterprise**
*Source: [43]*

Our studies have allowed us to state that the debatable issue is the identity of economic analysis and economic diagnostics. Some scientists identify these concepts. So, for example, G.A. Shvidanenko and A.I. Oleksyuk [54], considering financial diagnostics, focuses on the financial-economic analysis of the enterprise. The authors conclude that the diagnostic system is based on the use of algorithms, technologies, methods and indicators of economic analysis, that is, economic

diagnostics and economic analysis are identical concepts. T.B. Berdnikov [4] does not generally distinguish between the concepts of economic analysis and economic diagnostics.

I. Sokirinskaya, explaining the relationship between economic analysis and economic diagnostics, notes: "as an integral stage of the management process, diagnostics should be carried out in a temporary dimension after the analysis stage, since the diagnostic process relies on a specific analytical base when visible signs of a problem (symptoms) are identified in the analysis process which alone cannot explain cause or effect" [48, p. 148]. The author identifies three types of economic diagnostics at the enterprise operating, financial and investment activities, focusing on financial diagnostics [48]. A.E. Voronkova identifies diagnostics with "the term of the analysis of production (managerial) activity" [11, p. 214], although it identifies problems, diagnostics solves much broader than analysis (the main task is to "assess the possible consequences of managerial decisions in terms of the effectiveness of the system as a whole" [11, p. 214]). Along with this, it is noted that the diagnostics of activity the enterprise is aimed at "establishing and studying the signs, assessing the state of the organizational system and identifying problems of the effective functioning and development of the organization, forming ways to solve it" [40, p. 42]. The author considers three forms of the organizational process of establishing a diagnosis – analytical, expert and imitative [11, p. 215].

L.A. Kostyrko in his own monograph points out that "at the present stage have been formed four directions of the concept of diagnostics: analytical, informational, anti-crisis, and consultative-deliberative" [39, p. 8-14], although in the future he considers two more varieties – research and management.

N.M. Evdokimov and A.V. Kiriyenko noted: "the result of the diagnosis is the preparation of conclusions about the current state of the object and the forecast of its changes in the future" [23, p. 13]. Scientists are considering six classification features of economic diagnostics: the level of the investigated object; study time range; frequency of carrying out; topics and visibility of the problem; target orientation; subjects of implementation [23, p. 14].

Diagnostics involves determining the essence and characteristics of the problem on the basis of a comprehensive analysis, carried out on the basis of certain principles using analysis methods and tools.

We consider the most optimal definition of diagnostics as "a area of

knowledge that studies the production and economic state of objects of diagnosis and the manifestation of their states, develops methods for the manifestation of these states, as well as principles for constructing and organizing the use of diagnostic systems".

Separate functional areas of economic diagnostics can also be distinguished, for example, those related to the study of certain areas or directions of activity the enterprise or assessment of the probability of the occurrence of certain events. At the present stage, more developed areas are diagnostics of the enterprise development crisis [3, 5, 6, 13, 29, 30-34, 50] and the diagnosis of financial condition [1, 8, 11, 21, 24, 36, 45, 47, 53, 55]. In our opinion, a promising area for further research in an unstable market environment is risk diagnosis.

Thus, the economic diagnostics of the enterprise should solve three groups of problems:

direct, in which the assessment of activity is based on a priori known information;

inverse, when the permissible limits of the criterial indicators of activity are set and the value (range of values) of the initial parameters is determined taking into account the established restrictions on one or more output parameters that change;

sensitivity studies – the sensitivity of the results of direct and inverse problems with respect to the variation of the initial parameters (for example, the probability distribution, the range of changes of certain quantities) is considered.

The purpose of diagnostics is to provide the necessary knowledge to make a decision on the use of a diverse methodological apparatus and tools for determining the state of a management object in an undefined operating environment and developing a set of measures aimed at improving this state.

Diagnostics performs three functions: evaluation (determining the state of functioning of the management object); diagnostic (identification of possible changes in the state of the object); search (determination of possible measures to improve or restore the state of the control subject) [28, p. 27].

The subject of diagnostic is a quantitative characteristic of the qualitative identification of the state of the management object.

The object of diagnostic is a management object (for example, an enterprise, industry, region, country) as an integrated highly organized system with all its functional subsystems (system elements).

We propose to consider the diagnostics of an agricultural enterprise

as a process of recognition and detection based on certain signs (key performance indicators, studying individual results, incomplete information) of problems in its functioning to assess current trends and identify possible development prospects and analyze options for the best solution to identified problems.

## Conclusions

After analyzing the literary sources, we came to the conclusion that the presented points of view allow to reveal only certain aspects of the diagnostic. In our opinion, economic diagnostics cannot be considered either as part of an economic analysis, or as an auxiliary element in the research process, it has its own individual meaning. The results of our studies indicate that the diagnostic requires a more detailed and comprehensive study of activity the enterprise in order to obtain the most reliable information about the state and influence of factors on economic activity and development prospects. Diagnostics aims to give about the object not only a wide range of information in the form of market indicators, but also has a corresponding goal – to improve the process of economic activity in an unstable environment, which requires constant improvement of the management process. Therefore, in our opinion, it is advisable to consider diagnostics as one of the stages of the management process preceding the adoption of managerial decisions and represents an independent direction with the appropriate methodological tools. In the process of economic activity, after analyzing a specific situation requiring a reasonable management decision, diagnostic becomes necessary, that is, determining based on the system of developed typical features of the state of activity the enterprise and possible problems in its development, since the choice of an effective management decision depends on how true the specific situation is evaluated. The absence of this stage in the process of preparing and making managerial decisions may hamper the entire further course of this process.

Thus, the diagnostic of an agricultural enterprise is a constant process of identifying problems in the economic activity of an agricultural entity, establishing for it the nature, causes and possible consequences of identified deviations aimed at finding promising ways and directions for their possible elimination with a view to further effective functioning and ensuring development.

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# STRATEGIC DECISIONS IN SUPPLY CHAINS

## Introduction

Contemporary logistics concepts are based on principles that create new quality in company management. These concepts are based on treating real logistics processes as an integrated system of partial activities subordinated to strategic goals of business operations. This means that logistics concepts are constantly changing, adapting to changes in economic environment and new expectations on the part of enterprises. There is a reevaluation of logistics assumptions from an operational approach, which was aimed at ensuring an economic efficiency of undertaken actions achieved as a result of optimal control of individual functions and logistic processes, through strategic planning and management, up to the logistics-oriented integrated enterprise management. The transformation of the supply chain management concept also changes goals and assumptions of logistics. Optimizing logistics processes was aimed at achieving a competitive advantage of a company by obtaining better results in terms of quality, time and costs. Integrated logistics management, in addition to maintaining efficiency and effectiveness of supply chains, should also guarantee benefits in the fields of: ability of a quick business response, optimal use of possessed tangible and intangible assets, high flexibility of operations.

The functions of a concept of logistics management as well as adopted goals and strategies allow logistics management to take a leading role within other subsystems functioning in an enterprise. Logistics processes permeate the entire company structure and the concept of logistics management begins not only to coordinate and integrate all systems functioning in an enterprise, but as the basic management concept – it defines goals and strategies of an enterprise, where logistics strategies are increasingly becoming basic strategies of a company or a given sector.

The purpose of the article is to indicate the place of a logistics strategy in strategic management process.

**The essence of logistics strategy in management process.**

Integrated logistics management has the ability to create success potentials which often determine the choice of a logistics strategy as a strategy within which an enterprise can ensure its market success, including (Matwiejczuk, 2015):

• Creating own logistic potentials for success through appropriate investments and proper shaping of logistics processes by a company;

• Obtaining success potentials by acquiring them from competing companies. This solution also requires investment expenditures, but is associated with greater barriers to their purchase as well as danger of not matching acquired potentials to possibilities of their use by an enterprise;

• Development of success potentials through cooperation with other entities in a chain or in a supply network. This cooperation requires a clear definition of tasks and responsibility of individual participants in accordance with their asset and skills.

Creating strategies of individual functional systems in a company as well as basic strategies of a company is aimed at developing such activities that will allow to obtain a long-term competitive advantage.

Enterprises implement their strategy on three levels

- enterprise (corporation) -concerns the choice of market products;
- production and commercial entity –concerns the way of competing;
- function implemented in an enterprise- concerns a strategy of a subsystem of a particular organization (logistic, marketing, production, supply strategy, acquisition of human resources).

The basis for choosing the strategic position of an enterprise / sector is:

• product variety;

• meeting all or only selected customer needs;

• segmentation of clients into groups.

The strategy based on a variety of provided products or services concerns the production of such a unique product which competitors are not able to produce more advantageously, e.g. the sale of fuel at Orlen petrol stations combined with the sale of cheap meals and coffee at preferential prices.

The strategy of choosing a position to serve most or all needs of a specific group of customers is to provide products and selected sets of

activities which they expect from the company. This specified group of consumers expects to receive a product or service with special features and price, with detailed information about options and ways of purchasing the product. An example of this type of strategy is online sale.

The strategy of selecting customer segmentation into groups is based on a different configuration of a set of activities that an economic entity must perform to acquire the appropriate customer segment. These are activities that combine marketing, logistics and after-sales services, for example the sale of insurance and telephone services, goods (pillows and quilts with special properties) for a narrow group of recipients from small towns or villages.

The strategic positions as well as effective operational activities are permanently ensured for a company. Market competitors also try to copy the choice of a unique position that provides market advantage. Their activities focus on obtaining benefits resulting from the imitation of effective strategic positions by copying products or competitive technologies, while constantly maintaining their own strategies.

In order to maintain a high strategic and competitive position, a company should constantly make changes concerning resignation from something in exchange for something else. Better quality of rendered services is associated with higher costs. Faster provision of goods to a customer to a place indicated by them will always be associated with incurring higher costs. Also, there is always a possibility of reducing costs, e.g. low cost airlines, however, this happens at the expense of the provided services (less luggage, need to arrive at the airport earlier, no meals during a flight).

Logistic decisions contribute to ensuring the success of a company throughout the entire supply chain; they must be adapted to changing environmental conditions and flexible enough to integrate all participants of a given organization (e.g. clusters) as well as to ensure efficiency and optimality of this chain.

Logistic decisions which are taken as part of logistics management in a company are carried out on three levels

- movement of goods;
- management;
- supply chain management (logistics cooperation of enterprises).

Elements of a company's strategy are not products or markets but processes. Business success can thus be achieved by transforming key processes in a company into strategic skills that create value for

potential customers. Business entities create these skills by strategic investment in existing and new potentials, thus connecting all spheres and departments of an enterprise into one integrated, efficient economic organism. The development and success of an enterprise strategy increasingly depends on integrated logistics management that optimally uses its capabilities, coordinates and sets goals for the entire enterprise or corporation.

The main problem in choosing an enterprise logistics strategy is to define goals to be achieved by logistics. A large number of goals set for logistics, sometimes contradictory to one another, means that without its harmonization and coordination with the goals of the company logistics activities cannot be effective. The logistics function comes down to integration and resolving functional conflicts in enterprise's systems in terms of setting consistent purpose assumptions.

Goals set by company managements mean that logistics decisions are made in a tactical, operational and strategic context.

In tactical terms, logistics decisions relate to the scope and manner of using warehouses, tasks performed in them, allocation of resources as well as selection of means of transport.

In operational terms, logistics decisions will relate to basic technical and economic processes in the sphere of goods flows within specific structures, potentials and needs.

In strategic terms, it should be understood as elements of an information and decision-making process supported by processes of planning, organization, motivation and control, the purpose of which is to decide on key problems of organization's activities, its survival and development, with particular emphasis on environmental impacts and key factors of own production potential (Stabryła, 2000). Logistic strategic decisions include (Kauf, Tłuczak, 2016):

- selection and location of logistics infrastructure related to production and storage;
- types, technologies and equipment of warehouses;
- location decisions regarding distribution points;
- decisions on methods and ways of inventory management in the supply chain;
- selection and rules of cooperation with suppliers.

Strategic logistics decisions can be divided into two groups:

➢ The choice of "product – market", i.e. setting priorities for logistics services from the point of view of possibilities to achieve market success; Strategic logistics decisions permeate and complement

other functional strategies – procurement and – marketing;

- Relationships of choice "customer service standards – logistics costs", i.e. solving a "trade off" logistics problem – something for something. Raising service standards will always be associated with higher costs, the task of a logistics strategy will be to rationalize activities that ensure:

- maximizing customer satisfaction at the assumed cost level;
- minimizing costs for the assumed level of service.

Strategic logistics decisions will be taken in close cooperation with functional strategies in finance, marketing and production. Considering the adopted division into groups, the key set of logistics decisions may be the following elements (Ciesielski, 1998):

- defining customer service standards;
- determining the number and location of production and storage places as well as making decisions as to their equipment;
- determining the scope of own logistics services in relations with suppliers and recipients and determining an extent to which transport and storage companies, etc., will be included in this service;
- developing general inventory management principles;
- assumptions regarding IT system.

Having a clear goal or a set of goals to be achieved, a company formulates strategies with which it intends to implement these task priorities. Shaping the right relationship between goals and strategies in a company is the basic condition for achieving market success. When defining a logistics strategy in an enterprise, it is necessary to make a strategic analysis that allows for a correct definition of logistics and essential goals of this enterprise, even when logistics deals only with a functional strategy that complements a company's global strategy. However, for the proper functioning of an enterprise, it is necessary to constantly include planning and analytical procedures related to logistics issues in an enterprise, and also taking specific actions in this field in an event of various changes taking place in an enterprise including (Ciesielski, Długosz, 2010):

- permanent change in a marketing strategy;
- changing the size of company's operations;
- introduction of new products;
- changes in company's market shares.

Strategic decisions implemented as part of logistics management will also address such problems as: production volume planning, supply / purchase method, location links in the chain, system and inventory

allocation, processes related to material and information flows in the supply chain, optimization of operations, location decisions, modernizing the chain structure and organizational structures as well as other logistic problems depending on the nature of an enterprise, its cooperation with business partners and scope of activities.

Logistics processes in an enterprise / sector / business cluster, regardless of its strategy's focus on the market or product, will have an impact on the company's profitability. Logistics is important in relation to a competitive strategy and there are three key elements thanks to which an enterprise can be successful: the way of providing a product or service, price and quality (Rushton, Oxley, Croucher, 2000).

**Logistics strategies of enterprises**

Logistics management is increasingly shaping and setting business strategies. Logistics is treated as a system and concept of strategic management, a certain philosophy which finds its place in the sphere of enterprise operations.

Logistics strategy should be a concept of integrated activities in the area of supply, storage, transport and distribution as well as of all subsystems present in an organization, taking into account logistic goals and principles, company goals, customer expectations and economic trends. Strategic logistics management should integrate an operational, tactical and strategic sphere of an enterprise (there are various concepts of strategic operations in subsystems).

Logistics strategies relate to product, processes and market. They constitute areas of influence and decision making in an enterprise and supply chain.

Strategic management of logistic potentials in the area of a product aims to provide the best possible customer service, using synergy effect resulting from the integration and coordination of activities carried out by individual elements of a logistics system. Cheaper acquisition of necessary primary products and materials as well as their efficient transportation, processing and distribution provides values expected by customers in the form of goods or services.

Strategic management of logistics potential in processes ensures achievement of competitive advantage through maximum efficiency of individual logistics processes covering all its spheres. Strategic management of potentials in the area of markets concerns all processes and logistics activities focused on customer satisfaction and needs.

The supply chain management strategy is a concept that integrates functional spheres of an enterprise, facilitates and improves the flow of goods and services throughout the entire value creation chain. The uniqueness of this strategy lies in the fact that, in addition to including enterprise's own cell to flow management, suppliers and customers are also involved in this process. This is done through strategic alliances, various forms of partnership and cooperation. The supply chain management strategy leads to improved market service, reduced logistics costs, flexible response to environmental stimuli and better use of resources. Participants can share benefits and an integrated enterprise, sector or market gains a business advantage over competitors. Supply chain management assumes that the benefits previously attributed to vertical integration in logistics can be obtained by coordinating operations of independent companies. The problem of vertical integration is somehow set aside – it becomes a tactical issue. The fundamental issue – of a strategic dimension – is the establishment of cooperative links that benefit both parties (Ciesielski, 1998). The logistics strategy at a functional level should take into account a company's competitive strategy. The main types of competitive strategies are:

**The strategy of leading cost position** requires consistent reduction of unit costs and their strict control. Logistics process management must ensure the rationalization of those processes which will lead to reduction in unit costs while increasing the scale of production or services, which also ensures the possibility of offering lower prices compared to market competitors. The flow of tangible goods, maintenance of inventories, involvement of substantial capital and the very functioning of an enterprise's infrastructure are the causes of logistics costs and company's costs. These costs constitute an important element of logistics and affect overall economic efficiency of economic processes. Integrated logistics management perfectly influences cost leadership strategies ensuring success not only in a functional area of logistics but also an entire enterprise, playing a key role in achieving competitive advantage.

Using a low cost strategy, it is not always necessary to strive for the lowest global logistics costs. If the effects of the scale of production or services are large, then it is worth bearing relatively high logistics costs if this guarantees an increase in sales volume.

**The strategy of diversification** means making sure that a product obtains a special position in the eyes of a client and is treated

as unique not only in the enterprise but in entire sector. Diversification can be achieved by creating the right brand image by appropriate quality of a product or by providing the product with additional services. This type of diversified service includes especially the level of delivery service. Diversification protects against competition and associates customers with a product or service. Because customers are ready to pay a higher price for e.g. image or quality, profits with this type of strategy are gained through a higher price. In the sphere of logistics management, the diversification strategy concerns the establishment of special relationships with a client.

**The strategy of focus** on strong points requires focusing on a specific group of recipients, regional market or a narrow group of products. It is often referred to as a specialization strategy and is based on the assumption that an enterprise can more effectively achieve a strictly limited strategic goal than competitors who compete in many areas of the sector. Competitive advantage is achieved by diversification through adapting to specific requirements of a given market segment or by the advantage of reducing costs in this segment. Cost benefits are based not on the experience effect combined with a large volume of sales, but on the fact that some costs do not occur at all. Elimination or significant limitation of many logistic processes of cost creation, lack of costs related to, e.g. storage of primary products for production or warehouses for distribution of manufactured goods, application of the "just in time" principle eliminates many types of transport and forwarding costs. Focusing on market gaps can result in simpler logistics systems if logistic dependency networks are not needed to supply large markets. New challenges facing logistics which is to integrate all company cells and create conditions for achieving competitive advantage require new logistics strategies.

**In the rationalization strategy**, different customers require different product features and different forms of sales. Significant customers can be supplied directly, less significant by regional distribution centers and recipients of small quantities through an outside wholesale and retail network. In this way it is possible to eliminate many cost areas that arise in logistics processes. Reducing logistics costs allows reducing prices of products and thus increasing the scale of production and profitability of business operations. However, the principle "we sell everything to everyone" should not be applied. It is vital to constantly analyze lines of products, customers and costs and to examine the costs and profits that are created by each product and each customer. The 80/20 rule is helpful

here and it states that for many events, roughly 80% of the effects come from 20% of the causes, while the other 80% of events bring only 20% effects. It may happen that 20% of clients cause 80% of distribution costs or it may be the case that 20% of clients bring 80% of profits [Ciesielski, 1998, p. 38]. Managers responsible for logistics strategy, guided by long-term planning already at the stage of defining the specifics of a company and choosing a competitive strategy, should make a selection of what areas of business are the most important for the company as well as determine which products and markets lead to the best financial results. Not all customer groups require the highest level of service, for some a more important criterion of satisfaction is obtaining a product or service that will have a lower price.

**In the strategy of shortening cycles,** an important element is time overtaking, shortening or even elimination of certain logistic processes in the scope of:

- order taking and implementation cycle;
- reception of primary product delivery of a finished product cycle;
- new product launch cycle.

As a result, a high efficiency and effectiveness of a logistics system is obtained. Inventory of supply and distribution processes decreases to a level determined by customer demand. The concept of shortening cycles results from a growing role of solutions in which the way of competing adopted in an enterprise requires from logistic management to maintain a constant, wide product offer with high availability for customers, while eliminating all forms of inventory. Setting market service standards is an essential element of any logistics strategy, as not all customers need to be offered the same terms. Inventory management methods will be different if, for example, a company's mission is "we are the cheapest supplier", and different in case of "we will fulfill every order at fast pace".

**The consolidation strategy** combines logistics processes and possessed potentials in order to rationalize logistics costs and achieve economies of scale. Economies of scale occur throughout an entire supply chain in the areas of supply, production and distribution. Consolidating transport loads, creating central warehouses for primary products and finished products reduces unit costs. Consolidation is conducive to lowering cost-effectiveness of individual links in logistics processes: transport-related costs, warehouse-related costs, inventory rotation costs and administrative costs.

**The strategy of a diversified distribution and a mixed strategy**

emphasize the relationship between the level of service and costs of logistics management. Logistic strategic decisions will be limited to looking for the most beneficial choices in relations between 'customer service standards and company's logistics costs. In studies related to a logistic level of market service, recognition of customer responses to deterioration or improvement of its basic quality characteristics is of particular importance. It is about determining whether and how many sales will increase or decrease as a result of reducing or increasing availability of goods or services, extending or reducing a delivery time, providing or reducing post-warranty services. In the strategy used by a company, recipients / clients are grouped due to their acceptability of different levels of service, and then appropriate logistic process models are adapted to them.

**In the specialization strategy,** a company's offer focuses on goods and markets in which the possessed resources and possibilities enable the implementation of particular logistics services.

A logistics strategy must be adapted to the environment and has a concept of action, the implementation of which is to ensure the achievement of fundamental long-term goals within a chosen domain of action. The key element in strategic management is competitive advantage and it concerns being a better and more attractive partner for potential suppliers and recipients within a chosen domain. In the strategy of specialization, logistics management is used for "offensive" or "defensive" activities on the market. To gain a competitive advantage over rivals, an enterprise can create specific, distinctive abilities. A strategy of distinctive capabilities can mean producing one type of product or service**.**

**The postponement strategy** adopts basic assumption of reducing or in some cases even eliminating logistics costs. This strategy seeks to delay changes in the form of products until the last possible stage in a process of production and distribution and delaying changes in inventory to a final point in time. The concept of delaying strategy is very similar to assumptions of the strategies of consolidation and limiting cycles. This strategy uses economies of scale: supply, production and distribution of goods, assuming that low unit costs are incurred in all areas of their creation. The just-in-time system is used here, for example, a cooker manufacturer can move the painting process to a distribution center to reduce stocks of finished products (adjusting colors to market needs). Grouping transport consignments is also an example of the postponement strategy; in order to reduce transport costs

multi-load vehicles are used. Finished products reach recipients only when the transport space is fully utilized. The postponement strategy will usually apply to customers for who time and quality of delivery is not a priority and a product price is a more important criterion. Thus, economies
of production scale and consolidation benefits in transport and storage are obtained. Logistics strategies of enterprises can also be considered in terms of functional areas: supply strategy, production strategy and distribution strategy. These strategies are connected in an enterprise and complement each other creating optimal conditions for the implementation of enterprise management strategies.

**The supply strategy** plays an important role in an enterprise and has an impact on the implementation of other functional strategies: marketing, production and financial. It is the basis of company's logistics strategy. It uses in its operation competition between suppliers in order to obtain products or services at the lowest possible price as well as synchronizes supplies in such a way as to maintain the lowest possible stocks and the most rational use of warehouses and transport. Characteristic features of the supply strategy include (Wesołowski, 1995):

• solving material flow problems in an aspect of reducing operating costs and accelerating working capital rotation;

• focus on supply management in so-called strategic products and differentiation of procedures when purchasing strategic and other goods;

• emphasizing activities directed towards the inside of an enterprise and aimed at including managers performing other functions in the processes of rationalization and optimization of materials management;

• tight integration of supply management with the management of an entire company and individual functions;

• aiming at flexibility of the delivery system.

The supply strategy usually uses two approaches, confrontational or cooperative which depend on the adopted key strategy of a company. In the confrontational supply strategy, a supplier is only a contractor of orders, while in the cooperative strategy; a supplier is involved in supply management and is one of the links in this chain. The purchasing strategy depends on the competitive position of suppliers and their bargaining power. The supply strategy is primarily influenced by factors such as type of business, number of suppliers and their bargaining power, availability of resources, and adopted strategy of a company. Suppliers with a high share in a growing market will apply relatively

high prices. Suppliers with a high share in a stable market will offer competitive prices and discounts for larger orders and long-term cooperation. Suppliers with a small share in a growing market will offer relatively low prices Suppliers with a small share in a stabilized market use a variety of pricing policies, sometimes they will offer very low prices but cooperation with them is very risky.

In the procurement strategy, optimal planning of delivery processes with production needs and the use of logistics potential, mainly warehouses and means of transport, is of great importance. Inventories are an important element of cost creation and also have an impact on the low cost and diversification strategy. To ensure a low-cost strategy, it is vital to aim at planning and keeping stocks as low as possible in all areas of their creation, and even plan a supply strategy in such a way as to eliminate them in a storage chain using, for example, the "just in time" system. The supply strategy will be implemented in a different way with an assumption that an enterprise is a reliable producer and can deliver any product to any place. Then the loss of potential customers, caused by failing to implement the company's fundamental idea, means that the supply strategy must adopt different concepts of action. Stocks are a guarantee of uninterrupted production and reliable deliveries to customers. Then, the concept of supply management assumes certain levels of inventory which must absolutely be present in relevant spheres of activity. Instead, optimizing flows is sought.

**Summary**

Strategies adopted by a company are to ensure market success as part of competition with existing competition forces. These activities will mean adopting such a strategic market position that will ensure higher profitability of conducted operations. Enterprises can achieve them by obtaining higher prices or incurring lower costs in relation to potential market rivals. Effective operational activities are very important from the point of view of logistics management and necessary to obtain the best management results, however, they do not ensure a long-term competitive advantage. New technologies and resources management methods are copied by market competition and effective operational activities become less and less effective over time and bring less and less profits. The competition strategy is to stand out. It means choosing a different set of activities to provide a particular mix of values. Operating

processes must be absolutely effective but despite their efficiency and optimality, they do not ensure business success as there are limits to this efficiency. It is not possible to constantly improve the flow of goods and services as well as efficiency by lowering costs and ensuring greater consumer satisfaction. The operational efficiency gap of a company begins to deepen over time and company managers must look for new strategic positions if they want to stay on the market and achieve satisfactory profitability ratios. The competitive advantage obtained in this way is related, for example, to innovative sales solutions, methods of financing customer expenses, guarantees and new distribution channels. The essence of a business strategy understood in this way is to perform certain activities differently than market competitors do. Efficient and effective supply chain management helps minimize company costs and improves the level of customer service. However, obtaining long-term competitive advantage requires logistic strategic decisions which were presented in the article and which very often become basic strategies of a company.

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# BLUE OCEAN STRATEGY AND POSSIBILITIES OF ITS USING IN SECTOR OF NON-PROFIT ORGANIZATIONS

## INTRODUCTION

Business strategies are a matter of course in the business world and a significant factor of a company´s business success. Nevertheless, their use is still often misunderstood in non-profit organizations in Central and Eastern Europe.

There are concerns that using of marketing could be a bad name or image for a non-profit organization. Current marketing strategies, which are based on creating new competitive advantages request from those who are responsible for their creating and implementing into the practice, not only to change the view of the process of the strategy making, but also other views on the situation analysis, including considering, which traditional or non-classic marketing tools should be applied or how to prepare an organization for value innovations. A smart searching for different opportunities, which a non-profit organization creates, represents a process for which there are no verified managerial approaches or procedures. Thinking about how to create marketing strategies for each company that is interested in implementing the blue ocean strategy has its own specifics. The application dependents not only on whether and what competitive advantages to design, but also on the way of managing companies those choose this kind of strategy. The aim of the paper is to point out the possibilities of using the blue ocean strategy also in the area of non-profit organizations. The authors of this conception are of an opinion that each organization no matter in which industries it operates and which competitive advantages it creates may apply the strategy of blue ocean and design the strategy in the long term.

## NON-PROFIT ORGANIZATIONS

The third sector consists of non-profit organizations operating in the

space between the state and citizens. They are one of fundamental pillars of the society. From a macroeconomic point of view, participation in GDP, employment and overall economic growth can be pointed out too. Non-profit organizations provide services that are not profitable and thereby a business sector is not interested in their providing. A state is not able to cover the full range of these services; non-profit organizations are trying to do so. Except that, non-profit organizations influence social and political events by promoting of social changes, civil advocacy and community building. Non-profit organizations contribute to problem solving and compromise between different groups in society. They draw the attention of government officials, authorities and institutions to the interests of citizens. They aim to improve the efficiency of the functioning of public administration, integrate environmental and development concerns into decision-making, the effectiveness of law enforcement, improve communication and cooperation between the scientific community, public administration and the public.

In the practice, there is no uniform definition of a non-profit organization. According to Drucker, non-profit organization should be a bearer of a positive change. They are often referred as non-governmental, independent (a sector of organizations that is not dependent on the government), non-profit and unpaid so emphasizing the aspect that this sector, unlike commercial and profit-making organizations, does not aim to generate profits and distribute them among owners. This definition indicates that it is a sector operating alongside the state and the market highlighting a voluntary activity. Non-profit organizations can also be called the civic sector, as they highlight the link between non-profit organizations and civil society.

Non-profit organization can be defined according primary objectives: poverty alleviation, ennobling of religion, development of science and education, carrying the functions of the government sector and reducing its burdens, supporting health and social care. [3] Similarly, the World Bank defines the term non-profit organization. It perceives it as a private organization that carries out activities aimed at alleviating suffering, promoting the interests of low-income groups, protecting the environment, providing basic social services and promoting the development of community activities [1]. The internet defines a non-profit organization as a private organization that provides services to its members or others, eventually as an organization performing religious services. It is pointed out, among other things, that a non-profit

organization includes sports and arts organizations, but also trade and professional associations, trade unions and political parties. Turcotte (2009) defines a non-profit organization as an organization that is not established for business purposes. Such kind of organizations operates in the non-profit sector, in a public, or in a private sector. Leber (2018) presents another view of non-profit He argues that non-profit organizations do not mean that non-profit organizations do not take into account the economic context; non-profit organizations can generate an accounting profit, but profits can not be distributed among owners, members, employees etc. Profits within a non-profit organization are distributed into innovation, extending the range of services provided, etc [5].

In the case of non-profit organizations, the importance of profit is reflected at moral and ethical level. Donelly (2017) adds that he organizes the legal framework of the state. Private character and autonomy mean that non-profit organizations are separate from public administration. However, organizations in the European and American states are dependent on public finances. Volunteering refers to volunteers who carry out various activities without entitlement to financial or non-financial remuneration [1]. Kim (2015) state that the private sector, public institutions and the public are closely monitoring non-profit organizations in order to achieve a higher level of performance and transparency [12].

## BLUE OCEAN STRATEGY AND POSSIBILITIES OF ITS APPLYING IN NON-PROFIT ORGANIZATIONS

The issue of creating the blue ocean strategy has been known for longer time, however to name it, draft, and correctly use in the practice is not so easy. Each of these strategies (in the meaning of individual approaches within the blue ocean strategy) is unique and strives to be inimitable. It is practically impossible to create a model solution or model situation that is crucial for managerial decision-making. The strategy requires creativity and the ability to design create and implement new things, to offer the market new products and services.

So how can the concept of the blue ocean strategy be used and where it can be used? It is possible to say that this strategy must always be considered when it comes to promoting new ideas and concepts, offering new solutions, both for products and services. It is mainly used to identify and subsequently implement new technologies, wherever

businesses need to innovate, and continually and systematically to improve a product or product line. The strategy of the blue ocean can only be understood once the strategy of the red oceans, known as the strategy of combating competition, has been explained. The red ocean strategy is an uncompromising tough competition, which is symbolized by the red colour, the colour of blood. In this case, the price of blood and sweat is lowering prices, lowering costs, influencing demand, differentiating products, expanding product lines or addressing the selected segment. Competitors are rivals that need to be matched in the competitive struggle, to overtake them, to overcome them, while continuously strengthening own position [13].

It is a strategy of permanent monitoring of the environment, identification of threats and opportunities. It is demanding on analytical methods and techniques that need to be permanently evaluated. It is necessary to continually contemplate competition tactics and design strategic goals that will affect competition or create some type of barriers to entry of new competitors into a given segment or industry. Management knows these approaches very well. Indeed, there are methods and procedures to succeed in a fierce competition and to design an effective and efficient strategy against competitors. However, it can be concluded from practice that these strategies are often referred to as liquidation. Cartels and relationships that negatively affect the competitive environment but provide organizations with benefits in areas, in which they would not succeed in a fierce competition, are a chance to succeed. Acquisitions and mergers are also a solution, but usually require sufficient financial resources. The red ocean strategy is an ideal choice in fast-growing and attractive industries, where the demand side exceeds the supply side. However, each industry will eventually reach a stage of maturity in which the market becomes saturated and there is a competitive struggle to reduce prices and costs. At this stage the organization cease to concentrate on what is essential for their future. Successful world managers believe that choosing the red ocean strategy can distract top managers from things that are key to the organization and distract them from monitoring competition or even adapting to competition. [4]

The blue ocean strategy requires a process of strategic objectives and corporate philosophy. It requires moving attention from the competition to find and name a new own path, methodology or technology development organization. Being an organization with the unique product that has inimitable competitive advantages is the goal of the

blue ocean strategy. However, the choice of new strategic approaches requires that there are preconditions for its creation and possibilities for its implementation. In 2005, Kim and Mauborgne published their long-term observations and published the concept of the blue ocean. This concept has been applied many successful companies such as IBM, Microsoft, Motorola, Siemens, Nike and Nokia [11]. These businesses have abandoned the traditional competitive rivalry and based their success on creativity, research and new product development, very often based on discontinuous competitive advantages. These and other modern businesses have built their strategies on creating new competitive advantages and have begun to create key competitive advantages in areas that no one has ever identified or ventured. The differences between the Red and Blue Ocean strategies can be summarized as follows (Table 1.1).

The cornerstone of the blue ocean strategy is its value innovation in exploiting opportunities, which an organization seeks by itself or in cooperation with partners. [11] It is not easy to find new ways, discover new market opportunities, name opportunities and systematically develop them. This requires abandoning established methods and techniques and, as we have indicated, changing analytical procedures.

*Table 1.1*

**Comparison of Red Blue Strategy and Blue Ocean Strategy**

| Red Ocean Strategy | Blue Ocean Strategy |
|---|---|
| Compete within the existing market space | Build up own sovereign space |
| Beat the completion | Take the competition out of the game |
| Use existing demand | Create a new demand and take the chance it |
| Make the decision between the value and costs | Break the dilemma between value and costs |
| Bring the entire business system into line with the strategic choice of differentiation or low costs | Bring the whole system of business activities into line with the focus on differentiation and low costs |

*Source: authors based on KIM, W.C. - MAUBORGNE, R., 2005*

Indeed, the blue ocean strategy should, in the long run, affects not only competitors but, more generally, competitiveness factors in the

sector. It is a planning of a systematic, complex process, which, according to the authors mentioned, requires six steps [4]:

- reconstruction of market borders;
- focus on the overall picture;
- exceeding previous demand;
- correct sequence of strategic and marketing actions;
- overcoming key organizational barriers;
- implementation of the strategy.

Obviously, applying such kind of strategy is not so easy. The strategy requires a creative approach of capable managers in formulating and achieving objectives. An important prerequisite is effective and rapid research, which results are possible to apply into practice asap. Non-profit organizations may use these prerequisites to implement the blue ocean strategy. They have their own specifics in the area of marketing strategies that has to be taken into account. Usually, the marketing strategies are not fully used in non-profit organizations since competitors are not seen through competitive struggle. Non-profit organizations, as mentioned before, are not profit-oriented and thereby costs to create the blue ocean strategy in comparison to profit are high. The costs represent mainly management and human resources costs. Here, we must not forget volunteers who make up an important group of human resources in non-profit organizations. Despite the specifics of non-profit organizations, it is not necessary to forget the necessity of a strategy concept for these organizations. Clearly defined strategy supports effectively the use of public funds, which has a significant impact on increasing the credibility of non-profit organizations, image building. At the same time, it informs and improves the services provided. It also helps to identify the needs of the market and customers of the organizations. However, the blue ocean strategy will increase the requirements for managers who are able to implement new methods and approaches and, based on this, to ensure above-mentioned transparency and goodwill in the case of a non-profit organization. Finding people who have the courage, creativity and ability to design and implement innovative solutions, find and name new ways, and influence the environment is not so easy. Especially if we consider that a significant part of these people are also volunteers, whose performance is mainly related to their internal motivation. Non-profit organizations that choose this way do not wait for opportunities to emerge; they need to know future opportunities themselves. It requires developing and implementing a quality strategy and philosophy and readiness for

innovation. It requires developing and implementing a quality strategy and philosophy and readiness for innovation. Innovation management is an essential part of the blue ocean strategy. Leaders of non-profit organizations that want to create a strategy for the blue ocean are guided by the idea of value innovation.

The philosophy of not competing is acceptable to non-profit organizations, but it requires seeking new opportunities and not distracting through competition. It requires a good forecast of the future development of the industry, the competitive environment and a non-profit organization itself and this is not possible in the practice without a defined vision. Vision is the main motivator for setting the right strategy. A well-designed strategy of the blue ocean, its implementation is not easy. It is extremely resource-intensive, and more of a human resource rather than a capital one.

## CONCLUSION

The blue ocean strategy is considered modern marketing approach and most of organizations try to apply its principles in the practice. However, this requires organizations to leave traditional and already established strategies, change the starting points for strategy development and to devise a new vision and strategy. This is usually a radical change in a non-profit organization that is not easy, but it’s not impossible. Most of organizations have still preferred red ocean strategy, although they aware that competing with competitors is difficult.

In the presented article, we have tried to find an answer why the blue ocean strategy should be applied in the practice and if this conception is applicable in managing non-profit organizations. From the theoretical point of view, it is clear that the blue ocean strategy may be applicable by whomever and at any time. However, the prerequisites for creating new competitive advantages must be met and organizations must have sufficient financial resources for large projects, which the blue ocean strategy is undoubtedly. Taking a new path requires courage to introduce change factors and devise new strategies and visions. Non-profit organizations produce value-oriented products, services, ideas and new approaches that support increasing of quality of life. In their case, however, it cannot be assumed that customers, to whom these products or services are intended, will immediately be fully aware of their benefits. The perspective of public finance management is also

important. Based on the foregoing, from the point of view of management of a non-profit organization, sufficient attention must be paid not only to own activities, but also to the strategy planning and the formulation of a vision. New trends require a creative approach. In a non-profit organization, creativity participates mainly in a working environment, since interpersonal relationships are more relaxed and friendly than in the world and environment of "normal" business organizations. The nature and merits of the blue ocean strategy in non-profit organizations lie in applying philosophy and realizing strategy at all levels of management, in the process of providing services to customers, in creating image, increasing credibility and transparency, in strengthening sustainable development and attracting additional sources of funding.

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## THE CHALLENGES OF SHIFTING DETERMINANTS TO SUSTAINABLE CONSUMER

Continuous monitoring of the changes witnessed in the area of consumption in different countries or regions is ongoing via collection and scrutiny of the relevant data on the extent of consumption of products and behaviour of consumers. Sustainable development poses challenges to the development of the EU economy aiming to foster

sustainable, balanced, and smooth economic activities, protection of environment and improvement of its quality, and upturn in the living standards and life quality. Sustainable development-related topics are dealt with in relevant documents of the EU and governmental resolutions of individual countries. For the purpose, national sustainable development strategies have been elaborated with priorities therein targeted to the issues of climate change and clean energy production, sustainable transport, consumption and production, preservation and management of natural resources, public health, social inclusion and demographics, as well as the problems of migration and poverty. Constantly growing number of social economic subjects in the EU stimulates scientific researches in a variety of areas to cover the changes in public and private sector, pertaining to three key elements – environment protection, economy and social well-being. Sustainable Development Goals / SDG foreseen to be achieved until the year 2030 are directed towards human well-being to encompass living standards, safety, changes in goods and services, potential of their consumption and other changes of the society, concerning social connections, values and the like.

Material dimensions, i.e. income, property, etc., which encourage consumption and increase social inequality are highlighted to a larger extent in the scientific studies which analyse the impact of the growth of national economy on the society (Stiglitz, 2012; Sen 2013; Dabla – Noris et al. 2015; Rakauskiene and Volodzkiene, 2017). However, immaterial aspects are analysed with due consideration given to the changes and aiming at social justice and education of contemporary society members on the issues of optimal consumption and conservation of resources. Impact of immaterial resources on social development and on the society have been analysed by Fadur C. and Mironiuc M. (2013), Bartuševičienė I. (2014), Barbier E. B. (2016) and others. Thus, scientific discussions are evoked in order to determine the factors, which influence well-being of people and to highlight the determinants of consumption. Scrutiny of documents and scientific literature issued by the EU Parliament and international organization resulted in the identification of provisions and key principles of sustainable development, and the link with promotion of sustainable consumption.

## Consolidation of sustainable development principles on an international scale

According to A. Mikalauskienė (2014), it has historically occurred so, that primarily the development in the world has been directed towards production and economic development model selected by developing countries relied on the concept of economic efficiency. In dealing with the problems of poverty, hunger, social exclusion, etc. in the developing countries *economic* dimension of sustainable development has parallelly revealed the existence of *social dimension*. Moreover, further disclosure of the fact that dealing with economic growth and social problems leads to possibly irreversible degradation of the surrounding environment has revealed yet another, the third dimension of sustainable development, which is *environmental protection*. The majority of authors emphasize that three areas are covered by the concept of sustainable development, i.e. economic, social and environmental (Dasgupta, 2007; Stasiukynas, 2013; Mikalauskienė, 2014; Pivorienė, 2014; Jolink & Niesten, 2016; Petkevičiūtė, Balčiūnaitienė, 2018, and others). Economic area is defined as finances, facilities, production equipment, infrastructure, service sector and the like. It is emphasized by sustainable development that economic capital shall stand for the means to achieve higher goals. Rapid growth of economy is often understood as an indicator of progress but at the same time numerous problems are faced as a result of it (Pivorienė, 2014). Social area is understood as people, social cohesion, culture, values, health, education, etc. To the opinion of M. Phipps et al., (2013), social cohesion is a condition of well-being of the society, which helps overcome of economic and ecologic problems. Environmental rea is defined as ecosystems, natural resources, biodiversity and the like.

If sustainable development is analysed, environmental protection is emphasised for an assumption having prevailed for a long time that the humanity lives in the context of everlasting availability of resources. Natural environment has always been ignored by supposing that natural resources are limitless (Peeters, 2012; Stamm et al., 2017). However, the pending problems like climate change, reduction in biodiversity, forests, etc. illustrate reduction in the natural capital. Thus, one may agree with the scientists that immaterial resources become essential for social and economic growth. It is stated by Boj et al. (2014); Fadur and Mironiuc, (2013) that the concept of immaterial resources can be used as a synonym to the notions of intellectual capital or immaterial property.

Significant attention by different strategic documents (pls. ref. to

Table 1.2) is drawn to dealing with the issues of production vs sustainable, *green*, sparing and sustainable consumption in order sustainable development through green economy is developed, promoted and achieved.

The documents mentioned above prove the contribution of respective international organizations to consolidation of sustainable development on an international scale. Numerous regions all over the globe have unanimously aimed to solve the faced problems relying on the three key dimensions. It is worthwhile stating that the change of attitude has been witnessed not only towards the growth of economy, but also to the social environment and life quality. Social dimension includes well-being, education, knowledge, skills, social cohesion, culture, values, health, intelligence, etc. of the society. Environmental dimension includes natural resources, protection of biodiversity, pollutions assessment and abatement, and economic dimension covers all types of economic activities, their actors and means.

It is the aim of the EU states to value different activities based general provisions, thus, it is important to observe the key elements of social economy defines by the EU Parliament *(EP, Social Economy, 2016 p. 7)*: 1) *the primacy of the person*: the social economy is based on the primacy of the individual and of social objectives over capital; 2) *sustainable growth:* the overall aim of the social economy activities does not emphasise the pursuit of profit and its distribution to owners as an ultimate goal; 3) *social and economic balance:* in conducting their activities, social economy actors focus on social aims; 4) *democratic governance and ownership:* social economy entities function in accordance with democratic, transparent and participatory decision-making processes.

The social economy basis is made up of individuals deciding to collaborate on a voluntary, co-operative and reciprocal basis; ownership of the capital does not determine the decision-making process.

*Table 1.2*

**Principles of sustainable development concept in strategic documents**

| Documents | Key aspects |
|---|---|
| 1 | 2 |
| International discussion "Limits to Growth", Rome (1972) | An eco-development approach was developed which had a great effect on the conservation and preservation of natural resources. |
| World Conservation Strategy (1980) | It was declared that rational consumption of natural resources is an integral part of economic development and environmental protection. |
| Report of the United Nations World Commission on Environment and Development "Our common future" known as the Brundtland report (1987) | A new term of economic growth was defined – this is a fast, socially and environmentally sustainable (responsible) economic growth. The vision of further development as a sustainable development which allows satisfying current public needs without reducing opportunities for future generations to satisfy their own needs and covering economic, social and environmental dimensions was formulated. |
| UN Conference on Environment and Development, Rio de Janeiro (1992) | Sustainable development has been legalized as the key long-term ideology of the society development targeted to meet the humanity's needs at present and in the future via rational consumption and supplement, and preservation of natural resources for future generations encompassing ecological, economic, social and cultural aspects. Action program on the accomplishment of sustainable development – Agenda 21 has been adopted and declaration has been passed to contain the key principles of sustainable development. |
| Amsterdam Treaty (1997) | Sustainable and balanced development of economic activities, improvement of environmental protection and its quality, improvement of living standards and its quality, economic and social cohesion, and solidarity of EU member states. |
| UN world summit on sustainable development in Johannesburg (2002) | Poverty eradication; change of non-balanced consumption and production models; conservation and management of natural resources; development of sustainability in the |

*Table 1.2 (continued)*

| 1 | 2 |
|---|---|
| | globalised world; development of sustainability and health; development of sustainability and implementation measures. |
| UN World Assembly on Sustainable Development (2005) | Decade of education on Sustainable development has been announced (2005 – 2014) and Guidelines on Sustainable development education (2015 – 2020). |
| UN "Green economy" strategy (2008) | Economy is treated as the green economy capable of ensuring human welfare and social equality by mitigating environmental threats. |
| Declaration on Green Growth by the Organization for Economic Cooperation and Development (OECD) (2009) | The declaration consolidated the preparation of the "green growth strategy" covering economic, environmental, social, technological and development aspects. |
| EU growth strategy 2020 (2010) | Special attention is devoted to sustainable development by using natural resources in the most effective way and addressing the climate change. |
| OECD Green growth strategy (2011) | Measures how to ensure economic growth and development by reducing the pace of climate change, environmental degradation and ineffective use of natural resources. |
| Rio + 20, UN world conference on Sustainable Development in Rio de Janeiro (2012) | Improvement of life quality and ecology, reducing children mortality; improvement of social inequality; assurance of global primary education; sustainable development of environmental protection and ecology; green economy in the globalized world; strengthening of the institutional basis of sustainable development; implementation measures for sustainable development. |

*Source: compiled by the authors*

## Sustainable development strategies

It is reasoned by the scientists that strategy formation shall be integrated into all economic activities, viz. production, trade and services in order environmental problems are resolved on a global scale. All political, legal and social and economic instruments shall be relied on for this purpose. No matter sustainable development is a complex issue, its conception is simple indeed – economy needs to grow in a way enabling us to further distribute the achieved results in a fair manner to all mankind and people should not consume more resources than available on the Earth (Lorek and Spangenberg, 2014; Pivorienė, 2014). It means that we must modernize our economy to implement sustainable models of consumption and production, and to restore the balance in the food system and to sustainably move, produce and consume energy, and design buildings useful for our health and well-being (Lorek and Spangenberg, 2014; Pivorienė, 2014). To achieve this, we must include all the science, financing, taxation and governance into implementation of sustainable development goals.

Pivorienė (2014) seconds sustainable development strategies distinguished by Vandermosten (2009): efficiency, sufficiency and redistribution. So far, economic progress is based on the increasing productivity of labour, i.e. more production with less labour by thinking that natural resources are never ending. According to the strategy of efficiency attention from labour productivity should shift to productive consumption of natural resources, i.e. the aim to produce more with the least possible resources and energy. The strategy of efficiency should be followed by the strategy of sufficiency, which is directed to well-being more than to material growth. Consumption needs to be changed in order well-being is achieved and in the majority of cases consumption has to be reduced. This strategy aims to ensure the same level of well-being with the lower level of consumption. The third strategy, i.e. strategy of redistribution emphasizes a socially right society where the capital is redistributed in a way securing well-being for all members of the society.

Different models are presented by scientists in order to make influence and change behaviour of the society towards sustainable development. One of these is called 4E model (*enable, encourage, engage, exemplify*) (Pivorienė, 2014; Lambrechtsa et al., 2018). Four activity strategies are distinguished: 1) *to enable*; enabling relates to the accessibility to possibilities for sustainable consumption where attempts

are made to create the conditions for easier choice of individuals and here sustainable solutions become a norm, and the proposed products and services should be of good quality and their price should not be higher than that of previous selections. E.g. at the moment fair trade products are of high quality but more expensive; 2) *to encourage;* encouragement stimulates sustainable behaviour choices by application of proper marketing aiming to encourage communities to change the habitual behaviour of consumption, e.g., professional campaign on waste sorting could prompt a responsible behaviour; 3) *to engage*; engagement most often starts with dynamic activities of smaller groups of the communities, e.g. green movement primarily starts in steering groups, which in the long run include larger segments of the society into their activities; 4) *to exemplify;* examples of good practice and dissemination of these have a great influence on the behaviour of community members, e.g., organizations involved in fair trade or green businesses may become an example to other organizations.

All strategies of sustainable development are directed towards the change. Educational programmes may turn to be among the most significant measures to assist nurturing of an individual's abilities and skills to consciously change one's attitudes and behaviour, i.e. to consume responsibly, to spare natural resources, etc. Programmes help to bring people together and develop networks, which further lead to structural changes (Peeters, 2012).

Pivorienė (2014) indicates that in practice educational programmes directed to creation of sustainable products and services are spreading to achieve social and economic goals. Community gardens, waste sorting in the community, social eco-farms and ecological agriculture are just several examples, which illustrate the development of social, economic and ecological capital. One may state that all this contributes to the strengthening of social links between the population and local producers, however, in the countries with limited resources integration between different economic subjects of the national economy and region is a must.

## Sustainable consumption

Global economic crisis has strengthened the attitude towards conscious consumption. Economic motivation rather than social motivation means that the majority of people have started tackling the issues of consumption in a rational manner and searching for

alternatives when it comes to buying new things. The so-called *collaborative consumption* is a new and rapidly developing attitude towards sustainable consumption. For the reason any research of new social phenomena shall apply single/uniform dimensions of consumption assessment. It goes without saying that excessive consumption and consumer society as well as its demands stimulate the growing scope of production and pose economic, social, ecologic, environmental protection and climate change problems. For the reason sustainable development can manifest itself only if sustainable consumption issues are dealt with (sustainable, *green* and sparing consumption forms the basis for origination of green economy, minimization of poverty and social exclusion and improvement of life quality) as changes in the consumption have been the ones to stimulate the emergence of sustainable development principles (Adams, 2006; Čiegis and Zeleniūtė, 2008; Morse, 2008; Jurgelėnas, 2014 and others). One may state that sustainable, *green* and sparing consumption is a precondition of sustainable development and an inseparable part of green economy expansion process.

Most often in scientific sources (pls. ref. to Table 1.3) sustainable consumption relates to *green*, sparing, sustainable and ethical consumption. In this paper a single generalised notion of sustainable consumption is used.

Striving for a more sustainable consumption manifests itself in the reduction of consumption impact on environment, i.e. via reduction of consumption of resources and pollution (Park and Ha, 2012; McGregor, 2013). It is evident that sustainable consumption is related with the positions of producer and consumer. From the stand point of consumer sustainable consumption is a process ongoing throughout the entire life, which meets the basic needs and concerns lower degree of consumption, considering environmental protection, social and moral aspects, which in their turn contribute to the creation of more benefit and less harm to the environment and this way complementing quality, safe and right development of the country, avoiding threat to future generations (McGregor, 2013).

From the stand point of producer sustainable consumption encompasses the process of production by producing and placing on the market the goods and services that meet expectations of their consumers (McGregor, 2013). Moreover, sustainable consumption is related with additional investments into environment friendly technologies and minding fair trade regulations, as well as numerous other aspects.

*Table 1.3*

**Change of notion of sustainable consumption**

| Source | Aspects of sustainable consumption definition |
|---|---|
| UN Conference on Environment and Development, Rio de Janeiro (1992) | The majority of votes opt for cardinal changes in the existing habits of consumption for the purposes of resolving the pending global environmental and development/expansion problems. |
| European Environment Agency under the Norwegian environment ministry (1994) | Holistic approach of the society towards minimisation of adverse impact of production and consumption systems on environment. Sparing consumption and production increase efficiency and effectiveness of products, services and investments to meet the public needs without posing threat to the abilities of future generations to meet the needs of theirs. |
| World Business Council for Sustainable Development (2008) | Consumption of services and products according to the basic needs to enhance life quality via minimization of the use of natural resources, toxic substances, waste and pollutants in a way preventing danger for future generations. |
| United Nations Environment Programme (UNEP) (2010) | Sustainable consumption stands for consumption of the services and products, which are related with the basic needs and enhancement of life quality with the least possible use of natural resources and toxic substances, subsequent minimization of quantities of waste and pollutants throughout the entire lifecycle without danger posed to future generations. |
| Asberg et al. (2011) | Sustainable consumption is environment friendly consumption and environmental impact reduction by home economy striving to consume goods and services with due consideration given to the basic needs on the basis of the principle of sufficiency. |
| Di Giulio et al. (2014) | Sustainable consumption covers not only choice of a specific product, but impact on the environment by a common behaviour of consumers. |
| Nair and Little (2016) | Green consumption means the avoidance of products, which may pose danger to health and are associated with danger to environment through production, consumption and disposal processes, which consume disproportionally vast amount of energy, produce unnecessary waste and pose difficulties in its recycling, and which use materials derived from endangered species. |

*Source: formulated by the authors*

Analysis of scientific works of different authors results in a statement that sustainable consumption is inseparable from production. Consumer is a linking element of sustainable development itself (Ciegis et al., 2009). To the opinion of Jurgelėnas (2014), production scope increases because of attempts to meet the consumer's demand. It further leads to excessive use of natural resources and other negative phenomena of consumption. Thus, relying on the cycle of sustainable consumption and production would be rational indeed as it includes sustainable management of resources; sustainability design D4S; cleaner production and efficient consumption/use of resources; sustainable transport; ecological marking and certification; sustainable buying, sustainable marketing; sustainable lifestyle; and waste management. It is maintained by the author that sustainable consumption shall include thee essential components like sustainable consumption, sustainable production and recycling, which are interconnected by a continuous informing of consumers and producers on the aspects of sustainable development, legal regulation and raising of awareness.

Consumers have to think about ecological values of consumption and discover potential of nurturing ecology. Thus, the society needs to be informed on the topic of sustainable consumption in order to learn more about it and to grasp what such consumption is aimed at. As a matter of fact, excessive consumption emerges where the consumers are unaware about natural resources used in the production of an item and have no idea about the harm of the consumed goods on the environment. For the reason segregation between the products consumed and the nature is formed in this process and an image is consumed rather than a certain item.

It is stated by a number of authors that contemporary consumers determine legislation, procedures and measures to be applied seeking for a more harmonious way of life as they hold social powers to influence producers and to promote sustainable consumption (Stromsnes, 2004; McDonald et al., 2012). A conscious and responsible consumer is the one who makes orders to *fair trade* (fair trade means that no third world country people and children are exploited) and ecological goods, and he has powers to make influence on certain production methods, thus circulation of goods inside the market (Jusčius and Šneiderienė, 2013; Jurgelėnas, 2014). By declining to buy and consume certain goods, consumers become an active community of consumers which may be understood as a democratic power on a local and global level. Consumers understand that organizations will be forced to change the

manner of their activities as a result of dropped sale indicators due to boycott or non-purchase of goods.

It is understood that a conscious consumer is an active player who has enough knowledge, information and confidence and lives in a concentrated community and with his energetic and rational actions he can influence sustainable development. Rational actions are understood as the ability of consumers to screen the necessary information, group together in the social networks and to purposefully change their behaviour in terms of sustainable consumption. Social networks and purposeful community as well as social capital are of significance in this respect (Jurgelėnas, 2014). Thus, it is stated by a certain share of scientific studies that the social and civic energy of consumers may turn into the basis of both, sustainable consumption and sustainable production (Jurgelėnas, 2014).

According to Žitkienė (2015), significance of generally recognized policy of sustainability increases on an international scale as a result of environmental changes, growing number of population in the world and reduction of natural resources and the attempts are directed towards integration, which covers the challenges of food security and new attitude to the plans and programmes of agricultural production and political actions by highlighting transition to sustainable food consumption models.

G. Seyfang (2007) has developed a possible model of transition to sustainable economy and also to sustainable consumption where the biggest role is given to consumers and the community (Jurgelėnas, 2014). It is maintained by the author that transition from today's economic system may solve not just economic, social or ecological problems of sustainable development, but which is the most important, it may influence individuals and communities, i.e. the consumers to prevent the previous problems from recurring. Stimulation of socially responsible behaviour of the entire society may lead to positive results of sustainable development. Five stages are distinguished by Seyfang (2007): 1) *localization*, when one starts thinking and acting in a way that in principle where possible, the products and goods are produced as close to the consumer as possible; 2) *stage of a sparing consumption*, which is related to justice. At this stage the issues of methods of goods and services distribution have to be worked out. Observance of ecological criteria is the most important and attempts shall be made to review the principles of production organization in the countries, where ecological problems due to production are the most urgent; 3)

*communities strengthening stage*. Communities increase the social capital and help to solve problems pertaining to social responsibilities; 4) *nurturing education*. The more knowledge, information or skills are held, the easier consolidation of principles of sustainable development, sustainable economy and sustainable consumption is possible; 5) *alternative systems*, i.e. result of implementation of the first four stages would be new social and economic institutions, which help to relate the social and economic aspects of well-being.

Sustainable consumption is process modelling where decisions are made to balance economic, social and environmental factors, which are beneficial for everybody if proper technologies are employed. According to S. Jurgelėnas (2014), process attitude helps to inform the society and to nurture sustainable consumption habits, as well as to foresee sustainable consumption objectives, i.e.: 1) *to create a sparing economy*, i.e. creation of a strong, stable and long-lasting economy, which would prosper and secure equal facilities for everybody, while environmental and social costs would be intended for those, who stimulate efficient consumption of resources; 2) *to safeguard a healthy and truthful society*, i.e. safeguarding of equal facilities, to prompt satisfaction of one's wishes and well-being; 3) *to live preserving natural resources*, i.e. considering limited natural resources and biodiversity of the planet, striving for improvement of environment and safeguarding that natural resources necessary for life are preserved for future generations.

It is observed that the notion of *sustainable consumption* has become a political slogan rather than a pure theoretical concept, which also complicates the implementation of it (Veenhoven, 2008). Role of a state in the quality of life of its society is more and more highlighted on the global scope thus all developed countries emphasize sustainable consumption of resources, protection of environment, combat with water and air pollution and minimisation and utilisation of wastes.

## Conclusions

Analyses of the pertinent scientific literature and strategic documents have confirmed that the topic of sustainable development and consumption covers a wide spectrum of analyses. It has been identified that the elements of environmental protection, economy and social well-being are among the most prominent elements. Nevertheless, it has been ascertained by the scientists that immaterial resources start to take an

increasing weight in solving economic, environmental and social problems of any country irrespective of the level of development of that country, as immaterial resources are the ones to be directed towards the increase of life standards of people and well-being of the entire society. Thus, the consolidation of sustainable development principles relies on three basic dimensions with the aim of both, responsible and sparing consumption of natural resources on a narrower scale and aiming at harmony via educational activities, strengthening of institutional participation and implementation of the established measures on an international and global scale.

Strategies and models of sustainable development are of value not only for the achievement of positive results and material well-being in production – they also change the behaviour of the society in regard to decision making when goods and services are selected. Consumers are stimulated to meet their demand by environment friendly means and changed attitude to values and life quality. Changes in the definition of sustainable consumption and impact of individuals and communities on companies are observed by the researchers. As the attitude to sustainable consumption includes all members of the society who aim to meet their needs irrespective of their social and economic situation, future insights should be linked with new challenges to be faced on the market of goods and services.

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# Chapter 2

# JUSTIFICATION THE MECHANISMS ENSURING SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT

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## FIRMS INNOVATIVE INTENTIONS AND ITS SOCIAL ECONOMIC POTENTIAL

### Introduction

The social economics theory heavily relies on the concept of 'social innovation' which is significant in scientific research, business administration, public debate and ethical controversy. The business administration literature increasingly stresses how many technological innovations fail if they are not integrated into a broader perspective in which changes in social relations within, but also embedding, the firms play a key role (Moulaert, 2016). Besides, the forthcoming transition to Industry 4.0 threatens to invoke potential social problems through the social dimensions of new technologies and innovations. The scientific discussion of social innovation in the context of Industry 4.0 sheds light on the potential job losses, human substitution by technological innovations, end of privacy, and potential loss of human control (Morrar et al., 2017).

However, in order to foresee all forthcoming socio-economic consequences of further technological progress, the stream of social economics literature lacks deeper insights on firms' innovative incentives that have been studied by representatives of empirical industrial organisation and new trade theories. This article strives to fill up this gap providing a short but comprehensive review thereof.

### The evidence provided by the representatives of empirical industrial organisation theory

The representatives of the empirical industry organisation found and confirmed the wide heterogeneity of companies in terms of productivity, distinguishing highly productive exporting companies. The importance of productivity for companies' survival in a competitive struggle has been confirmed too. These facts are confirmed by both static and dynamic empirical studies, as follows: Syverson (2011); Das et al. (2007), Eslava et al. (2008), Foster et al. (2008), De Loecker (2011), Roberts et al. (2012), De Loecker et al. (2014).

An important group of empirical dynamic models consists of research on investment by companies in the innovation of goods or processes. First of all, there are Shaked et al. (1982, 1983), Gabszewicz et al. (1979) theoretical models, from which it follows that undertakings have to make additional investments in order to improve the quality of goods, and the number of undertakings remaining on the market is exhaustive; the first market entered companies are inclined to occupy high-quality commodity niches. Later, following models of the industrial organisation (Dutta et al. (1995), van Dijk (1996), Lambertini et al. (2007)) showed that, in the absence of the financing possibilities for quality innovation in goods, companies tend to supply low-quality goods initially. Bacchiega et al. (2011) notice that even though, as evidenced by various empirical observations, the innovation in goods and processes is often combined, the interaction between investment in the quality of goods and the reduction of marginal costs is still not investigated sufficiently enough. In his model, companies offering high and low-quality goods in an oligopolistic competition of vertically differentiated goods have to decide on the investment in R&D and innovation activities: process or commodity innovation. The theoretical modelling results showed that the low-quality companies in the Bertrand competition choose process innovations, and the companies selling high-quality goods continue to invest in improving the quality of the goods. In general, as Bacchiega et al. (2011) notice, in the industry organisation's literature, the approach based on the technological lifecycle prevails, i.e. companies prefer to innovate in goods, but not in processes, because, as is believed, the return on goods innovation is higher and faster. However, Adner et al. (2001) offered the example of Škoda that showed the opposite: it may also be the case when companies are seeking to reduce marginal costs before they invest in product innovation. Meanwhile, by employing the Schmitt's (2003) model of vertical differentiation, Bacchiega et al. (2011) demonstrated that, if companies are heterogenic in terms of their abilities, they will also differ

in their tendency to deploy process innovations: more efficient enterprises would always be tempted to continue process innovation regardless of how much they invest in improving product quality. By the way, Spielkamp et al. (2009) found that investing in R&D and innovation activities are linked to high uncertainty and risk: even 87% of European enterprise-tested innovation projects were financed by their funds, but not by credit institutions.

The results obtained by modelling through the gaming theory revealed that incentives (in the form of expected profits) to invest in R&D and innovation activities are higher when the competition is lower, but companies are more likely to invest in R&D and innovative activities to reduce their variable costs in the case of more severe competition. The model developed by Qiu (1997) examined both Cournot and Bertrand competition, in which companies can reduce their marginal costs by R&D and innovative activities, i.e. by increasing their productivity. It was concluded that greater profitability, specifically for the Cournot competition, should encourage companies to engage in R&D and innovative activities. Similar results were obtained by Symeonidis (2003), who created a model with Bertrand and Cournot competition equilibrium when companies invested in R&D and innovative activities. Meanwhile, Aghion et al. (2006) empirical studies demonstrated that companies and industries with the most advanced knowledge and technology are more likely to innovate and increase their efficiency, but only if there is competitive pressure. It can, therefore, be assumed that the most productive oligopolistic enterprises are keen to accumulate not only financial resources but also knowledge necessary for the pursuit of R&D and innovative activities. In addition to these findings, in their model, Filippini and Vergari (2012) found out that in Bertrand competition among oligopolistic companies the owners of innovations had no interest in disseminating of obtained knowledge, but favours the granting of exclusive rights to innovation based on licences, which promotes the differentiation of goods. However, in their model, Brander et al. (2015) showed that companies invest in horizontal differentiation of their products only if such investments are sufficiently efficient, i.e. product differentiation is not too costly. Also, the results suggested that Bertrand Company is always more tempted to differentiate its products than the Cournot one, while Bertrand Company is not more effective than the Cournot firms in differentiating their products – in the case of Bertrand's competition, the surplus of consumers is less than was previously thought.

Special attention should also be drawn to the Aghion et al. (2002) study, where he analysed the relationship between the intensity of competition and investment in R&D and innovation activities. Calibrated and specified according to the basis of related empirical studies the suggested theoretical model showed that there is an upside-down relationship between the intensity of competition and investment in R&D and innovation activities: as the intensity of competition increases, the incentives for innovation decrease. However, when higher levels of competition are reached, incentives to invest in productivity or differentiation of goods (e.g. in the improvement of product quality) increase again as a result of the rising expected return on investment, related either with greater differentiation of the goods or with the higher expected productivity of the innovating enterprise. The latter study demonstrated that the research of incentives for investing in R&D and innovation activities must be taken into account while the intensity of competition, the productivity level of companies and the differentiation of goods were studied.

The uneven distribution of firms' skills in terms of productivity and goods differentiation also leads to an uneven distribution of the ability of firms to carry out R&D and innovative activities and investment in it. This connection was affirmed by Redding's (2010) empirical research, which suggested that, in those industrial sectors in which R&D and innovative activities were carried out consistently, the division of enterprises by productivity and other characteristics of their heterogeneity in the industry is permanent.

According to Redding (2010), in the USA, one-third of all producers every five years enter and withdraw from the market. Moreover, they differ significantly in terms of productivity, size, the intensity of capital and knowledge usage, and other characteristics. Also, it should be noted that in the dynamic industry sectors, innovation in boosting productivity and competitive advantage (product differentiation, etc.) occurs permanently.

From all empirical dynamic industrial models in the field, in particular, should be distinguished the Doraszelski's et al. (2013) empirical dynamic model which investigated the impact of investments in R&D and innovation activities on the productivity of enterprises and their high heterogeneity under this indicator. In the model, the specification of the first-line controlled Markov process assumes that companies accumulate productivity shocks. Therefore, undertakings experiencing a flat-rate cost of R&D and innovation activities were not

necessarily characterised by the same level of productivity as it was assumed in the standard structural empirical models. Thus, it was observed that investments in R&D and innovation activities were linked to high uncertainty and that the link between them and productivity growth is not linear. Kancs et al. (2012) used this empirical phenomenon for their econometric strategy and found out that the productivity of companies might and depended on the intensity of investment in R&D and innovation activities. However, the growth of productivity becomes significant only from the specific threshold of the investment intensity. It was also observed that the high-technology manufacturing sectors were characterised by a higher intensity of investment in R&D and innovation activities and higher productivity growth.

In his empirical dynamic model, Amoroso (2014) found that the co-operation between undertakings and with scientific institutions in the R&D and innovative activities significantly reduces the costs and risks of such activities (investments in innovative activities compared to investments in R&D activities are 1.5 to 3 times lower). However, there is a significant likelihood that companies opt for co-operation only when they can reduce the cost of innovation development by at least a quarter, while in case the cost of the R&D this rate costs saving rate should reach at least 50%. This study also illustrated to what extent the costs of R&D and innovative activities were important for businesses. Therefore, it was not a coincidence the evidence Santos (2015) found in her empirical dynamic model that the higher company's market shares the greater investment in R&D and innovative activities, i.e. they were linked positively. These conclusions were supported by a more detailed study of Foster et al. (2016), also based on a dynamic model. They disclosed that the differences in the companies' markets shares did not reflect their heterogeneity in terms of productivity. The demand for company goods is characterised by inertia. The demand for goods is being developed year by year; therefore, businesses that lunch new goods in the market is slowly accumulating in demand.

Many of these and other empirical studies that were not mentioned in this literature review indicated that they were inspired by the theoretical model for the heterogeneity of enterprises (in terms of productivity) provided by Melitz (2003) where he revealed the significance of a new trading theory. It is still not uncommon that empirical industrial organisation research is often searching for evidence of this and subsequent analogous theoretical models.

**The evidence provided by the representatives of new trade theory**

The new trade theory has its contribution to the theory of firms' innovations and their incentives in this kind of activities.

This theory enjoys many same assumptions that it borrowed from industrial organisation theory in particular in terms of goods differentiation and firms' heterogeneity as the basis for theoretical models. Therefore, since an industrial organisation theory and a new trade theory have a lot of in common in terms of corporate behaviour, new insights or methodological solutions, made in the field of one of these theories, might contribute to another one.

Although, Melitz (2003), in essence, only improved the basic pattern of the new trade theory (1979, 1980, 1991, 1995) in such a way as to enable the heterogeneity of the undertakings to be assessed in terms of their productivity, it meant a huge advance in the new trade theory that up to then was based on the assumption of firms homogeneity (uniformity). These improvements generally made monopoly competition patterns more realistic and opened up new opportunities for economic analysis, which were lacking in the industrial organisation. The model proposed by Melitz (2003) attracted significant economists' interest: as mentioned, a wide range of theoretical and empirical works followed his ideas. For example, Helpman et al. (2003) showed that companies with higher productivity could carry out more expensive projects. Also, the authors published empirical research showing that exporters have higher productivity than companies operating in national markets only, while multinational enterprises had significantly higher productivity (on average more than 15%) compared to ordinary exporters. They also established empirically that the company's distribution by productivity could be described according to the Pareto distribution function. It means that the productivity ceteris paribus is a factor determining the market share of the undertakings. In other words, there are less productive firms on the market which, without being able to cover the costs of export and direct investment abroad, only focus on domestic demand. Furthermore, only a small proportion of companies whose productivity is sufficient to cover the fixed costs of the export or foreign direct investment activities can decide on export or foreign direct investments.

Many studies, such as, for example, provided by Bernard et al. (1999) and Clerides et al. (1998) found out that companies had already reached higher productivity before they entered the export market, while they innovated in anticipation of the start of exports to overseas markets

(Melitz, 2008).

Intuitively it can be assumed that, if the largest companies are the most productive, the prices of their goods should also be the lowest. However, many empirical studies show that the largest and most productive companies do not have a negative correlation between productivity and commodity prices. On the contrary, their prices are significantly higher than those of competitors. The reason for these hides beyond their investments in R&D and innovative activities performed to enhance the differentiation of their goods, especially in terms of the value of the goods expected by buyers. As Gervais (2013) noticed, these findings contradicted the formal model of Melitz (2003).

As Schott (2004) illustrated with an empirical example of exports to the United States, companies operated in high income, capital and knowledge-based countries exported to them at relatively higher prices. Following the data, Gervais (2013) made some insights: firstly, more productive companies were making more attractive products for consumers; secondly, if consumers were rational for differentiated goods, their exposed valuations reflected not only the efficiency of a production process but also the quality of products. Duvaleix-Tréguer et al. (2015), noticed that the quality of the enterprise products correlates with its investment intensity, with the costs of R&D, the innovation of the product and technological processes and the cost of acquiring the quality standard certificates. The obtained evidence showed that more efficient companies were selling more high-quality products, covering more markets.

As revealed by Baldwin's et al. (2009) empirical research, the high-quality and priced goods were the most competitive; their exports could cover the highest commercial costs associated with their large transportation distances. Therefore, more distant markets were reached by the export of on average higher-quality goods. In other words, if consumers were concerned about the quality of an item, then the product at which the highest price is claimed is the most competitive and the lowest prices observed were the least competitive (Baldwin et al., 2011). In additions, Mayer et al. (2011), found that greater productivity for companies also allows them to produce and sell more product types, but by intensifying competition between companies, they decline the production of the least profitable products (the companies produce only the most efficient products reflecting increasing competition). Therefore, increased productivity allows companies to invest more in the development of a product mix, which means that companies can also

invest more in the quality of goods with increasing productivity. In other words, more productive businesses can invest more in product differentiation.

A particular attention should be drawn to the Johnson (2012) Heterogenic Enterprise Model which showed that productivity could have a compensatory effect on prices: on the one hand, higher productivity lowers prices by reducing marginal production costs; on the other hand, higher productivity allows the company to improve the quality of products, which increases marginal costs and prices. The fact that high-productivity enterprises would set absolute higher or lower prices than lower productivity companies depended on the company's incentives to improve product quality.

Melitz et al. (2008) showed that larger countries had a wider range of goods, and also contained more and more productive companies with lower margins due to intensified competition, although businesses still earned higher profits (due to higher sales). The study revealed that competitive pressures were forcing companies to increase their productivity. These conclusions were confirmed by Baldwin et al. (2014) showing that companies do not need to be large; they need to be efficient in order to remain competitive.

**Conclusions**

The literature of empirical industrial organisation and new trade theories has been concentrating heavily on firms' innovative and R&D incentives in the last decades. Therefore, its review might give a hand to the further development of the theory of social economics.

A lot of covered studies confirm that the uneven distribution of firms' skills in terms of productivity and goods differentiation also leads to an uneven distribution of their ability to carry out R&D and innovative activities. The Pareto distribution function suits as an approximation for a firm's distribution in terms of their productivity and hence – firms' incentives for costly activities of new products or processes development. Only small percentage of firms can afford it.

However, these highly productive firms have great potential to carry out new value-adding products and processes development, while gathering market power and market share. In terms of competition, it potentially might result in tougher conditions for firms' activities and even leaving the market.

Therefore, social economics should take greater attention to all the threats and potentials that might bring further technological

advancement, especially in terms of the forthcoming fourth industrial revolution.

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# MODERN MANAGEMENT DECISION-MAKING APPROACHES

As society develops, it is evident that knowledge, innovation and variants of their practical application are increasingly the source of profit. In order to be competitive, it is necessary to take into account all possible types of knowledge (explicit, included and hidden). Such knowledge includes human psychology, knowledge of the hidden unconscious, understanding how to optimally apply your abilities, intuition, etc. First of all, it is necessary to have knowledge of the individual, the person!

And while many studies are based on knowledge in an explicit form, today the understanding of hidden knowledge – the knowledge we possess by virtue of being reasonable individuals – is becoming more relevant. It may not always be formulated or mastered in a few days by study. For example, the experience of a successful entrepreneur cannot be described in a textbook or learned within a few days. This hidden knowledge is within the subject of decision-making. When it is said that the unconscious has its own mind, which is superior to what we use at the conscious level, it means the ability of the unconscious to see those aspects of our personality that completely escape from our consciousness, and, therefore, to improve the accuracy of management decisions.

**Setting the problem in general**

Nowadays, it is impossible to imagine an enterprise functioning without management decisions. The competitiveness of the enterprise and the possibility of its further development depend on the effectiveness of these management decisions, so the process of development and adoption of management decisions is one of the priority areas of research in modern science and practice.

**Analysis of recent research and publications**

The problem of making and implementing management decisions was dealt with by many scientists. Among them are A. I. Berga, D. M. Gwishiani, X. Raifa and G. Raifa and many others.

The main principles of management decisions have been developed in the works of these authors and a number of requirements for their development and implementation are proposed. These methods have been tested by time and are of importance for new enterprises and organizations. But in a dynamic environment, provided the in-depth development of modern management, this is not enough. Developments are less and less frequently adaptable to the present day reality.

**The main purpose of writing the article** is to describe the methodological apparatus for determining of the main criteria for making and taking effective management decisions, enriching it with innovative approaches to understanding and managing all types of knowledge, including knowledge of the hidden unconscious.

**The relevance of the topic** is due to the fact that at the current stage of development of our society improving the efficiency of the organization's activities remains a key task. One of the main reserves for the growth of production efficiency is the improvement of the solution generation system.

The decision-making system includes the following elements:

1. Communications (mission, purposes, organizational functions, structure);
2. Decision-making entity (individual or collective decision-making, formal or informal level);
3. Conditions for taking management decisions (organizational, legal, moral, socio-cultural, etc.);
4. Management decision-making tools and methodology;
5. Information.

Let's analyze each element.

Communications. The high importance of management decisions and their broad representation in management activities make them, together

with communication processes, a link process in organizational systems (Карпов, 2006). The strengthening of linkages and mechanisms of interaction between information products market actors contributes to the formation of a community of trained users and promotes their informed and optimal management decisions.

2. Subject of decision-making. In this case, the degree of competence of the various actors, their possibilities of participation in the development and implementation of organizational decisions are taken into account.

3. Management decision-making conditions. Ideal for decision making is the certainty condition where the manager can make the right decision due to the fact that he precisely knows the consequences of choosing each of the available options. Also, the supervisor often faces conditions of uncertainty or risk. Uncertainty is a situation in which the person making the decision can neither accurately nor with a certain degree of probability assess the possible results of a decision. One should constantly improve his/her level of information sensitivity, which will allow avoiding many threats to one's business and minimizing business risks. There is another factor that affects the choice of options in conditions of uncertainty – the psychological orientation of the person who makes the decision. Some authors noted that the decision-making function "crystallizes" in specific formations – structures of individual qualities that influence individual-style differences of selection processes (Karpov, 2006).

4. Management decision tools and methodology. Having a high-level information product makes it easier for end users to make informed decisions.

5. Information. Further improvement of the information space and information technology will help to develop new information products of the next generation to meet the needs of end users (Kanneman, 2006).

Accordingly, management decisions differ from private decisions in terms of:

1) goals – the subject of management makes a decision not to satisfy his own interests, but to solve problems of the organization, current issues and achievement of tactical and strategic goals of the organization.

2) consequences – decisions taken in private life affect the lives of the individuals who took them, management decisions affect the activities of the whole organization and its employees; The higher the level of management decision-making, the more serious their

consequences.

3) division of labor – in private life the decision is carried out by those who made it, management decisions are carried out on the basis of division of labor: the head – executives.

4) professionalism – decisions of private order are made by people because of their experience and reason, management decisions require not only experience, but also special training, professional knowledge, giving the right to obtain powers for independent decision-making.

Thus, the management decision is a rather complex phenomenon, forming the basis of daily work of the manager (Bogomazov, 2009).

But the management decision-making process is essentially no different from the decision-making process in general.

There are two main approaches to decision-making:

1. A standard decision-making approach that is based on a rational knowledge model;

2. An intuitive approach that is based on an intuitive knowledge model, where intuition is at the heart.

The standard approach does not guarantee accuracy in the resolution of the situation, nor does the subject taking the decision have the professionalism and psychological knowledge to solve the problem.

The intuitive approach, little described until nowadays, has not been described as a method of making management decisions. However, research shows that successful entrepreneurs use this method. Many managers – managers and entrepreneurs – often say they made a decision based on intuition. First of all, because intuition gives the shortest way to find a solution, eliminates the need to collect all information, analyze all possible strategies in solving the problem. Besides, intuition always points to an unmistakable choice of intermediaries. Thus, an intuitive approach saves time and money and minimizes risks that cannot be identified by a standard approach.

The Nobel Prize laureate in the field of economy D. Kanneman analyzes aspects of decision-making in his works and marks out many advantages of intuitive approach in comparison with rational model of decision-making, such as, the high speed, complete “comprehension”, “ease”, implementation of intuitive “work” without efforts, etc.

The Italian scientist, academician Antonio Menegetti, in his works identifies the core of our unconscious as a source of operational intuition, which knows the most economical way of obtaining benefit and strategy of action, a concrete solution that will lead to a winning result (Manegetti, 2012).

Thus, in our rich-in-information time, the basis for making management decisions is an intuitive approach, which not only saves time and money, but also sees the situation entirely, not sectorally, and, therefore, provided that there is consistency in achieving a solution to the problem.

In the vast majority of cases, the decision-maker seeks to make a logical choice, which means that his decision seeks rationality. However, often the decision-making process at one stage or another cannot be implemented without the intervention of a random, intuitive component. Here we are talking about restrictions that can be related to time, in situations where it is necessary to make a decision quickly, or instantly, as well as limited resources, for example, information, when it is simply impossible to make the necessary calculations due to insufficient information (Sapronov, 2017).

In order to develop an optimal solution, it is necessary to own a lot of information in various spheres both within the enterprise and in its external environment. The methods of decision-making to achieve the Goals may vary (Guba, 2014):

1) A method based on the manager's intuition, which is due to his previous experience and the amount of knowledge in a particular field of activity, which helps to select and make the right decision;

2) A method based on the concept of common sense, when the manager, in making decisions, justifies them with consistent evidence, the content of which is based on his practical experience;

3) A method based on a scientific and practical approach, involving the selection of optimal solutions based on the processing of large amounts of information, helping to justify the decisions made. This method requires the use of modern technical means, especially computer technology.

**Conclusion**

When making important decisions whose implications can play a significant role, the goals to which the organization seeks to achieve must be clearly presented. Methods have been developed and used to form goal trees to determine the hierarchical structure of the goal system and criteria trees to measure the extent to which goals have been achieved.

With the necessary information on the situation and knowing the objectives to which the organization seeks to achieve, it is possible to begin to analyze the situation.

The main task of the analysis of the situation is to identify the factors that determine the dynamics of its development.

In analyzing the situation, it is important to highlight the key issues that need to be addressed first and foremost in the focused management of the process, as well as the nature of their impact. This is the task of diagnosing the situation.

Problems related to the assessment of the expected development of the analyzed situations and the expected results of the proposed alternative solutions play a special role in decision-making.

Ensuring the effective operation of the organization implies continuous monitoring of the implementation of the adopted action plans.

Modern management technologies using computer support make it possible to monitor at the same time the progress of a significant number of marketing, productions, supply activities, etc.

The implemented management impact plan, or a piece of it, should be thoroughly reviewed to assess the effectiveness of management decisions taken and their implementation (Chestnut, 2013).

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## ON THE TRANSITIONAL PERIOD IN ECONOMY (GEORGIA CASE)

Today, two decades after the beginning of the so-called “transitional period” from a command economy to a market economy, in a society of countries (and there are 26 of them with almost 300 million population, without of China), who have made such a transition, legitimate questions arise about the correctness and effectiveness of the taken steps. In this integrated world post-communist countries will play a **key role in economics, politics, culture and social life.** Therefore, there is

a need for an objective assessment of what we have received as a result of this socio-economic transformation in the post-Soviet space. It should be recognized that ***there is an objective need to develop a "theory of a transitional economy."*** Today, the development of such a theory with its importance can be compared with the development in its time of the basic theories of economic science. (20) (8) (10) (2) (18) (21).

The economy of the transitional period has a number of specific characteristics that differ from economies in a stationary state and developing on their own basis. In particular, in the transitional economy, newly emerging institutions replace connections and relations of the old ones. As a result, new macro- and microeconomic patterns and trends, social and political changes, a new content of economic policy are emerging.

There was also an economic scientific discipline (**transitology**) the subject of which is the problem of economic transformation, and the **object** – the economy of a country or countries in the process of transition from one state of the socio-economic system to a qualitatively different state. For obvious historical reasons, the focus of scientists-transitologists (the term "transitology" was proposed in 1992 by Michael Buravoi (1)) deals with the transition from a centrally planned socialist economy to a capitalist market economy, considered in close connection with political, socio-cultural and other aspects.

Actually, the problems of the transitional period were still posed at the beginning of the 20th century in the works of the Marxist trend – K.Kautsky "On the Day after the Proletarian Revolution," (2), N. Bukharin "Economy of the Transition Period." (22). However, these works had two drawbacks: the problems of transition were interpreted in them in a straightforward manner and, in fact, were reduced to an analysis of only the problems of the transition from capitalism to socialism.

The practice itself "gave birth" to various theoretical and methodological approaches to transformational processes, which ultimately come down to two major trends, schools: this gradual, "gradualist" (from the English word "gradual") transition to the market (more cautious and piecemeal approach to reforms), and the transition to a market in forced mode – the so-called "shock therapy" (radical reforms and rapid transformation) or simply the set of specific steps, postulates developed in 1989 by the International Monetary Fund (IMF), the World Bank and the US Treasury for Latin American countries and referred to as the "Washington Consensus" (4).

According to the author of this consensus, John Williamson, he included 10 steps by governments: ***strengthening of financial discipline, revising the priorities for the distribution of public wealth in favor of the poor, tax reform, interest rate liberalization, the introduction of a more flexible exchange rate, liberalization of foreign trade, investment, privatization, deregulation, maintenance of property rights. (5)***

Over the years, the UN General Assembly has debated country classification issues. For example, in 1971 the General Assembly identified a group of Least Developed Countries to be afforded special attention in the context of implementing the second UN Development Decade for the 1970s. Follow-up UN conferences have monitored progress in addressing the development challenges in these countries. However, the General Assembly has never established development taxonomy for its full membership. In contrast, international organizations have established such taxonomies, and in this section the development taxonomies used by three such organizations – the UNDP, the World Bank, and the IMF – are explored.

The UNDP's country classification system is built around the Human Development Index (HDI) launched together with the Human Development Report (HDR) in 1990. To capture the multifaceted nature of development, the HDI is a composite index of three indices measuring countries' achievements in longevity, education, and income. Other aspects of development – such as political freedom and personal security – were also recognized as important, but the lack of data prevented their inclusion into the HDI. Over the years, the index has been refined, but the index's basic structure has not changed. In the HDR 2010, the income measure used in the HDI is Gross National Income per capita (GNI/n) with local currency estimates converted into equivalent US dollars using PPP. Longevity is measured by life expectancy at birth. For education, a proxy is constructed by combining measures of actual and expected years of schooling. Measures of achievements in the three dimensions do not enter directly into the sub-indices, but undergo a transformation.

The problem of the "transition period" in the economy, strange as it sounds, is also old, if we mean, say, the transitional state of the 1920s in the USSR, or transitional periods of social development in the countries of industrial development, or transitional periods of social development in the countries of industrial development, where the level of industrial development was the cornerstone of the periodization of the

development of socio-economic systems, and the new one, if we mean the last decade of the 20th century and the beginning of the 21st century, marked by a transition from planned, centrally regulated economy to an economy based on market principles(14).

"Transitional state" in the natural sciences is one thing, and in the social sciences it is fundamentally different, since the essential point of the latter is precisely social relations, relations between people.

In our analysis, we confine ourselves to the **question** of methodological approaches to the study of the phenomenon of the transitional economy. These are such principles as: a) the complexity, the integrity of the study of the transitional economy; b) disclosure of the very content of the transitional economy, its structure; c) its quantification; d) vision of the final results of this process.

First of all, a terminological definiteness should be established regarding the phenomenon of "transitional economy". Two terms are used in Western economic literature – "transitional economy" and "emerging markets"; in the latter, in addition to the transition countries there are included also the countries of the so-called "third world".

The concept of "transition," "transitional period", "transitional state" should be defined. In social science it is somewhat conditional. "The transition from what?" "Transition to what?" What is the content and quantitative aspect of the "transition?" When does the "transition" begin? When does the "transition" end? What is the specificity of the "transition" in the economy and in society as a whole? These processes should proceed in synchronous mode or at different rates?

If, under the transition is understood as a change in the form of ownership (in this case, public to private), then it is necessary to see the difference between the legal and economic content of property relations. In the first case, the main content is the ownership of the property object to the subject (what to whom) – the state, an individual, a group of persons (here we recall the postulate in the famous "Coase theorem": it is not so important how the property is distributed, it is important that the property rights are clearly fixed), in the second case – in economic one, the main content is the effectiveness of the use of this property **(which is how)**. In other words, the form of affiliation is important for a lawyer and its content for an economist. In other words, ***for a lawyer the form of ownership is important, and for an economist – it's content.*** That is why privatization, which is the main means and form of property change, should not become an end in itself in the transition to the market, but only its tool – an instrument in the creation of an effective

owner.

Following the logic of compulsory separation of the core in property relations, it is necessary to recognize that the ***dominant*** form in property relations in the transition economy (along with others) are private property relations laying the foundations for future economies.

An important issue of the content of the transitional economy and society is its social structure. After all, new property relations give rise to a new social structure. The class approach to its content proposed in the past is well known and was largely a reflection of past relationships. ***The issue of the difference between the social structure of the transitional society and the social structure of the already formed modern market economy is also relevant here.*** The social structure of the transitional society represents the interaction of the subjects of the old system of relations and the subjects of the emerging system of relations. Despite the fact that these subjects are the product of economic relations, their transformation is much more complex than the transformation of purely economic forms.

Among the issues related to the substantive side of the development of the transitional economy should be highlighted the problem around which revolve all other issues, and such a problem, in our opinion, is the ***awareness of the role of the state in the economy in general, and particularly in transitional one***. (4;15) Today, there are no countries with absolutely market economy (without state meddling) anywhere (except in textbooks on macroeconomics), market economy, in our opinion, a priori and immanently implies the participation of the state in economic processes. This has been demonstrated by the current economic and financial crisis in the world, the overcoming of which is sought in the bowels of governmental structures of the state and international economic and financial organizations. The question arises: where is the market automatism of the way-out of the crisis? It simply does not exist, and cannot be due to the immanent properties of the market.

The principal issue in the transition countries is the way to manage their societies and the state. Immediately at the beginning of the transitional period, a policy of democratization of society and the political system was proclaimed, without taking into account the traditions and mentality of the population. In almost all countries in transition, democracy has been proclaimed as a way of governing society and the state. But unfortunately, we must admit ***that in almost many transitional countries we have received a formal democracy (or***

***substantive democracy is a form in which the outcome of elections is representative of the people. In other words, substantive democracy is a form of democracy that functions in the interest of the governed) and a parliamentary system as a way of coming to power and retaining it.***

In our view, the most correct assessment of the adequacy of the transition period is its quantitative assessment, which will make it possible to judge the success of the process, its time frame and content. Ultimately, it is a question of assessing the effectiveness of economic policies in the transition process. What indicators can reflect the success or failure of the transitional period in the economy?

In General, the problem of indicators has different aspects: indicators can be techno-economic (financial-general), material and socio-economic. The first is the quantitative changes in production and its results (production of products per unit of labor). Then there are the production indicators of technological or power equipment. There are indicators of development costs, primarily investments in production. There are indicators of results, for example, for the most important types of products (steel, aluminum, grain, etc.). Finally, indicators are reflecting the overall result.

An independent, an important "section" of the indicators of the economic performance of the society are socio-economic indicators: availability of jobs, the level of personal (family) consumption of goods, the level of cash income (and wages), housing, income stratification, the level of poverty (below the minimum subsistence level, the level of survival), the degree of intensity of work, the availability and amount of free time, the level of education, etc.

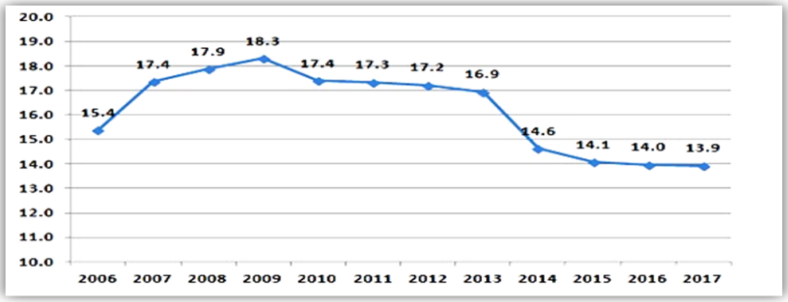


**Figure 2.1 Unemployment rate in Georgia (%) 2006-2017**

*Source: National Statistics office of Georgia*
*http://www.geostat.ge/?action=page&p_id=145&lang=geo*

In Figure 2.1 there is shown that in 2017 the unemployment rate in Georgia decreased by 0.1 percentage points compared to 2016 and equaled 13.9 percent. It should be noted that the downtrend in the unemployment rate is maintained during the last eight years. In 2017 the economically active population constituted 65.8 percent of the working population (population of 15 years and older). Compared to 2016 the economic activity rate and employment rate decreased by 0.5 and 0.4 percentage points, respectively. The employment rate in urban settlements decreased by 1.5 percentage point compared to the previous year, while increasing by 0.8 percentage points in rural areas. Similarly, compared to the previous year the economic activity rate in the urban settlements decreased by 1.6 percentage points and increased by 0.8 percentage points in rural areas.

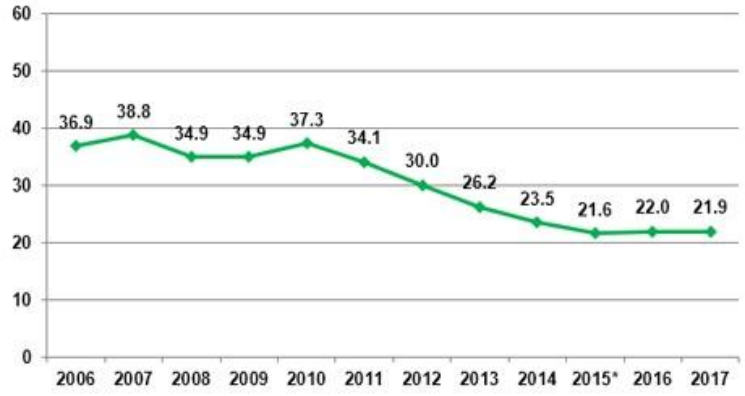


**Figure 2.2 Poverty Level in Georgia (%) 2006-2017**

*Source: National Statistics office of Georgia*
*http://www.geostat.ge/?action=page&p_id=145&lang=geo*

Figure 2.2 shows the share of population under absolute poverty line by percentage in 2006-2017 in Georgia, which is 21.9% according to the recent indicator, which is increased by 0.9 percentage points compared to the previous year.

It is not about the systematic of indicators, but it is important to emphasize that ***the result of the economic activity of society cannot be expressed by any one indicator, but rather assumes a systematic approach within the overall context of the study (3;15)***

Today, the number of indicators reflecting the functioning of enterprises (firms, companies) is reduced to a minimum, practically

operate only with profit at the micro level, and GDP at the macro level.

If we take the macro level, we note that the value of GDP is affected by fictitious capital, which occupies a large place in developed market economies. In General, GDP is not the gross product itself, but rather an uncertain amount of money "contribution" of any branches of labor activity (if you take a Bank, an insurance company, a money-changing office, a service office, etc.) for labor activity. The more such units are the higher the GDP is. GDP is a consolidated financial indicator that can say something (not all) about the dynamics of a single country and then only when involving in the analysis of many data, in particular the share of production in GDP. The high GDP per capita still says little about a country's position in the "world economy." The volume of exports (per capita) is also of no independent importance.

*Table 2.1*

**GDP in the countries with the transitional economies**

Economies in transition: rates of growth of real GDP, 2009–2019

Annual percentage change

| | 2009–2016[a] | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017[b] | 2018[c] | 2019[c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Economies in transition | 0.9 | -6.6 | 4.8 | 4.6 | 3.4 | 2.4 | 0.9 | -2.2 | 0.4 | 2.2 | 2.3 | 2.4 |
| South-Eastern Europe | 1.0 | -2.0 | 1.5 | 1.7 | -0.7 | 2.4 | 0.2 | 2.0 | 2.9 | 2.5 | 3.2 | 3.3 |
| Albania | 2.5 | 3.4 | 3.7 | 2.5 | 1.4 | 1.1 | 2.0 | 2.6 | 3.5 | 3.8 | 3.8 | 3.7 |
| Bosnia and Herzegovina | 0.9 | -2.9 | 0.8 | 0.9 | -0.9 | 2.4 | 1.1 | 3.1 | 3.0 | 3.0 | 3.0 | 3.0 |
| Montenegro | 1.1 | -5.7 | 2.5 | 3.2 | -2.7 | 3.5 | 1.8 | 3.4 | 2.9 | 4.0 | 3.8 | 3.5 |
| Serbia | 0.2 | -3.1 | 0.6 | 1.4 | -1.0 | 2.6 | -1.8 | 0.7 | 2.8 | 2.0 | 3.0 | 3.3 |
| The former Yugoslav Republic of Macedonia | 2.2 | -0.4 | 3.4 | 2.3 | -0.5 | 2.9 | 3.6 | 3.8 | 2.4 | 1.6 | 3.0 | 3.3 |
| Commonwealth of Independent States and Georgia[d] | 0.9 | -6.8 | 4.9 | 4.7 | 3.6 | 2.4 | 1.0 | -2.4 | 0.3 | 2.2 | 2.3 | 2.4 |
| Commonwealth of Independent States and Georgia - net fuel exporters | 1.1 | -6.3 | 4.9 | 4.6 | 3.9 | 2.5 | 1.4 | -1.9 | 0.2 | 2.2 | 2.2 | 2.2 |
| Azerbaijan | 2.5 | 9.4 | 4.6 | -1.6 | 2.1 | 5.9 | 2.7 | 0.7 | -3.1 | -1.0 | 1.8 | 2.3 |
| Kazakhstan | 4.1 | 1.2 | 7.3 | 7.4 | 4.8 | 6.0 | 4.2 | 1.2 | 0.9 | 4.0 | 3.0 | 3.0 |
| Russian Federation | 0.4 | -7.8 | 4.5 | 4.3 | 3.7 | 1.8 | 0.7 | -2.8 | -0.2 | 1.8 | 1.9 | 1.9 |
| Turkmenistan | 9.3 | 6.1 | 9.2 | 14.7 | 11.1 | 10.2 | 10.3 | 6.5 | 6.2 | 6.0 | 4.8 | 5.0 |
| Uzbekistan | 8.1 | 8.1 | 8.5 | 8.3 | 8.2 | 8.0 | 8.1 | 7.9 | 7.8 | 6.5 | 6.4 | 6.1 |
| Commonwealth of Independent States and Georgia - net fuel importers | -0.8 | -10.5 | 5.0 | 5.5 | 1.3 | 1.2 | -2.6 | -6.0 | 1.2 | 2.4 | 2.8 | 3.5 |
| Armenia | 1.0 | -14.1 | 2.2 | 4.7 | 7.2 | 3.3 | 3.6 | 3.0 | 0.2 | 5.8 | 3.8 | 3.6 |
| Belarus | 1.4 | 0.2 | 7.7 | 5.5 | 1.7 | 1.0 | 1.7 | -3.9 | -2.7 | 1.5 | 2.0 | 2.3 |
| Georgia[d] | 3.7 | -3.7 | 6.2 | 7.2 | 6.4 | 3.4 | 4.6 | 2.9 | 2.7 | 4.8 | 4.3 | 4.3 |
| Kyrgyzstan | 3.8 | 2.9 | -0.5 | 6.0 | -0.1 | 10.5 | 4.3 | 3.5 | 3.8 | 6.1 | 5.8 | 4.7 |
| Republic of Moldova | 3.0 | -6.0 | 7.1 | 6.8 | -0.7 | 9.4 | 4.8 | -0.7 | 4.3 | 3.2 | 4.0 | 4.0 |
| Tajikistan | 5.7 | 4.0 | 6.5 | 2.4 | 7.5 | 7.4 | 6.7 | 4.2 | 6.9 | 5.5 | 6.0 | 6.0 |
| Ukraine[e] | -2.7 | -15.1 | 4.1 | 5.4 | 0.2 | 0.0 | -6.6 | -9.9 | 2.2 | 1.8 | 2.5 | 3.6 |

*Source: UN/DESA, based on data of the United Nations Statistics Division and individual national sources. (7)*

*Note: Regional aggregates calculated at 2010 prices and exchange rates.*

*a) Average percentage change.*

*b) Partly estimated.*

*c) Baseline scenario forecasts, based in part on Project LINK and the UN/DESA World Economic Forecasting Model.*

*d) Georgia officially left the Commonwealth of Independent States on 18 August 2009. However, its performance is discussed in the context of this group of countries for reasons of geographic proximity and similarities in economic structure.*

*e) Starting in 2010, data for the Ukraine excludes the temporarily occupied territory of the Autonomous Republic of Crimea and Sevastopol.*

*Table 2.2*

**Gross Domestic Product (GDP), Georgia 2010-2018**

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017* | I 18* | II 18* |
|---|---|---|---|---|---|---|---|---|---|---|
| GDP at current prices, mil. GEL | 20743.4 | 24344.0 | 26167.3 | 26847.4 | 29150.5 | 31755.6 | 34028.5 | 38042.2 | 9150.2 | 10168.4 |
| GDP at constant 2010 prices, mil. GEL | 20743.4 | 22241.4 | 23653.8 | 24454.9 | 25585.6 | 26322.5 | 27072.4 | 28422.3 | 6323.3 | 7239.6 |

*Source: National Statistics office of Georgia*
*http://www.geostat.ge/?action=page&p_id=145&lang=geo*

Table 2.2 describes that in Q2 2018 the real growth rate of Gross Domestic Product (GDP) amounted to 5.5 percent yearon-year, while the GDP deflator increased by 4.8 percent. The nominal GDP totaled GEL 10 168.4 million. The real GDP growth amounted to 5.4 percent for the first half of 2018.

In the following Diagram there is shown the GDP structure by the Q2 in 2018 in Georgia. Real growth was registered in the following activities: Financial Intermediation (22.0 percent), Other Community, Social and Personal Service activities (17.9 percent), Real Estate, Renting and Business Activities (13.8 percent), Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods (10.5 percent), Manufacturing (8.5 percent), Mining and Quarrying (8.1 percent), Transport (8.0 percent), Education (4.8 percent), Hotels and Restaurants (4.5 percent), A decrease in the real value-added occurred in Construction (-7.1 percent), Agriculture, Hunting and Forestry; Fishing (-3.3 percent).

The largest shares of GDP by activity are held by Industry (17.1 percent) and Trade services (17.0 percent), followed by Transport and Communication (9.9 percent), Agriculture, Hunting and Forestry; Fishing (8.5 percent), Construction (8.3 percent), Public administration (7.9 percent) Real Estate, Renting and Business Activities (6.7 percent),

Health and Social work (5.9 percent).

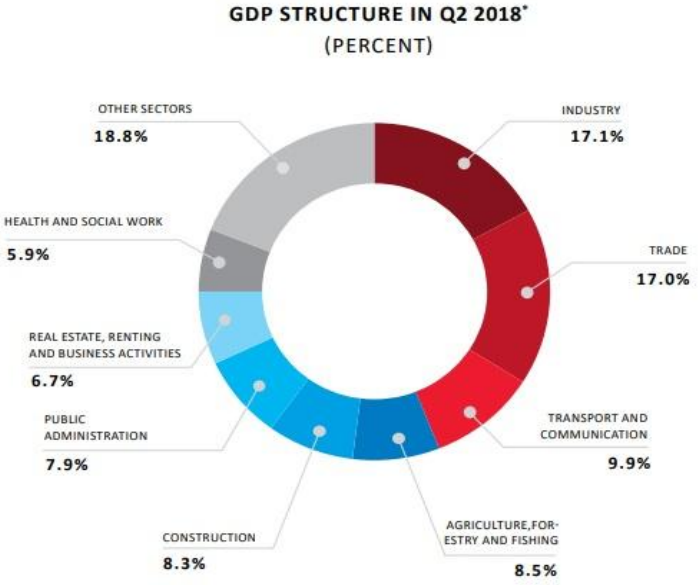


**Figure 2.3 Gross Domestic Product (GDP) by sectors in Georgia Q2 in 2018**

*Source: National Statistics office of Georgia*
*http://www.geostat.ge/?action=page&p_id=145&lang=geo (24)*

If we take the micro-level, it should be recognized that the focus only on profit does not reflect all aspects of the functioning of enterprises, for example, does not take into account the technical-economic and technical side of the efficiency of the enterprise, etc. The Current situation at the micro-level of the economy in the transitional countries once again confirms the importance and need for internal planning, and this requires a whole system of indicators reflecting the level of efficiency of the enterprise.

***What will we get after the "transitional" economy or more correctly, what should we get as a result of the "transitional economy" and what we have received today?*** Here you cannot limit yourself to economic results, but should see the result as a whole, in all its manifestations (political, socio - cultural, moral, etc.).

From the point of view of the economy, the result should be the formation of a market economy with all its attributes and institutions. Here we note that there is no constantly functioning market economy (as well as any other economy) due, first of all, to its cyclical nature of development and the action of its fundamental principle – supply and demand. After all, at least bringing demand and supply into balance needs a certain time and during this time the economy cannot be as effective as possible; secondly, the transitional economy is added to the objective circumstances of the transition difficulties: political, economic, social, cultural, etc.; thirdly, the factor of action of the subjective factor is also important, which can negate even properly developed solutions.

***What should be the result of the transitional economy?*** This economy should be fundamentally different from the economy of the capitalist type characteristic of the second half of the 20th century. ***It should be a post-industrial type,*** taking into account the new, fifth technological structure (1985 – 2035), and given the limited resources in the world economy, the following tasks will come to the fore: a) long-term increase in resource productivity; b) solving energy problems; c) fair distribution of income. The fifth way: information and communication technologies, microelectronics, software, automation and telecommunication equipment. The sixth way – the use of the sphere of human thought (no-sphere) or biocomputer, compatible with the human mind (intelligence).

The point of view of Professor G. Popov is interesting in this respect: "Capitalism could never defeat socialism. Socialism was a more progressive system than capitalism, and could only be defeated by an even higher system, which is often called ***post-industrial***."

***What do we have for today?*** Despite the universal nature of the tools of transition to a market economy, different results are obtained in different countries. In the countries of Central and Eastern Europe this is one thing (relatively high economic growth), in the territory of the former USSR it is another (lack of vision of the final results of reforms), in the case of China – the third (the old political system and new economic relations, and unprecedented economic growth, though recently somewhat slowed). Regarding Georgia, let us say that today the economy of Georgia is given at the mercy of the actions of natural factors, and all this is done under the slogan of protecting liberalism in the economy and democratic values in general, thereby downplaying the very idea and the possibility of a normal market economy. And in the

"system" of the estimated indicators of the socio-economic development of the country, ratings of all kinds have become the main element (11;12;19).

And the last thing. There is always the danger that as a result of the transitional period in society and the economy, we can get a type of society, a state that may be on the margins of economic and historical progress, and whose function will be to implement the complementary tasks facing industrialized countries. And in order to avoid this, a huge responsibility lies with the governments of the countries that once were a part of the socialist system.

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# Chapter 3

# INNOVATION IN ENSURING SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT

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## PRIVATE ACCOMODATION AND SUSTAINABLE DEVELOPMENT IN CROATIAN TOURISM

### 1. INTRODUCTION

The research design is based on analyzing the state of Croatian tourism from the aspect of accommodation units structure. Furthermore, tourist arrivals, overnights, the number of tourist occupancy days of the Istria County accomodation are compared over a period of 30 years. The importance of such monitoring is in gathering more important arguments when interpreting the results of Croatian tourism and in establishing cause and effect relationships to sustainable destinations and global tourism trends.

According to all the above, a basic hypothesis is: The importance of various capacities in tourism structure is undeniable for tourism supply. The growth of private accommodation in the overall accommodation structure has a strong influence on tourist arrivals and experiences. The quality of private accommodation and supporting elements of the destination would have a positive impact on the tourist stay time in Croatian destinations.

Papers of this kind are rare in the national economy and maybe an impetus for future researchers in order to examine the exponential growth of private accommodation units and the consequences to the local communities. The growth of private accommodation is affecting the sustainable development of the destination. The results indicate the need for a change in the number and quality of tourism accomodation structure according to wider tourism interests.

## 2. ACCOMMODATION CAPACITIES AND ADDITIONAL VALUES FOR CLIENTS

Tourism supply structure can increase visitor satisfaction (value for money, kindness, passing on positive impressions, raising the quality of the destination), while the usurpation of the coastal space as a consequence of raising a large number of accommodation units can have negative effects on development (Gržinić, 2014).

With the added value for the client, it is possible to popularize private accommodation and raise the existing quality of service. In this process, private renters have the role of mediators (experience creators, presenters and emotion transmitters) and stakeholder activity coordinators (Chang, 2018; Griffin, & Hayllar, 2009).

Collecting and analyzing data of private accommodation development is becoming a necessity due to a global over-expansion. In Croatian tourism, the legislative framework favors the development of private accommodation. Examining the level of housing prices and tourist trends across regions, the saturation of tourism in terms of international tourism demand, the relationship between 'sustainable tourism' and 'externalities', help stakeholders to identify the impact of tourism development on destinations and national economy (Frederick 1993; Luloff et al., 1994, Shergo, Gržinić, Saftić, 2015).

## 3. CROATIAN TOURISM TRENDS

Croatian tourism is recognized for its favorable natural base, pleasant climate, rich cultural and historical heritage and proximity to broadcast markets. By joining the European Union, tourism becomes interesting as part of the "new Europe" tourism itineraries.

The accommodation structure is dominated by private accommodation, especially apartments and holiday homes. The barrier is represented by almost 73% of 3 star accommodation units, as well as the lack of a strategy that plans to develop tourism for a longer period. In the structure of total tourist arrivals, 27% are domestic tourists, and 73% are foreign tourists. In 1987, Croatian tourism had the highest number of tourist arrivals, including the one in the County of Istria. Figure 3.1 represents the national accommodation structure. The share of private accommodation is 72,4%.

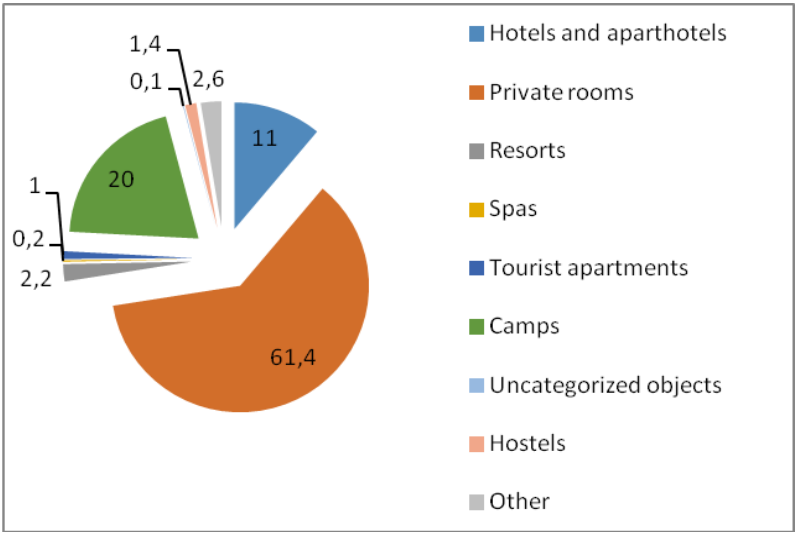


**Figure 3.1 Accommodation units structure (%)**

*Source: HTZ, Tourism in numbers 2017, p. 24*

In the year 2017 the proportion of Istrian region in overnight stays is 32%, while in arrivals it is 23% relative to the national level. Further, 23% of total arrivals and 29.2% of total overnights were made in 2018. German tourists are the most significant broadcasting market and have increase in arrivals at the national level. Their growth through the prism of capacities in Istria and even Croatia has been continuously positive until 1987 and than, during the war period has declined. The average tourist stay in the destination in 1987 was 9 days. In 2010, it is less than 6 days (Central Bureau of Statistics, official statement, period 1988-2011).

From Table 3.1, it can be concluded that the number of arrivals and overnight stays, both at the regional and national levels, has been increasing over a period of 30 years. At the same time, capacity utilization and thus the attendance during the observed period are falling.

Capacity utilization was achieved at the level of 3 months, while in 2018 it is almost a month less. There are no comparisons between increase or decrease in accommodation capacity structure and final annual tourism results. This would make it more realistic to make judgments about destination performance and compare them, except for financial ones as a result of these changes.

*Table 3.1*

**Number of arrivals and nights**

| Year | 1987 | 2018 | Change index |
|---|---|---|---|
| **Istrian County** | | | |
| Arrivals | 2 419 500 | 4 300 000 | 175.1 |
| Nights | 21 779 500 | 26 200 000 | 130.6 |
| *Availability of capacity (days)* | 101 | 75 | 73.2 |
| **Republic of Croatia** | | | |
| Arrivals | 10 487 000 | 18 666 000 | 177.9 |
| Nights | 68 160 000 | 89 651 000 | 131.5 |

*Source: Author according to Croatian bureau of statistics, Statistical report; Tourist arrivals and nights, 1988-2011& e-visitor.*

In the following, Istria is singled out as the most developed Croatian tourist region. At the same time, Istria is achieving the best results in tourism sector. The data in the table below shows that the number of apartments and holiday homes has been increasing rapidly in recent years. The growth is mainly due to the need for additional income for the local population rather than engaging in the same basic business activity (Perhat, 2019). This type of accommodation is not a subject of property taxes and there is no heavy fiscal burden to the owners.

*Table 3.2*

**Selected accommodation units**

| Year / Type | Units (2016-2019) | | | |
|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 |
| Apartmant/room | 25.500 | 27.774 | 30.316 | 31.790 |
| Holiday house | 3.170 | 3.808 | 4.442 | 4.918 |
| Total | 28 670 | 31 582 | 34 758 | 36 708 |

*Source: Statistical report, Tourism Board of Istrian County*

A consequence of this trend is the tripling of private accommodation in Croatian tourism in the last twenty years, and reduction of hotel accommodation offer. In Istria, private accommodation is growing relative to other accommodation categories. In the last decade, tourist capacity in private accommodation in Istria has increased by as much as 53 percent (Department of Tourism, County of Istria). At the national level, family accommodation receives less financial feedback than hotel

accommodation but it is significantly more prevalent (*E-visitor*).

Croatian Destination Organizations (DMOs) point to the success of tourism and its growth. The following challenges the growth challenges for the future.

## 4. PRIVATE ACCOMMODATION GROWTH CHALLENGES

### 4.1. Transformation of tourism offer

Transformation will be possible only when contributions are made that justify the setting goals. Strategies (entrepreneurship development, stakeholder integration, socio-economic development, public-private partnerships, and resource management, investment policy, etc.) are required for the same. Therefore, roles and responsibilities for development areas need to be defined.

Given that today's tourism trends (tourism of experiences and added values), the question arises as far as it is possible given the current state. Namely, such tourism will attract tourists who will successfully negotiate with the hosts in terms of price considering tourism as a source of additional income through the overwhelming uniformity of supply.

The question is whether Croatian tourism can continue to allow for an increase in the number of accommodation units that are not in line with sustainable tourism trends and standard quality. Namely, the consequence could be a decrease in demand for them as well as a loss of interest in improving supply, as a consequence of reduced profitability.

Those facilities that have added value to their offer (ecological certificate, authentic destination offers, investment in tourist sub-structure, swimming pools, wine cellars, etc.) will generate income that the guest will be prepared to pay. However, this only creates an illusory picture of the quality of Croatian tourism supply and even some unrealistic expectations of destination stakeholders. Quality is a much broader concept than accommodation itself. It also makes the quality of the infrastructure and destination overall. Transformations of Croatian tourism should encompass all destinations that hold to their image. The basic elements of focus are environmental, market, research (cognitive), internal, strategic.

### 4.2. Sustainability of tourism

The sustainability of the destination is not only viewed from an

environmental point of view, but also from an economic, socio-cultural and political point of view. The growth of alternative accommodation, a green/sustainable holiday oasis will also force private renters to change. The County of Istria has started implementing an accommodation certification project, called "Eco Domus", with the aim of promoting the concept of healthy vacations and environmental protection, both on the supply and demand side.

Maintaining authenticity implies not only the original appearance but also the planting of native plants, preserving the customs of the local population.

The traditional nuances of negative externalities in tourism, such as the relationship of some negative externalities of the environment (eg. pollution, noise) and the effects of the latter on different aspects of quality of life, need to be further examined (Gržinić, 2019). Often, this is overlooked because of the assumption that tourism will last, that is, profit will come without additional effort. It also represents the short-term satisfaction and long-term decline in the life cycle growth of the tourism product.

### 4.3. Destination image development and holistic approach

The new image serves the destination for better attendance and better visibility. The image must not be confused as it confuses potential consumption. Croatia can improve the existing structure of value-added private accommodation in tourism. For example, creating a product together with the host, participating in plant picking and other activities can leave a lasting memorabilia.

It is necessary to:

- Analyze responsible behavior in destinations,
- Formulate bottom-up planning approaches,
- Develop in addition to coastal and continental tourism,
- Connect destination stakeholders,
- To develop new roles of tourist intermediaries (orientation to specializations),
- reposition/rebrand the destination according to special interest tourism,
- It will benefit from socially responsible entrepreneurship,
- Formulating a bottom-up approach to planning,

- Respecting EU recommendations in promoting tourism development,
- Transform knowledge into tourism practice,
- Develop tourist attractions through technological innovation,
- Design education programs in line with changes in tourism.

Today's tourist offer becomes specialized instead of generalized, transport infrastructure is affiliated with partners. Tourists in the case of saturation with presented offer, replace the place with new tourist pleasures (spectacular, fantasy, familiarity, warmth, sense of comfort, acceptance, welcome). Therefore, residents develop an awareness of the value of the space they reside in.

Space supply factors, as part of the destination value chain, contribute to the tourism experience (layout, infrastructure, additional amenities).

Increasing the level of accommodation beyond the borders of sustainable is a problem in many European cities (Barcelona, Berlin, etc.), which causes negative connotations for local environments and global image.

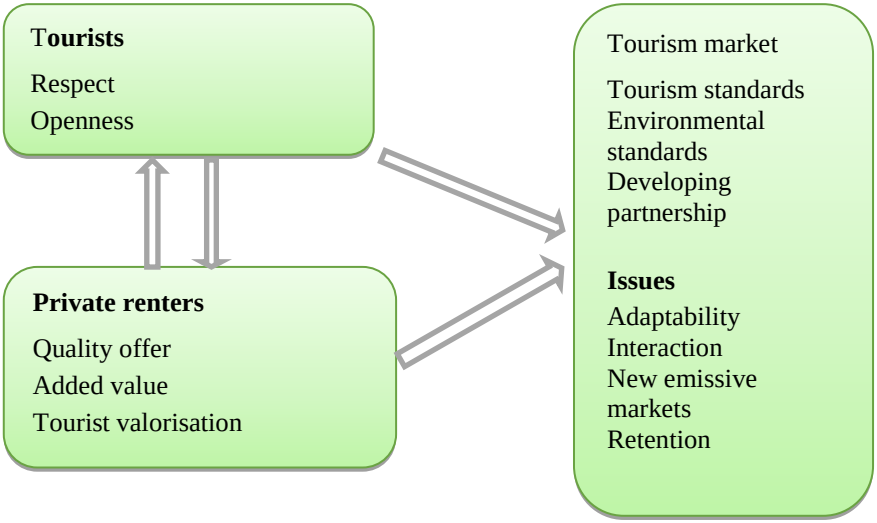


**Figure 3.2 Stakeholder interaction model proposal**

*Source: Design and suggestions by the author*

Spatial distribution by introducing innovations can help the development of specializations and high quality (eg. the development of a search engine for private accommodation by incoming tour operator *Uniline* from Pula, Istria).

## 5. CONCLUSION

This paper examines the situation on the tourist market of the County of Istria over a period of thirty years. Tourism trends have changed significantly over the past period. The form of vacations has grown from passive to active vacations, capacity sales are increasingly complex due to the increasing use of applications in tourism, as well as the avoidance of intermediaries in the purchase of the service, the one in the physical sense (man, office). The buyer negotiates for a price, the accuracy of estimating future movements becomes less efficient and successful.

The locals are moving out of their local residentions with the aim of renting apartments in more attractive locations. Loss of locals is also a loss of identity. The future lies in diversifying the service, educating local stakeholders on the boundaries of sustainability and possible negative externalities of increasing private accommodation units. Transforming space for quick and easy profit makes it an expressionless (uncompetitive) concept of development.

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# NEW WAYS OF THINKING IN ECONOMICS IN THE SERVICE OF A SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT

## Introduction

The global financial crisis can be considered as a clear-cut not only from the point of view of economic practice but also from that of economic thinking. After decades dominated by the neoclassical mainstream school (De Vroey and Pensieroso, 2016), wide range of regulatory and supervisory interventions evolved, with economic policy makers being the frontrunners of change (Godin, 2018). A new fully-fledged paradigm has not been developed yet, but important and inspiring novel approaches are emerging concerning different areas.

This study presents the main changes in economic thinking with special focus on the revaluation of the roles of the market and the state, the way the active state polity has gained ground, the significance of economic policy cooperation, the importance of understanding the institutional environment and genuine human behaviour, and the spread of anthropocentric economic philosophy.

*Sustainability in focus*

The world is experiencing one of the longest economic boom in the last hundred years, but our natural resources are rapidly dwindling. Climate change has become a major public policy issue, and wealth inequalities have continued to grow. All of this shows that the economic and social results achieved so far are characterized by duality, as the costs of growth are increasing. That is to say, it is not enough to achieve the fastest economic growth, we need sustainable development. Virág (2019) identifies five key global sustainability challenges. These are the ecological consequences of economic growth, the impact of the demographic explosion, the rapid pace of technological change, geopolitical challenges, and the digital transformation of money.

The essence of the challenge of economic and social development is well illustrated by the concept of the Great Acceleration, according to which humanity, economic activity and its resource requirements have grown exponentially since the age of industrialization, while natural resources are finite (Virág, 2019). Global population growth and population aging can lead to unprecedented demographic changes in history. The world's population was only 2.5 billion in 1950, tripled by 2015, and could reach 10 billion by 2050. Indeed, one of the most important questions is whether we can keep up with technology. Innovations in digitalization, data processing, artificial intelligence, automation create new opportunities, but they also face many challenges, and a breakthrough in technology can redraw the entire economic ecosystem. it is also important to see that the arrival of the digital age will affect money in both form and content (Horváth-Kolozsi, 2019).

The geopolitical environment is also fundamentally changing (Matolcsy, 2019): the most important trend of the period following the hyper-globalization until the economic crisis of 2008 is multipolarization, in which new collaborations, new actors, new solutions, new values develop (Eszterhai, 2019). Economic thinking for sustainability must also take into account that the new power centers of the 21st century will be global cities. Global metropolitan areas and mega-regions are interconnected in a very complex way, but there is also fierce competition between them for global functions (Csizmadia, 2019).

*Reassessed Markets, novel role for the state*

The GFC has overwritten numerous economic relationships. The one

that has had the most widespread effect is that the crisis has clearly undermined confidence in market self-regulation and in the presumption that "the market always acts in public interest". Economic recession and the market turmoil resulted exactly from dysfunctions and things could only got sorted out by a powerful and efficient state intervention. This recognition upset the quasi consensus that preceded the crisis and was based on the very assumption that state interventions in market processes were harmful as they gave no effect to market incentives. If the market is considered as a nearly perfect self-regulating mechanism, the economy is accepted to work as a kind of "machinery". And machines rule out personal responsibility: a machine works according to the applicable rules, in a predetermined order, and the participants do not have any influence on its operation. In this respect the concept of market self-regulation is not merely incorrect but even harmful, as evidenced by numerous examples during the most recent crisis. If the market is a machine, we can do just about anything to enforce our interests, because the market's self-regulation will somehow turn individual activities into ultimately serve public good. Thus the "market concept" relieves all human activities from responsibility, while recently it has been highlighted that individual decisions do have relevance, and the market cannot turn bad decisions into good ones by aggregation. As smartly put by Nobel Prize winner Joseph Stiglitz: the invisible hand mentioned by Adam Smith is not only invisible, but does not exist, in other words, the decisions following from individual interests will not automatically result in public good. Gorton goes even further to the point of affirming that the global financial crisis has made the invisible hand only too perceptible: the world economy received a – hopefully sobering – slap from this hand (Gary Gorton, 2010). According to Dani Rodrik (2018), economic populism, in other words, the demolition of the framework that limits economic policy and does not arise from the electorate's intention, may be justified, as in numerous cases these frameworks do not serve the interests of the majority of the society, but protect the privileged positions of the beneficiaries of the previous economic regime.

*Cooperative state management, new normal in central banking*

Cohesive society, trust and social cooperation are among the social arrangements and meta-institutions required for building good institutions and a well-managed state. The economy cannot be separated

from the background of political and social institutions, as the rules of the game that determine individual decisions are given by the political and social frames. There is a disagreement in the literature about the driving force of institutional development and the factors that are responsible for "getting stuck", but there are general conditions that can typically be considered as the bases of development. One such meta-institution is democracy, which allows the entire political and social community to decide on the direction of development. Another example includes the level of confidence and cooperation characterising a given society. In the absence of confidence, transaction costs are high, and this renders the building up of an optimum institutional matrix impossible. A rising confidence level, however, gives the opportunity of building an institutional framework consistent with higher social welfare. Looking ahead, both the paradigm change that may lead to a state operation proactively applying positive incentives and making efforts at partnership, and the institutionalisation of the achievements made so far are of strategic significance. The rules of the game set by the given political and social framework determine and shape the decisions made by social stakeholders, and especially markets and individuals, in other words, the stable and efficient institutional matrix presumes the building up of a state that encourages the entire society to cooperate. As in the case of the informal frameworks that determine individual and collective behaviour to a major extent, improvement may only be gradual, and so transition to a cooperative polity model needs time.

During the years of crisis management it was clearly proven that a state capable of building a cooperative relationship with its citizens, with the business sector, with banks and with all other affected parties (collectively referred to as stakeholders) can be more successful than the one that is incapable of doing so. Based on the extended conceptual model by Mandl, Dierx, and Ilzkovitz (2008), the output and outcome of economic policy actions can be substantially improved by the provision of incentive for the stakeholders, especially the market and other public participants (1) to make them interested in the success of state actions, (2) to identify themselves with the objectives of state operation and the particular state action or programme, and (3) to commit to achieving the state objectives. In a social perspective, the optimum state of affairs is the "well-managed state", representing cooperation between the state and its stakeholders, as both the cooperating parties and, indirectly, the entire society benefit from cooperation, because it contributes to the improvement of public confidence and to the implementation of public

welfare as the utmost social goal.

Based on the practice of the world's central banks, it is beyond doubt that with the modification of the nature of inflation (Matolcsy et al., 2019), the former monetary policy consensus (Blanchard et al., 2012) has been overridden by the crisis (Stiglitz, 2012). Flexible inflation indexing did not necessarily create a stable monetary framework, and it was unreasonable to narrow monetary policy (central banking) decision-making exclusively to shaping consumer prices, as the zero percentage interest threshold, considered as a merely theoretical limit for a long time, may be an important monetary policy problem, and monetary and fiscal policies need to be handled together, in a coordinated manner already over the medium term. Several examples show and it has once again became obvious that the real economic costs of financial instability and the resultant crises may be considerably higher than the costs of a moderated inflation (see the establishment of the Federal Reserve which was justified by the collapse of the banking sector in 1907 and the following financial panic).

*Modern-age investments, high pressure economy*

According to the school advocating the free market, the state's role is merely confined to developing and maintaining the framework of market operation, in other words, the lowest possible taxes, the laxest possible regulation, and ensuring the most flexible labour and financial market, thus excluding the need for any related capital investments by the government. Jeffrey Sachs recommends a completely new economic approach he has coined as "Sustainable Development Economics" (Sachs, 2014). In Sachs' opinion, the neoclassical school is wrong as they misunderstand the role and nature of modern-age capital investments. In mainstream economics prime significance is attached to private investments, investments bolstered and supported by low taxes and lenient regulation, or high demand. However, it should be noted that nowadays there is no private investment without government or community investment, the private and the public sectors are complementary to each other.

The concept of "high-pressure economy" may change economic thought to the core, as it claims that recessions have permanently reduced the level of GDP (hysteresis) in two-thirds of the cases. The "high-pressure economy" concept comes from Okun (Okun, 1973), but the concept was also underpinned by the 2016 survey performed by

Fatás and Summers (Fatás and Summers, 2016), who concluded that the 1 per cent GDP drop resulting from fiscal restriction also reduces potential output by 1 per cent. The phenomenon of hysteresis appreciates counter-cyclical economic policy, as in addition to stabilising the economy around the trend, fiscal and monetary policies may have a substantial impact on GDP over the long term (Dosi et al., 2018). It is a general objection to the concept of high-pressure economy that it is risky in terms of inflation but rise in the output has a decreasing impact on inflation.

*More realistic economic models, return of anthropocentrism*

It is a fundamental requirement that economic models should be more realistic, which means that it is time to exceed the classical concept of man in microeconomy. To mention only the most obvious elements: (1) Due to the limits of his cognitive abilities and the absence of information, we are unable to make reasonable decisions with a pinpoint accuracy (limited rationality); (2) in the overwhelming majority of cases, the parties involved are not identically informed and do not have identical knowledge (informational asymmetry); (3) people optimise for a short term, i.e. when adopting decisions, they attribute less than the actual significance to long-term consequences (myopia). All these determine their decisions to a major extent and at the same time hamstring description of their genuine conduct in the standard models. How are individual decisions actually made in reality? What mechanisms actually determine community decision-making? These are the questions we need to find satisfactory answers for if we want to have models that work. The standard economic though has been far too oversimplifying in this field.

With the development of the neoclassical concept, economics increasingly shifted towards natural sciences, which entailed the fading away of the "link to psychology": the idea of the *homo oeconomicus*, which comes in handy in models but is highly out-of-touch with reality, and distorted economic thought. However, the progress made in cognitive psychology started a new chapter and inspired economists to set up models built on a more sophisticated concept of humans (with Amos Tversky, the Nobel Prize winner Daniel Kahneman, and Richard Thaler spearheading in this field), ultimately paving the way to the renewal of understanding macroeconomic correlations and the evolution and strengthening of an economic thought that fits and maps reality.

Academic circles (Alford and Naughton, 2001) provided a sound basis for reconsidering the mainstream thought built on Adam Smith's ideas, including the invocation of Antonio Genovesi, the classic author of anthropocentric economics, after three hundred years of slumber and despite the fact that he was sidelined already by his contemporaries. In economics, emphasis on anthropocentrism is for the most part ascribed to Ernst Schumacher and the 1970s, however, several centuries earlier Genovesi had already written that linking the economy with morals and the alignment of man with virtue were of primary significance among economic axioms. Bruni and Zamangi (2007) carry forward Genovesi's intellectual heritage and is aimed at broadening the horizon of thinking after the crisis. Their main proposition is that the prosperity of social organisations seen in the past few decades was merely accidental, and they are no exceptions to the ordinary course of capitalist economic development, rather they represent a dire symptom of a crisis in the capitalist economy and also hope for a new start. They demonstrate that the operation of the globalised society and economy requires the re-discovery of the fundamental relationship between the "principle of contract" and the "principle of reciprocity". In their historical retrospection they confirm that market is "civilian" and has a "civilising" impact if and when it is characterised by reciprocity. Bruni and Zamagni think that a society that precludes the principle of reciprocity form its cultural horizon will become incapable of survival and of satisfying its members' demand for happiness. The keywords in their theory are happiness and public welfare, which – in contrast to the mainstream approach – are categories not external to economic theory at all.

Dembinski (2018) provides evidence for the existence of an alternative to the neoliberal method of production, which gives the opportunity for the unlimited satisfaction of a voracious quest for profit, and proves that the gap between ethics and responsibility is not insuperable. In Dembinski's opinion human life may only be termed "mature and full" in the ethical sense, if it has regard for others, and "lives together with and for others". This has four preconditions: (1) the harmony of intra-group existence, (2) non-conflicting relationships, (3) service and (4) reciprocity.

*Conclusion*

We had to wait until the 2007-2008 global financial crisis for the deficiencies of the mainstream economic thought to surface. Nowadays

there is an increasing number of indications (New Weather Institute, 2017) suggesting that the scope of economic thought may widen and put special emphasis on the significance of institutional frameworks, the limits set by actual human conduct, the criteria of stability, antifragility (Taleb, 2012) and sustainability taken in the broad sense of the words, and vulnerability to shocks, which require efficient and coordinated state action and intervention as indispensable prerequisites. It goes too far to assume that these key words were completely missing preceding the crisis, but certainly less than justified attention was paid to these considerations before 2007.

The central question remains how to ensure development and the highest possible welfare for the members of society – but earlier answers are less and less usable. Economics also needs renewal in order to achieve sustainable development and widespread social well-being, and this renewed economics must play an important role in thinking about a more sustainable future.

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## CHINA TRANSPORT ECONOMICS DEVELOPMENT AND INNOVATIONS

### Introduction

After 60 years of construction and development since the founding of the People′s Republic of China, China's transportation infrastructure has undergone several developmental transitions, and now has basically solved the lag problem. Comprehensive scale, technology level, service capabilities, and coverage scope of the transportation infrastructure have basically satisfied the needs of socio-economic development. Currently, China's transportation infrastructure has entered a new stage in which all transportation modes have been developed comprehensively and a modern, integrated transportation system has been formed (Jin et al., 2008). The ′12th Five Year Plan′ period (2011–2015) is a crucial stage for China's socio-economic development, when transportation infrastructure construction will show some new characteristics. For the new period, the central government of China has clearly proposed a tentative idea for building an integrated transportation system, namely ′according to the principle of developing appropriately in advance, coordinating the development of all transportation modes, building a national rapid railway network and highway network, and forming a preliminary, integrated transportation system where network facilities are coordinated with each other, technology equipments are advanced and applicable, and transportation services are safe and efficient′. This

means that China's transportation infrastructure faces a new development transition, adjusting from priority development to comprehensive and coordinated development. From 1940–1950, some developed countries such as the United States and Germany proposed the idea of building an integrated transportation system in order to coordinate the development of railway, highway, waterway, air and pipeline transportation (Milton and Anna, 1971). Currently, the United States has formed a coordinated, integrated transportation system that mainly includes road-based passenger transportation, railway and river-based cargo transportation, and other modes (Zhao, 2004). The United States has experienced several transitions since the introduction of an integrated transportation system (MacGill, 1948), with the dominant mode transferring from rivers to rails and finally to roads. The development process has fit the United States' economic needs in different stages, and efficiently promoted economic growth (Li and Bai, 2011). The evolution of the United States' transportation infrastructure is an example of a country's transportation infrastructure experiencing several major developmental transitions from the initialization stage to a complete stage or from a primary stage to an advanced stage (Todd, 2003). In fact, the researches to the transportation infrastructure for the undeveloped countries have also reached the same conclusion (Edward et al., 1963). Systematically analyzing the construction, evolution, and transition of transportation infrastructure can help grasp the direction of its future development and provide a theoretical basis for making a country's macroeconomic policies (Jin, 2007). The foreigners have carried out fruitful research to the transition of transportation infrastructure (National Governors' Association, 1989; Edward, 1996; Becky, 1999; Lisa and Romano, 2003).

**Historical Review and Evaluation of Transportation Development**

Since 1949, especially in the most recent 30 years after the reform and opening up policies, transportation development in China has seen great advancements. The scale of transportation facilities was expanded rapidly and the technology level was improved significantly. From the perspectives of security and socio-economic development, China′s transportation infrastructure basically solved the ′deficiency′ problem of supply capacity in the 20th century and has entered the ′adapting stage′ in the past 10 years. A wide range of data shows that China's transportation infrastructure has been growing rapidly both in quantity and quality in recent years.

**Accumulation of quantity: A gradually expanded scale of transportation**

In the early years of the People's Republic of China, the scale of China′s transportation routes was small and the quality was poor. The total mileage was only 206 700 km by the end of 1950. Until the end of the 1970s, the infrastructure still lagged behind the demand and was a bottleneck restricting socio-economic development. In 1978, the total mileage was 1.23 × 106 km. After the reform and opening up, the construction of transportation infrastructure sped up, but still lagged behind economic development until the late 1990s. In 2000, the total mileage of transportation routes reached 3.12 × 106 km, and formed an integrated transportation system with certain scale and various transportation modes. Since the beginning of the 21st century, the central government JIN Fengjun et al. Transportation Development Transition in China 321has adopted a new strategy, namely ′to largely expand infrastructure investment in response to the Asian financial crisis with a purpose of stimulating domestic demand and promoting steady economic growth′ (Jin et al., 2005).

**Enhancing quality: An increasingly optimized transportation structure**

From the founding of the People's Republic of China to the reform and opening up, China's transportation mainly used railways and waterways. During this period, China's industrial base was quite weak, and the tertiary industry's development greatly lagged behind. Economic development at that time mainly focused on the production of primary products such as agriculture, coal, ore and other energy substances such as steel and oil. All such products have common characteristics: large volume, fixed transportation routes, and suitability for railway and waterway transportation. Before 1978, railway and waterway transportation in China occupied almost 90% of the whole freight turnover and 70% of passenger turnover (Gui, 1999). From 1978 to 1997, China's economy developed rapidly, particularly the secondary industry. Along with the acceleration of China's industrialization and urbanization process, the internal structure of the transportation system gradually became unreasonable. Therefore, the central government of China compiled a series of policies for adjusting the transportation structure. Under the guidance of these policies, China's road transportation developed rapidly, and the transportation structure was significantly changed (Zhu and Ma, 2009).

**Improvement of efficacy: Continuously expanding service area**

With the construction and development since 1949, China has established a nationwide, integrated transportation network – including high-speed railways, expressways, a coastal port system, and airports – supporting a continuously expanding service area. The transportation infrastructure network has linked most of China′s regions, has changed the traditional space-time relationship followed by socio-economic activities, and has played an unprecedented role in expanding living space, sharing resources, and optimizing living environments. With further expansion and growth, the infrastructure network will efficiently support the sustainable socio-economic development of China.

**Impact Factors of Transportation Development Transition**

**National management system and policy**

A unified transportation management system is an important measure for optimizing transportation structure and improving the efficiency of transportation resource allocation. A unified management system provides an institutional basis for the government to develop uniform laws, regulations, transportation planning, policies, technical standards, and business rules. For a long time, China′s transportation management system was divided into several departments. This situation led to irrationally allocated transportation resources without the guidance of an integrated transportation system (Fan, 2006). Even so, the changes in transportation policies were founded in different historical periods. The regional transportation policies of the central government in different historical periods had a strong role in promoting and guiding transportation infrastructure development and profoundly impacted the scale of construction and layout direction of each transportation mode.

**Transportation structure**

Transportation structure is shaped by the competition and cooperation of all transportation modes in a certain period, and reflects the characteristics of traffic demand and the function and status of different transportation modes. Transportation structure mainly includes industry structure, regional structure, and investment structure. Industry structure reflects the allocation ratio of transportation resources in five modes: railway, highway, waterway, air, and pipeline. Regional structure reflects the ratio of transportation resources in each region. Investment structure reflects the investment ratio of fixed assets in each

transportation sector. In fact, transportation development transition is the process of optimizing the allocation ratio of transportation resources and transportation investment in each transportation mode and region. In some ways, optimizing transportation structure is not only a way but also the purpose of transportation development transition.

**Investment scale and efficiency**

The investments in transportation construction are mainly used to renovate and expand existing infrastructure and construct new infrastructure, which results in the scaled increase of transportation infrastructure, expansion of spatial coverage, and improvement of service capacity. Both the investment scale and efficiency of transportation construction determine the transportation development stage, which is directly related to transportation development transition. The major contradiction of transportation development determines the basic characteristics of transportation development transition, and also the evolution process, which is gradual with certain regularity and adapted with the transportation development stage. For a long time, the overall supply capacity of China's transportation infrastructure was lacking and could not meet the needs of rapid economic development.

**Technological innovation**

Technological innovation is an important way to improve the productivity of total transportation input factors, and plays an important role in transportation development transition. Technological progress can promote labor productivity and capital-output efficiency in transportation with the same inputs (Fan, 2006), and thus accelerate the pace of a transition. In a global view, each development transition of transportation infrastructure is closely related with the progress of technology.

**Historical Evaluation of Transportation Development Transitions**

Based on the factors influencing transportation development transition in China and the different ways that transitions can take place, it can be divided into four types: policy transition, structural transition, efficiency transition, and technology transition.

**Policy transition**

Transportation development transition in China caused by national and regional transportation policies can be divided into five stages. The

first stage was from 1949 to 1965, when the central government compiled policies with focus placed on the inland development of heavy industry, which had huge impacts on transportation construction and layout. The focus of transportation construction in that stage was railway, mainly distributed inland. The ratio of railway mileage in the western China climbed from 5.7% in 1949 to 21.5% in 1965, and accordingly the ratio of roads rose from 28.6% to 33.1%.

**Structural transition**

Considering the evolution of transportation route mileage and transportation structure, China's transportation infrastructure has experienced three structural transitions. The first transition happened from 1949 to 1978, when the transportation structure was gradually changed and construction mainly concerned railways. The proportion of railway investment was more than 61% of the total. In addition, railway passenger transportation accounted for over 60% of the total passenger turnover, and railway cargo transportation accounted for more than 70% of the total cargo turnover. Accordingly, road transportation also developed rapidly during the 30 years, but its ratio in passenger and cargo transportation was still low. Although the proportion of waterway investment was low, its ratio in freight turnover was increased significantly. Air and pipeline lacked development during the period, and they only took a small proportion of transportation and investment.

**Efficiency transition**

Efficiency transitions in transportation development have mainly been caused by the level of influence of transportation investment on economic development. By conducting self-regression analysis on transportation infrastructure investment and GDP growth, we get three stages of efficiency transition. The first stage was from 1949 to 1978, when China implemented a planned economy with slow development. The first stage is also the initial stage of China's transportation construction.

**Technology transition**

Since 1949, China's transportation has undergone technology transitions twice. First, 1949–1985 was the initial stage of transportation technology. During this period, China implemented self-development policies and introduced advanced technology from outside, significantly accelerating the technological improvement of transportation equipment.

The double-track rate, electrification rate and automatic blocking mileage of railways increased substantially. China built a number of port berths with a high level of mechanization and automation (Li, 1996). Following this stage, from 1985 to 2000, China's transportation technology was in a rapid development stage, and with the promotion of information technology, it developed with unprecedented speed.

**Comprehensive transition and stages**

Comprehensive transition of transportation infrastructure is the integration of the four kinds of transition mentioned above. Based on the above analysis of influential factors and transition types, we will consider the differences between dominant factors in different historical periods. As a result, the evolution of transportation infrastructure can be divided into five stages since 1949 and four development transitions. The first transition occurred in the middle of the 1960s and mainly reflected changes in the regional traffic structure. During this period, China's transportation construction mainly focused on 'third-line area' from inland areas, and resulted in the change of the regional transportation structure.

**Transportation Development Trends**

**Adjustment of traffic management system**

Currently, China's traffic management system can not be easily developed into an integrated transportation system, and can not give full play to the characteristics and advantages of each transportation mode under the concept of sustainable development. In other words, the current traffic management system in China is detrimental to the formation of an integrated transportation system. Accelerating the formation of a unified and coordinated traffic management system should be a priority in the '12th Five-Year Plan' period (2011–2015). Based on current development trends and requirements for coordinating development among all transportation modes, China urgently needs to speed up the reform of its traffic management system to incorporate resource efficiency.

**Construction of a resource-saving and integrated transportation system**

Construction of China's transportation infrastructure has transitioned from extensive growth to a stage of intensive optimization. The overall planning must be strengthened and a resource-saving, integrated

transportation system must be built in the future. Through the construction and improvement of an integrated transportation system, the government can enhance the carrying capacity, security level and development environment of metropolitan areas and urban agglomeration areas, conduct coordinated development of urban and rural areas by reducing regional disparity, and reflect the theme of 'people-oriented' development. Meanwhile, the government should strengthen the overall planning of all transportation modes and absorb the idea of 'changing the growth mode' in the planning.

**Structural optimization of transportation infrastructure**

Firstly, China needs to optimize its transportation structure based on developing rail transportation and promote the sustainable development of transportation in the future. Compared with other transportation modes, railways and waterways have obvious advantages in land occupation, energy consumption, transportation safety, and environmental protection, and they are very important for establishing a resource-saving transportation system. In recent years, China's roads, especially highways, have developed rapidly and their market share has also grown rapidly. Conversely, railway and waterway development lag behind. The transportation capacity of railway is very lacking and can not meet the needs of socio-economic development. Part of the passengers and freight that should be transported by railway in terms of economy are now forced to use roads, resulting in an unbalanced transportation structure in China.

**Technological innovation of transportation**

To enhance service quality and catalyze development transitions, improved transportation efficiency and management through technological innovation are necessary. At present, China's transportation infrastructure construction has transitioned from relying on increased transportation investment to technological innovation. On the one hand, the future direction of transportation development is toward improved transportation efficiency through strengthening technological innovation, positive use of advanced, modern information and communication technology, and accelerating development and research of intelligent transportation systems. On the other hand, China needs to develop technologies, e.g., high-speed transportation, heavy-loading equipment, intermodal containers, and modern logistics, to improve transportation efficiency and reduce resource consumption.

**Construction of an efficient transportation system in metropolitan areas**

Metropolitan areas will be the kernels of China's industrial and urban development in the next 20 years, the main engines for driving economic growth, and the key for China's participation in the international economy. The construction of transportation infrastructure in these areas is directly related to development efficiency, carrying capacity and environmental capacity of the whole country. Therefore, it is important for these areas to build a modern transportation infrastructure system and improve their ability to support development.

**Conclusions**

China's transportation infrastructure has seen striking progress in the last 60 years of construction and development. The scale of transportation has been expanded day by day, the transportation structure has been optimized increasingly, and the service area has been improved continuously. China's transportation infrastructure has completely overcome the lag problem and started to enter into an advanced development stage for improving quality.

In this process, China's transportation infrastructure experienced four transitions under the following effects: 1) national management system and policy, 2) transportation structure, 3) investment scale and efficiency, and 4) technological innovation. The four transitions happened in the middle of the 1960s, in the late 1970s, in the early 1990s, and at the turn of the century, respectively. Therefore, the interval for each transition was gradually shortened, which means that the speed of transition was accelerated. The first transition experienced 16 years, but the last one spanned only eight years. In addition, the dominant factors for transportation development transition were slightly different. The impact of policy on transportation development transition was weakened gradually, and the impact of technology showed an upward trend. With technological innovation, the speed of transportation development transition will be accelerated in the future. Currently, China's transportation infrastructure transition still has great space for further development. Based on current trends, in the future, China should strengthen the transitions in traffic management systems, resource-saving integrated transportation systems, transportation infrastructure organization, transportation technology, and efficient transportation systems in metropolitan economic areas. Also, future improvement of transportation supply capacity and service area should

shift from relying on expansion of transportation investment to technological innovation.

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## Chapter 4

# STRATEGIES OF COMPETITIVENESS IN ENSURING SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT

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## TOURISM COMPETITIVENESS IN EASTERN AUKŠTAITIJA REGION, LITHUANIA

### Introduction

The topic of competitiveness of countries, regions, and cities annually attracts the increasing attention of researchers. The authors of scientific articles analyzed the concept of competitiveness, identifies main factors of competitiveness, analyzed their impact on overall competitiveness. For increasing of region's competitiveness are forming different strategies, applying the different measures, granting of financial resources. Region tourism competitiveness issues more not to investigate in Lithuania, is only the individual articles on the topic. In the articles of foreign researchers of the region's tourism competitiveness theme was forming quite extensively.

The National Tourism Development Program for 2014-2020 years increasing of Lithuanian tourism sector competitiveness identified as a strategic objective of the program. In this Program the Eastern Aukštaitija region, covering Anykščiai, Ignalina, Molėtai, Utena and Zarasai districts identified as one of the most attractive priority tourist regions in Lithuania.

**Relevance of the topic.** Tourism sector growth in the country and in the world is one of the highest among the business areas. Due to the economic, social and political globalization processes affect the tourism became the leading economic sector in many countries. According to the European Commission, tourism accounts for more than 5 percent the EU's gross domestic product (GDP). EU tourist accommodation sector employs 2.4 million people, and the whole of the EU tourism industry

provides the job for 12-14 million employees. Therefore, the topic of tourism region competitiveness is very relevant. It is important to identify the factors that determine the growth of the tourism region competitiveness. Otherwise, the region will lose its competitive position in relation to other regions and the attractiveness of investments, jobs, technology, tourism, population, national projects and preferential policies. And it will affect not only for the region but for the whole country's economic competitiveness and social development.

**The research problem.** What factors influence the Eastern Aukštaitija region tourism competitiveness? The region is rich in recreational resources, which can be successfully used for tourism business development. A rich and clean natural resources – rivers, lakes. Relatively natural, human intact landscape creates well preconditions for recreational use resources. One of the most attractive recreational areas across the country – of national importance Ignalina – Molėtai, Anykščiai – Utena habitats and recreational resort area – Anykščiai, Zarasai, Ignalina. There is an opportunity to develop health tourism in Ignalina district. Molėtai district has great potential for tourism and recreation in the area as a region tourism center – land of lakes. But are not explore the region's competitiveness factors. In order to enhance the region's competitiveness, it is necessary to identify and evaluate the factors, which determine the competitiveness of the region.

**The object of research:** competitiveness of the Eastern Aukštaitija region's tourism.

**The aim of research:** after theoretical analysis concept of tourism region competitiveness to evaluate Eastern Aukštaitija region's tourism competitiveness.

**Objectives of the research:**

1. Perform an analysis of the tourism region competitiveness by the theoretical aspect.
2. Perform Easterrn Aukštaitija region's tourism competitiveness research.

**Research methods:**

1. Analysis of scientific literature.
2. Competitiveness assessment, using a "web" sketches (spider plot).

## 1. The competitiveness of tourism region by the theoretical aspect

Region competitiveness is the ability under the influence of external competition, generate a relatively high income and employment levels in

human resources. There is no consensus that the region competitive performance factors of competitiveness depends on productivity, that the tourism regions use their human resources, capital and natural resources (Porter, 2001).

In the scientists literature, the most prevalent M.E. Porter's "National diamond" A.M. Rugman, J.R. Cruz "Double diamond" D.S. Cho "Nine factors", M. Porter and D.S. Cho and H.C. Moon "Competitiveness cycle" and J. Bruneckienė region competitiveness models.

According to M. Porter's "Diamond" model, the competitive advantage of the territory should be interpreted as the ability to create an environment that will allow for region businesses enterprises to improve and innovate faster than competing region companies. According to Porter competitiveness of the company and the region's competitiveness – not identical concepts.

The world's most famous region competitiveness development plan was the Lisbon Strategy. The Lisbon Strategy is best known for its prime objective – until 2020, making the EU the "most competitive and dynamic knowledge-based economy in the world, capable of creating sustainable economic growth, with more, better jobs and greater social cohesion and respect for the environment."

Global trends and priorities are changing, so at this point it is essential that the tourism sector will be competitive and balanced. It must be recognized that in the long-term competitiveness depends on sustainability. By integrating sustainability factors into their activities, tourism stakeholders will protect the competitive advantage. The overall challenge for the tourism sector – to remain competitive while also embracing sustainability, recognizing that the long-term competitiveness depends on sustainability. Therefore, we should continue to pursue the development of tourism, the achievement of this objective may need to change the tourism consumption and production patterns.

Due to globalization, concept of the countries and the region competitiveness became as instrument of the politics. The strategy "Europe 2020" states that the single market reaches 2020 years strategic objectives, where competition and consumer access stimulate growth and innovation, as well as the need to strengthen the competitiveness of the European tourism sector.

Hassan (2000) defines competitiveness as "the ability of tourism region to develop and to integrate of value-added products in order to maintain their resources while maintaining market position in comparison with competitors". According to other researchers, the

competitiveness of the tourism destination is linked to the economic well-being of the population in the country (Buhalis 2000; Crouch & Ritchie, 1999). This is consistent with the view, supported by the World Economic Forum (Porter, 2001).

The most comprehensive work on the analysis of the tourism competitiveness, are done by the tourism researchers Ritchie and Crouch (1993, 2000). They analyzed the applying model of the competitiveness of the tourism destination in other contexts, including companies and products, national industry and the national economy, as well as the competitiveness of industry-related services. Researches argue that, in absolute terms, the most competitive is the place that brings the greatest success; it is bringing prosperity and sustainable basis for its residents. Ritchie and Crouch (2003) presented an integrated theoretical framework for the competitiveness of the tourism sector. They argue that a truly competitive tourism destination makes its ability to achieve increased tourist spending and increase the number of visitors attracted by providing them with rewarding, memorable experience, and to do so profitably, while enhancing the well-being of local people and preserving the natural resources of the destination for future generations. Crouch and Ritchie developed a conceptual model of the competitiveness of the tourism destination. This model was the basis for the other research of tourism destination on a competitive basis. The competitiveness of tourism region's based on the region's tourism resources (comparative advantage), as well as the ability to use the resources (competitive advantage). The model also estimated the global macro-environmental forces (the global economy, terrorism, cultural and demographic trends, etc.) and competitive micro-environmental conditions impact. Model identifies 36 competitiveness factors of tourism region, which divides into five main groups. From the 36 tourism destinations competitiveness factors it was found ten of the most important: the physical environment and climate; market relations; culture and history; tourism superstructure; safety and security; price/value; availability; understanding/image; location; infrastructure. According to Crouch and Ritchie (2003) competitiveness of tourism destination depends on the following factors: opportunities to increase tourism revenues; attractions for tourists; and experience the delights of submission/ adventure experience; profitability; the quality of life for local residents.

## 2. The methodology of competitiveness study of Eastern Aukštaitija tourism region

In the scientific literature, analyzing competitiveness theory can be found not one of the general competitiveness evaluation model. In the scientific literature, the various methods used in the investigation of competitiveness, but they are often used as ways of assessing individual country, product and so on competitiveness.

Wöber (2002) suggests the assessment of the competitiveness of tourism destinations, to compare them using the Web sketches: resources, tourism infrastructure, personnel competence, the tourist market diversity, the geographical environment and virtual environment. All six aspects of each of the four analyzed factors and conditions, indicator values can range from 0 to 10 points. Initial information about ironing object can be collected from the internet. Final details must be collected directly by visiting the facility, interviews with staff using the service, review the actual situation.

Scientists Milohnić I. and D. Smolčić Jurdana to assess the competitiveness of tourism region factors are also recommend the use of Web cartoschemes method. Web cartoschemes method was used for assessing key competitiveness factors. Each web radius corresponds to one of the defining factors of competitiveness. Web meets the minimum cumulative factors, the value of external parameter – the maximum. Postponing the web competitiveness criteria values, it is easy to visually compare the factors. Web sketches are the "static image" of the competitiveness factors of the tourism destination.

## 1. Analysis of the competitiveness of Eastern Aukštaitija tourism region

Eastern Aukštaitija region is one of the six priority tourism regions in Lithuania and has a lot of natural resources. There are mostly rural homesteads in Lithuania, a region involved in the culinary heritage activities. It is provides to interviewed of tourism professionals – experts (the representatives of tourist information centres of districts, forming the region: representatives of Anykščiai Tourism Information Center (TIC), TIC of Ignalina district, Molėtai Tourism and Business Information Center, Utena TIC and Zarasai district tourist information centers), asking them to assess the competitiveness factors, distinguished on the basis of Wöber (2002) methodology (a tourism

resources, tourism infrastructure, personnel competence, the tourist market diversity, geographic environments, virtual environment and tourism destination image) at the 10-point system (1 point – very poor condition, 10 points – perfec condition). All respondents evaluated the tourism competitiveness factors of Eastern Aukštaitija region by each criterion at 10-point system.

**The situation of tourism sector in the Eastern Aukštaitija region:**

- There is the largest number of rural tourism homesteads in Lithuania in this region – by the 2017 statistics – 168 rural tourism homesteads, or 25% of all Lithuanian rural tourism homesteads;
- The involvement of European regional culinary heritage network;
- The region has 3 resort areas (Anykščiai, Zarasai and Ignalina);
- There are 1002 lakes in the region (Molėtai, Ignalina and Zarasai districts have most lakes in the country).
- One of the development priorities of the Eastern Aukštaitija are tourism and infrastructure development.

The individual tourism center evaluation distributed as follows: the highest grade of tourism competitiveness criteria evaluated Zarasai district TIC (an average is 8.13 points) and Molėtai TVIC (an average is 8 points); lower grade tourism competitiveness factors assessed Utena TIC (an average is 7.6 points) and Ignalina district TIC (an average is 7.25 points). The lowest score of competitiveness factors assessed Anykščiai TIC (an average is 6.63 points). Total evaluation of tourism experts of the competitiveness of Eastern Aukštaitija region is an average is 7.5 points.

The withdrawal evaluation average of tourism experts, non-factor of competitiveness have not been evaluated the highest score (10 points); 9 point scores were assessed geographical environment; 8 point received cultural and natural resources, a variety of tourist market, image of the tourism destination; 7 point received personnel competence and virtual environment. The lowest score (6 points) is estimated to tourism infrastructure and management of tourist destination.

The tourism professionals – experts were asked to evaluate possible factors of competitiveness trends of Eastern Aukštaitija region. Evaluation average and trends of experts are shown graphically in Figure 4.1.

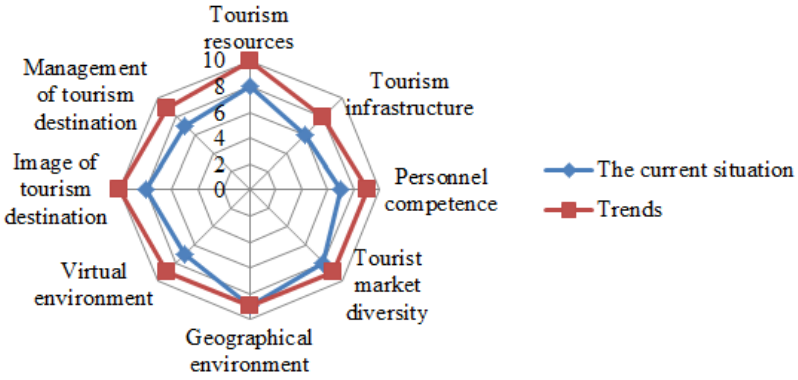


**Figure 4.1 The average of evaluation and tendencies of tourism competitiveness factors of Eastern Aukštaitija region**

Comparing the evaluation of competitiveness factors Eastern Aukštaitija and development trends by tourism expert, it can be seen that the trend treated fairly optimistic – overall the average of 9.13 points. Among the highest score to assess trends – cultural and natural resources as well as a tourism destination image (10 points). Tourism infrastructure valued at the lowest grade – 8 points, all other criteria assessed by 9 points. Compared evaluation of tourism experts, the highest scoring criteria for the competitiveness assessed the Molėtai district TVIC (an average is 9.6 points) and Zarasai district TIC (an average is 9.13 points), lower score on the development trends of the Anykščiai TIC (an average is 8.86 points), Utena TIC an (average is 8.75 points) and Ignalina district TIC (an average is 8.66 points).

## CONCLUSIONS

1. The competitiveness of region is the ability under the influence of external competition, generate a relatively high income and employment levels in human resources. The competitiveness of tourism region depends on the development of resources and the environment in which competing service companies. The most important determinants of competitiveness development resources are natural resources, skilled labour force, financial resources and infrastructure. The most important competitiveness-enhancing environment includes the role of

government, the possibility of region and international economic situation and business critical circumstances.

2. Evaluating the Eastern Aukštaitija competitiveness factors, distinguished on the basis of Wöber (2002) methodology (cultural and natural resources, tourism infrastructure, personnel competence, the tourist market diversity, geographical environment, virtual environment, image of tourism destination) overall average of the expert evaluation of competitiveness of the tourism region is 7.5 points. The tourism experts by the highest score evaluated the geographical environment, the lowest score – management of tourism destination and tourism infrastructure. The trends of region tourism development, experts have evaluated by higher marks. Tourism experts by highest score have evaluated trends – cultural and natural resources and image of tourism destination.

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# MULTIDIMENSIONAL APPROACH TO EVALUATION OF EU (28) COUNTRIES COMPETITIVENESS IN ENSURING SUSTAINABLE ECONOMIC GROWTH

Sustainable development of countries is a phrase we hear in order to underline ideal vision of the future. Nevertheless, a right understanding of this issue and its challenges is quite complicated as the sustainable development is a long-term solution to how we should live in the future without causing damage to the environment.

At national level, sustainability issue covers a broad scope of matters. However, it should provide equilibrium between economic prosperity, social cohesion, and rational usage of natural resources. The economic sustainable prosperity has become a discussion topic in the literature, especially since the 1980s, when researchers became interested in the links between sustainability and the economy and how these links may be inter-related. Thus, the multifaceted concept of sustainable competitiveness is significantly put in relation with the national competitiveness.

**Approaches to measuring the competitiveness of countries**

Identification of economic tools enhancing the sustainable competitiveness of the national economy is a difficult problem. To analyze this issue, many international organizations and institutions publish annual reports focused on evaluation of countries competitiveness, growth, sustainability, etc. from different perspectives to create the rankings of countries based on the effect of various range of economic and noneconomic factors.

In order to cover various economic aspects determining sustainability and competitiveness of EU member countries, we decided to choose and analyze the following multi-criteria indices (the basic structure of indices is illustrated in Table 4.1): Global Competitiveness Index (GCI), Economic Freedom Index (EFI), Global Innovation Index

(GII), Corruption Perception Index (CPI), Human Development Index (HDI).

*Table 4.1*

**Global indices framework**

| Index | Subindexes | Pillars | |
|---|---|---|---|
| *GCI* | a) Basic requirements<br>b) Efficiency enhancers<br>c) Innovation and sophistication | 1st Institutions<br>2nd Infrastructure<br>3rd Macroeconomic environment<br>4th Health and primary education<br>5th Higher education and training<br>6th Goods market efficiency | 7th Labor market efficiency<br>8th Financial market development<br>9th Technological readiness<br>10th Market size<br>11th Business sophistication<br>12th R&D Innovation |
| *EFI* | a) Rule of law<br>b) Government size<br>c) Regulatory efficiency<br>d) Open markets | 1st Property rights<br>2nd Judicial effectiveness<br>3rd Government integrity<br>4th Tax burden<br>5th Government spending<br>6th Fiscal health | 7th Business freedom<br>8th Labor freedom<br>9th Monetary Freedom<br>10th Trade freedom<br>11th Investment freedom<br>12th Financial freedom |
| *GII* | a) Innovation Input Sub- Index<br>b) Innovation Output Sub-Index | 1st Institutions<br>2nd Human capital and research<br>3rd Infrastructure<br>4th Market sophistication | 5th Business sophistication<br>6th Knowledge and technology outputs<br>7th Creative Outputs |
| *CPI* | The CPI is a global (180 countries/territories) aggregate index (up to 13 different data sources) capturing perceptions (experts/business executives) of corruption (abuse of power for private gain) in the public sector (public officials and institutions). Based on expert opinion from around the world, the CPI measures perceived levels of public sector corruption worldwide. | | |
| *HDI* | a) Long and healthy life<br>b) Knowledge<br>c) A decent standard of living | 1st Life expectancy index<br>2nd Education index<br>3rd Gross national income index | |

*Source: Schwab et al. (2017); Miller et al. (2018); Dutta et al. (2018); Rubio et al. (2018); Jahan et al. (2018)*

The ***Global Competitiveness Index (GCI)*** measures factors reflecting drive long-term growth and prosperity in order to design the economic growth strategies. The issue of national competitiveness is still in the centre of different subjects' attention, so many authors are devoted to this issue. For example, Roy (2018) investigated the impact

of three GCI subindexes on overall GCI score. Stanickova (2015) focused on the definition of main factors of socioeconomic development determining competitiveness level of EU countries.

The ***Economic Freedom Index*** (EFI) focuses on key aspects of the economic and entrepreneurial environment over which governments exercise typically policy control. E.g. Mushtaq, Ali Khan (2018) examined the effect of economic freedom on sustainable development of countries in the context of their competitiveness. The paper of Yevdokimov et al. (2018) was focused on assessing economic freedom from the macroeconomic perspective and findings confirmed a positive impact of economic freedom on macroeconomic stability.

The ***Global Innovation Index*** (GII) aims to capture the multi-dimensional facets of innovation. Nowadays, the economic development of every country and its competitiveness on the world market is supported by the knowledge-based economy, so this issue is examined in many research studies. The analysis of dependence between the innovation activity and the competitiveness of economies was addressed by Kondratiuk-Nierodzińska (2016). The author discussed the main factors that determine the competitiveness of economies. Moagar-Poladian et al. (2017) analysed the competitiveness of EU member states in terms of research and innovation from the perspective of attracting EU funding for research.

Based on experts' opinion from around the world, the ***Corruption Perception Index*** (CPI) measures perceived levels of public sector corruption. The issue of corruption is considered as a one of the major bottlenecks for economic development. Ngoc et al. (2018) investigated how different CPI impacts upon one of the fundamental decisions made by foreign investors, the choice of FDI location within the host country. The research paper of Zouaoui et al. (2017) was centered on investigating the index development over time for all countries included in the CPI.

The ***Human Development Index (HDI)*** is a summary measure of average achievement in key three basic dimensions of human development. Human development from the point of view the higher education quality was addressed by Jovovic, Draskovic, Jovovic (2016). According to authors, the general decline in the higher education quality is influenced mainly by low quality level of human resources, culture, decision making and information technology. The purpose of Khan et al. (2018) study was to explore the relationship between economic growth, terrorism, and human development index.

**The evaluation of competitiveness within EU (28) member countries using multi-criteria indices**

The aim was to analyse the economic sustainability of EU (28) member countries through global competitiveness, the economic freedom, innovation level, corruption perception, as well as human development on the basis of international indices (GCI, EFI, GII, CPI and HDI) for the period 2011–2018. Furthermore, an attention was paid to categorization individual EU countries into clusters for the year 2018 in order to assess the similar and different characteristics, as well as to identify the most and the least similar countries.

According to Halaskova (2018), cluster analysis is a mutli-dimensional statistical method used for classification of objects. It sorts units into groups (clusters) so that units belonging in the same group are more similar then objects from other groups. A significant part of these similarity measures is based on calculating the distances between the objects. The most widely used distance measure is the *Euclidean distance (ED)*, expressed by the equation:

$$D_E(x_i, x_j) = \sqrt{\sum_{l=1}^{m} (x_{il} - x_{jl})^2} = \|x_i - x_j\|$$

where:
*m – number of variables;*
$x_{il}$ – $i^{th}$ *coordinate in dimension "m";*
$x_{il}$ – $j^{th}$ *coordinate in dimension "k".*

When choosing a clustering method, the nature of the original data should be taken into account. *Ward's hierarchical clustering* method is considered the best choice, as it combines objects into groups so that the inter-cluster dispersion is as low as possible. Score values of all selected indices were expressed in the same range (0 – 100 points). The data relating to individual indices were collected from the annually published online reports over the period of 2011 to 2018 and processed by MS Excel program and STATISTICA software (version 13).

***The development analysis of the GCI within the EU (28) countries***

At first, we focused on evaluation concerning the GCI development over the monitored period. The following Figure 4.2 graphically presents the average GCI scores within all member countries of EU (28) in the period of 2011 to 2018.

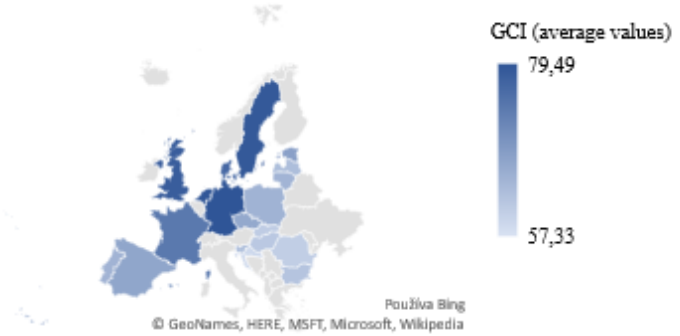


**Figure 4.2 The average GCI score of EU (28) countries**
*Source: own processing*

Based on the assessment of the global competitiveness of the EU (28) countries, we can state that the average GCI score achieved the value of 68.29. During the period under review, Germany achieved the best results with an average index score of 79.49. On the contrary, Greece was indicated as the least competitive country, with an average score of 57.33. In addition, the comparison of countries revealed that a total of 11 EU countries reached the score higher than the EU average, while 17 countries were ranged below this score. The best value was recorded in 2018, whereby in comparison to 2011, we found an improvement by 7.4 %. The analysis of the GCI development also showed that competitiveness was taking an increasing trend for almost all EU (28) countries.

***The development analysis of the EFI within the EU (28) countries***

In the following partial analysis, we devoted to economic freedom assessment of the EU (28) countries by means of the EFI. Figure 4.3 below presents the average EFI scores achieved by selected countries.

Over the analyzed period, the average EFI scores within the entire EU (28) countries evaluated reached the average value 69.07. Besides that, almost all countries acquired a desirable growing trend of the EFI score. Based on the comparative analysis of the EFI across the EU (28) countries, we concluded that the lowest average value was achieved by Greece (55.79), while vice-versa, the highest score was recorded by Ireland (77.31). In the case of countries comparison, we found, that exactly half of EU member states reached the better average scores than EU average. Moreover, during the analyzed years was recorded

increasing trend of economic freedom of EU (28) countries, however only at level 1.4 % (an average).

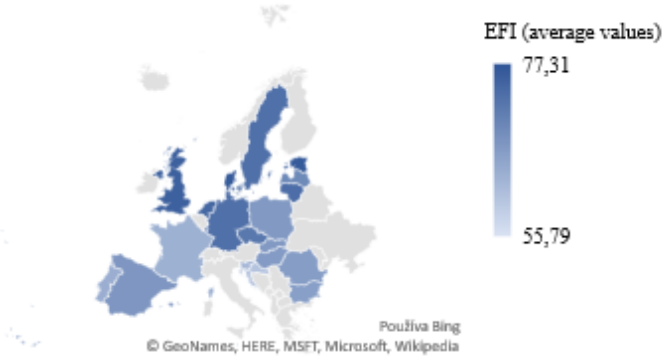


**Figure 4.3 The average EFI score of EU (28) countries**
*Source: own processing*

***The development analysis of the GII within the EU (28) countries***

The next multi-criteria index subjected to the brief development analysis within the entire EU (28) countries in the area of innovation was the GII. Figure 4.4 demonstrates the resulting GII average scores over the years of 2011 to 2018.


**Figure 4.4** The average GII score of EU (28) countries
*Source: own processing*

The development of the average GII score in all EU (28) countries showed a growing trend (in range from 37.99 to 62.94). The average GII score within the analyzed countries attained a level of 49.28. Overall,

the worst-rated country in terms of the GII was Greece, vice-versa, Sweden has consistently achieved the best results during all analyzed years. It is also important to note that only two countries achieved an index score above 60 points within the analysed period, namely Sweden and the United Kingdom. In the case of GII assessment was found that 15 countries reached better innovation score than EU average. The analysis of year 2018 compared to 2011 revealed that the innovation level had improved about 9.8 %.

***The development analysis of the CPI within the EU (28) countries***

The following global index that was examined within the entire EU (28) countries was the CPI. In the case of CPI is necessary to emphasis that zero score expresses highly corrupt and 100 points score means very clean country. The most significant disparities among the EU (28) countries were identified just in the area of corruption perception (the range score from 40.63 to 90.50). According to the CPI score for all member states, an unstable development trend of values was noted, representing undesirable development. Over the period analyzed, the average CPI score within all EU (28) member states achieved the level of 63.99. The next Figure 4.5 illustrates the resulting CPI average scores over the analysed years.

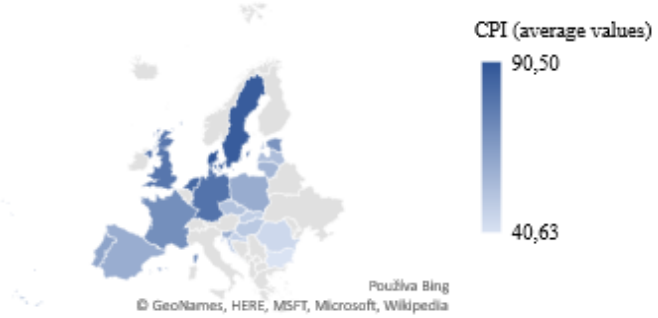


**Figure 4.5** The average CPI score of EU (28) countries
*Source: own processing*

The lowest CPI score in the period of 2011–2018 was recorded in the case of Bulgaria. On the contrary, Denmark reached the best CPI score. During the period under review, it was indicated an improvement of score value about 4.5 %.

***The development analysis of the HDI within the EU (28) countries***

The last selected index analyzing the human development aspects within the entire EU (28) countries was the HDI (see Figure 4.6 average scores over the 2011-2018).


**Figure 4.6** The average HDI score of EU(28) countries
*Source: own processing*

Based on the assessment of human development within all EU (28) countries, we come to the several conclusion. The average HDI was found at level 87.45 (the highest of all the indices analyzed). The lowest differences between countries were found in the case of mentioned index. The lowest average value was achieved by Bulgaria (79.81), while the highest score was recorded by Germany (93.07). The analysis showed that 15 countries achieved better results of HDI than EU average. Furthermore, we found an increasing of HDI score about 1.1 % (average results of EU countries).

In accordance to previous analysis, the following section focused on the categorization of the EU member countries using cluster analysis. The following Figure 4.7 illustrates dendrogram (clusters of countries) created with regard to global indices assessment in 2018.

The above-mentioned dendrogram (Tree Diagram) shows the sequence of the individual EU countries' mutual connection into certain clusters based on their indices showing similar characteristics. Again, the greater the countries' interconnectedness expressed by the value on the X-axis, the less the country is similar to the cluster formed as first. The values on the X-axis help to determine the number of clusters based on the distance of a country's connection to a cluster. Based on Figure 4.7, there can be identified four clusters, namely:

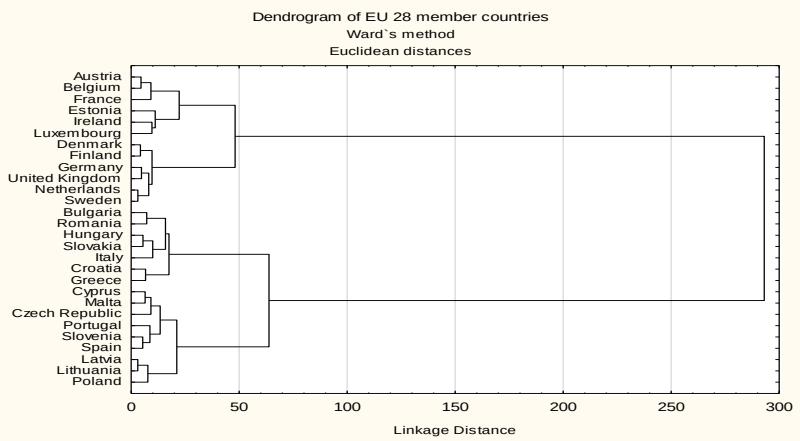


**Figure 4.7** Dendrogram of EU (28) countries in 2018
*Source: own processing in STATISTICA*

***Cluster 1: "Economically advanced countries"*** – including 6 countries like Luxembourg, Ireland, Estonia, France, Belgium and Austria. Neither any average index minimums, nor maximums were identified within this country cluster. Nonetheless, it is this cluster which obtained 2nd highest average score (the 1st belongs to Cluster 2) when assessed by all the indices. The average indices values in the selected country cluster obtained significantly higher score than the EU average. When compared to the EU average for 2018, the countries included in this cluster showed the most significant difference in the CPI index, as the index of this group of countries exceeded the EU average by 15.96%. As for 2018, it can be concluded that while the countries enjoyed satisfactory economic prosperity, they showed some limits that prevented them from being the best EU countries from the economical point of view.

***Cluster 2: "Economically leaders"*** – including 6 countries like Sweden, Netherlands, United Kingdom, Germany, Finland and Denmark. This country cluster is characterized by the fact that the score of all the indices reached the highest value (average maximum). Thus, the observed results reveal that in the analysed economic spheres of the countries (according to the indices) they belonged among the EU leaders. This cluster of countries recorded significantly higher scores than was the EU average for the CPI and the GII. On the contrary, the lowest deviations of this group of countries were observed in the HDI

index. It is common knowledge that the Nordic countries, together with United Kingdom and Germany, are among the most advanced countries in Europe, with a highly developed level of social, innovation or economic conditions, as confirmed by the results of the analysis.

***Cluster 3: "Economically limited countries"*** – including 7 countries like Greece, Croatia, Italy, Slovakia, Hungary, Romania and Bulgaria. This group of countries can be described as the least economically efficient, as the countries belonging to this Cluster acquired average minimum when evaluated by all the indices. These countries are characterized by the fact that they were lagging behind the EU average in 2018 by 13.17% on average. Based on the analysis of the individual indices and their average value, it was shown that these countries' largest issues were related to corruption, as the CPI lagged behind the EU average the most together with GII innovations. In contrast, the human development domain was at its best.

***Cluster 4: "Economically averaged countries"*** – including 9 countries like Poland, Lithuania, Latvia, Spain, Slovenia, Portugal, Czech Republic, Malta and Cyprus. The following cluster (similarly as Cluster 1) did not show any average minimums or maximums in any of the indices, achieving the 2$^{nd}$ lowest average score within the monitored indices. The Cluster 4 average score indicates that these countries reached a score roughly equal to the EU average. Average score values were below the EU average, ranging from 1.69% (for EFI) to 8.78% (for CPI). On the basis of the resulting index score for 2018, it can be stated that countries belonging to this cluster were among the EU average in assessing economic maturity.

Based on the results from Distance matrix and the Amalgamation schedule for 2018, we found out that, Latvia and Lithuania were among the two most economically similar countries within the European grouping of countries, (ED at value 3.01), while Denmark and Greece, was indicated as the least similar (ED at level 54.65).

**Conclusion**

The international community faces a large set of problems that make sustainable development a difficult target to achieve. Thus, the multidimensional conception of competitiveness is often analysed in relation to the targets established in the development strategies.

The sustainable analysis of EU (28) countries measured by global competitiveness, economic freedom, innovation level, corruption perception, as well as human development on the basis of international

indices (GCI, EFI, GII, CPI and HDI) for the period 2011–2018 revealed following findings. We found that Germany ranked at the top of ranking in the case of two indices, while Greece and Bulgaria ranked at the end of ranking twice. Overall, all global indices reached desirable positive trend of development, in range from 1.1 % to 9.8 % (an average). The best overall results were quantified in the case of Germany, Denmark and Sweden, while the Bulgaria, Greece and Romania achieved the worst-rated results. By the application of cluster analysis, we divided EU(28) countries into 4 clusters ("Economically advanced countries", "Economically leaders", "Economically limited countries", "Economically averaged countries"), which can be useful for policymakers in creating national competitive strategies and help all EU member states identify their economic development level. In this regard, we recommend countries included in 3rd and 4st cluster (economically limited countries) to focus on solving problems regarding to economic sustainable development (competitiveness, economic freedom, innovation, corruption and human development).

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# COMPETITIVENESS OF A PRODUCTION COMPANY IN THE CONTEXT OF FINANCIAL RESULTS ACHIEVED

## Introduction

The concept of competitiveness is necessary to isolate the ratio of enterprise parameters to parameters of its rivals, resulting from many internal measures and ability to deal with external factors. A company's competitiveness describes its efficiency in relation to innovative and full use of resources in value creation processes, not only for contractors but also for the management board, owners or potential investors.

Competitiveness analysis allows to present the current financial state, taking into account its past financial state. Data from several years provide a complete picture of the company situation, allow to draw conclusions for the future and create a forecast that will help in a more efficient use of the company's capabilities and resources.

The situation on the paint market has been changing for years. Many competitive manufacturers are currently emerging in the chemical industry. Prices and availability of packaging is a major obstacle to making a profit and a change in consumer behavior and preferences forces producers to implement innovative solutions.

The main purpose of the article is to examine the competitiveness of Tikkurila Poland Joint-Stock Company based on available financial statements and reports prepared for the years 2014-2017.

## Competitiveness and competition

The term competitiveness is often used in economics, however, it is rather an abstract name and is defined very differently. Many definitions describe competitiveness as a process and ability to develop sustainably over a very long period of time, as well as to increase the efficiency of internal functioning, manufacture and sale of goods or services, achieve success in economic competition or as the ability to provide proper instruments to maintain competitive advantage on the market.

"Competitiveness of enterprises can also be defined in terms of factors (company's ability to take quick and adequate actions to effectively manage resources) and results (equivalent to results achieved

by the company, e.g. market share, profitability)" (Krzewska-Tokaj, Żołnierski 2004, p. 176)

The lack of a clear definition of the concept of competitiveness is a serious problem for economists who deal with this field on daily basis. M. Porter in his book "The competitive andvantage of nations" also does not provide an unambiguous definition of the term competitiveness.

Competitiveness is one of the important areas of enterprise's functioning. It is a condition of maintaining a good market position and, as a consequence, the company's success reflects the level of financial result. "Nevertheless, enterprises operate in an environment that is currently characterized by high volatility as well as intense competition between market entities. Therefore, enterprises must effectively use their competitiveness potential and dynamically react to changing factors and threats appearing in the environment. These factors can be divided into internal, i.e. all activities related to the production profile, profitability, capital level, assets or product quality, and external i.e. economic situation, legal regulations, financial and tax system of the state" (Walczak 2010, p. 4).

"Another definition of competitiveness defines it as the ability to design, manufacture and sell goods whose prices, quality and other values are more attractive than relevant features of goods offered by competitors" (Sawińska 2002, p. 391). There are many different definitions of competitiveness of enterprises. Competitiveness of enterprises is considered to be a process in which market participants, striving to implement their assumptions, try to offer a more favorable price, quality or other features that influence "decisions to conclude a transaction" (Cyrkon 2002, p. 35).

"The analysis of competitiveness of enterprises leads to defining various kinds of competitiveness relating to specific areas and factors accompanying competitiveness of an enterprise. As a result, it is possible to distinguish types of competitiveness that are related to cause-effect relationships:

– real competitiveness of an enterprise,

– enterprise competitiveness determined by customers,

– resource and skills competitiveness of an enterprise,

– competitiveness of the economy functioning system

– competitiveness of production factors of a given country or region" (Grabska 2004, p. 212).

"Competitiveness of a company is influenced by many factors. They can be divided into internal (tangible, intangible, human and financial

resources), output (products, distribution, promotion and economic conditions of market exchange) and external (subjective, qualitative). Internal factors determine a potential for competitiveness, that is possibilities of competing, and affect the resulting factors which shape business environment. Both analysis and evaluation of result factors are conducted with regard to external factors" (Mantura 2002, p. 88).

Competitiveness determinants are distinguished at micro-economic, macro-economic, meso-economic and meta-economic levels. At the last level there are: development-oriented models of economic and political organization, "social status of enterprises, value system supporting a tendency to learn and change, ability to formulate vision and strategy, collective memory, social cohesion, social capital" (Meyer-Steamer 2012, p. 49). On the other hand, the macro-economic level is closely related to monetary, budgetary, fiscal, competition and trade policies. Macroeconomic policy should ensure stabilization which can help in undertaking rational investment solutions. Macro-economic stabilization is necessary for the application of meso-economic policy which significantly shapes environment in the area of competitiveness, which in turn has a large impact on a degree of competitiveness of an individual entity as part of a particular branch or sector.

"The meso-economic level consists of several types of policies, namely: infrastructure, education, regional, industrial, environmental, import and export. They create conditions for functioning of economy's subsystems, including their competitiveness. Competitiveness on a micro scale is related to company's ability to achieve and maintain a competitive advantage or position" (Meyer-Steamer 2012, p.49).

The criteria for competitiveness are most vividly illustrated in Figure 4.8 below.

"W. Szymański lists the following types of sources of competitiveness:

– production (competitiveness of companies results from cost leadership or higher quality. Cost advantage may be due to external reasons related to the position of a company in the environment or internal reasons related to resource allocation),

– distribution ( competitiveness of companies results from lower cost of freezing capital and transport costs as well as better customer service),

– marketing (competitiveness of companies results from a better recognition of market needs and, as a result, a better adaptation of a product and its distribution to these needs),

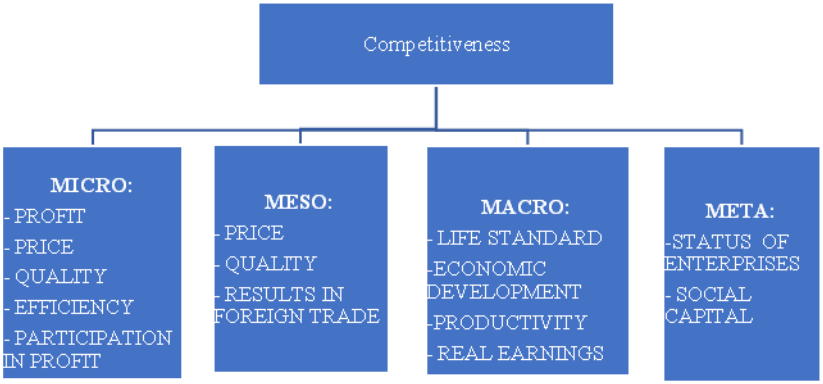



**Figure 4.8 Competitiveness criteria**

*Source: Own study based on: M.Olczyk, "Konkurencyjność: teoria i praktyka : na przykładzie polskiego eksportu artykułów przemysłowych na unijny rynek w latach 1995-2006", ("Competitiveness: theory and practice: on the example of Polish exports of industrial products to the EU market in the years 1995-2006") CeDeWU Warsaw 2008, p. 11*

– technological (competitiveness of companies results from the priority achieved thanks to: scientific and research works, technological innovation and product innovations),

– market position: trademark, patents, good reputation (competitiveness of companies results from the loyalty of buyers to the trademark and uniqueness of a product in case of patents),

– the uniqueness of a company and its product (competitiveness of companies results from achieving the position of a mini-monopoly, e.g. through effective product differentiation),

– quality of management (management expertise, managerial talents),

– knowledge and information (acquiring knowledge about a production process, product, efficient information systems, buyers),

– time management (ability to react faster to market changes)" (Szymański 1995, p. 156).

The concept of competition has its origin from the Latin term concurrere, which means running together. However, the sense of this concept means nothing other than competition between competitors. Rivals strive to gain the best possible position in the market through price competition, advertising, launch of a new innovative product on the market and competition for customers. The term competition occurs in many areas of cultural, social, artistic, economic, sporting and

political life.

"The concept of competition in the sense of competing has already existed in analysis of many authors before A. Smith. Authors such as J. Cantillon, D. Hume, A.R.J. Turgot or J. Stuart used it in their works. They understood competition as a force that drives prices to a level where there are no extraordinary profits and unmet demand. Smith used this concept of competition in his analyzes and raised it to the general rank of organizing principles in economy."

(http://www.mikroekonomia.net/system/publication_files/369/origial/0.pdf?1314958416)(28.05.2019)

"Competition is a basic feature of a market economy, and companies operating in it must be competitive. A competitive enterprise should be characterized by an ability and flexibility to adapt to changing market conditions in which it operates and should strive to make such business decisions that will ensure it a long-term competitive advantage" (Kraszewska, Pujer 2002, p. 7).

According to modern economists, competition is a process through which all market participants who want to pursue their interests will try to offer products more favorable than rivals in terms of price or quality affecting a decision to conclude a transaction. Competition occurs between both buyers and sellers. "All possible forms of competition can be divided into two main categories: price and non-price competition" (Kamerschen, McKenzie, Nardinelli 1992, pp. 47-48).

Price competition is determined by the price of a product or service offered. It is producers who, after a thorough analysis, can decide to lower the price to such a level that they can still make a profit and at the same time be competitive on the market, which leads to acquisition of as many clients of competing companies as possible and to gaining market share and weakening the rival.

Non-price competition means competing for a product or service not with price but with: quality, nicer and more practical packaging, giveaway for customers or sellers, availability of spare parts, advertising and post-warranty service as well as better quality of delivery.

"Competition on individual markets may be characteristic of one of four basic models: perfect competition, oligopolistic competition, monopolistic competition or monopoly" (http://docplayer.pl/3528939-Konkurencja-i-konkurencyjnosc-przedsiebiorstw-ujecie-teoretyczne.html) (28/05/2019). A perfectly competitive sector consists of many competing companies that offer the same product or service. The price of a product or service offered is at the same level for all

competitors. None of the rivals need to advertise their products or services and sellers are trying to reduce production or distribution costs while generating high-level profit.

The oligopolistic competition model is a model in which there is a small number of operating companies. And the situation in which there are only two companies on the market is called a "duopoly". In this model there are many important obstacles and barriers preventing entry into the market. And when determining the price of a good or service, it is possible to reach an agreement between enterprises.

"Monopolistic competition occurs in a branch in which many competitors are able to diversify completely or partially their market offer. A number of competitors focus on a selected market segment in which they are able to best satisfy client's needs, for which they also charge a correspondingly higher price" (Kotler 1999, p. 210).

"When there is only one company on the market, it is unlikely that it would treat the market price as given. Rather, a monopoly recognizes its impact on the market price and chooses a level of price and output to maximize its overall profits" (Varian 2001, p. 427).

To sum up, it can be stated that competitiveness means an ability to compete and thus to act and survive in a competitive environment, i.e. competitiveness is nothing more than a feature of competitors.

**Paints and varnishes market**

The paints and varnishes market is an inseparable element of the construction chemicals sector. It depends on an overall economic situation in the construction segment with the demand for these products being mainly shaped by approximately 80% by renovation expenses, not by primary demand related to development activities or engineering works. Construction and renovation of buildings and structures is an important aspect of a demand. Demand is directly linked to activity in the construction and renovation sector.

The headquarters of Tikkurila is Vantaa in Finland. The largest markets with the company's products are Sweden, Russia, Finland, Poland and the Baltic States. The company has 12 production plants located in 9 countries.

**Analysis of financial results as an assessment of a competitive position of Tikkurila based on the years 2011-2017**

As the data in Figure 4.9 shows, the company has recorded a continuous increase in sales revenues over the years 2011-2017, which

may indicate a good condition of the company, accuracy of decisions taken, care for customer satisfaction through high quality products and consumer confidence gained. So, generally speaking, the company properly uses its potential, i.e. the sale of paints and varnishes, and also consistently strives to further develop and to constantly compete for market leadership.

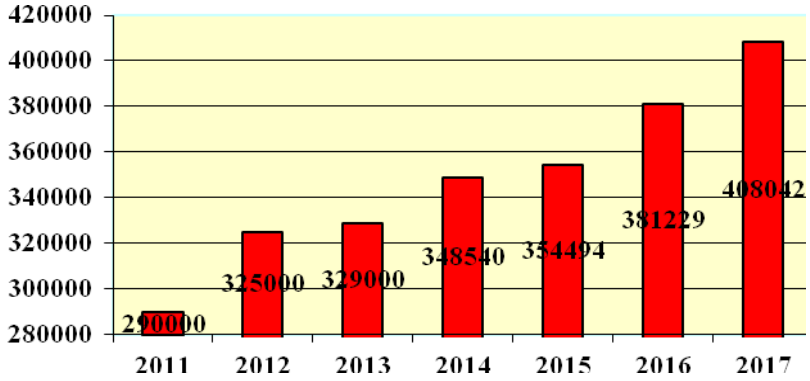



**Figure 4.9 Consolidated net sales revenues in 2011-2017 (in PLN thousand)**

*Source: Own study based on the Tikkurila report for the period 2011-2017*

In 2012, Tikkurila achieved record-high financial results for several years, despite unfavorable market situation. The company's turnover amounted to EUR 671.8 million, i.e. 4.4% more than in 2011. The continuing crisis of the euro, as well as increasingly unfavorable conditions on the Russian market caused that Tikkurila recorded a decrease in sales in all departments. Nevertheless, the company managed to maintain satisfactory financial results. This is due to the savings achieved thanks to restructuring and increasing the efficiency of the company. The major challenge was an increase in primary products prices, which meant that Tikkurila also had to increase the prices of its products.

The years 2013-2015 were very similar to one another. The company recorded a continuous increase in sales revenues. However, the year 2016 was not the best period for Tikkurila. Despite the unfavorable economic situation in Russia and high production costs, sales revenues showed an upward trend. Revenues from sales amounted to 381, 229 thousand.

The next year turned out to be as favorable as the previous ones, sales revenue amounted to 408,042 thousand. Part of these revenues in 2017 is net revenues from the sale of products, while the rest are the sales of goods and materials, as illustrated in Figure 4.10.

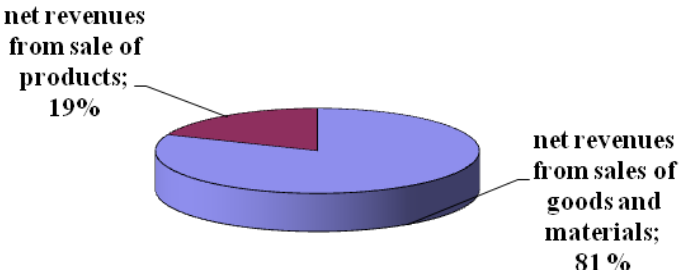



**Figure 4.10 Sales structure of Tikkurila Poland Joint-Stock Company by revenue category in 2017**

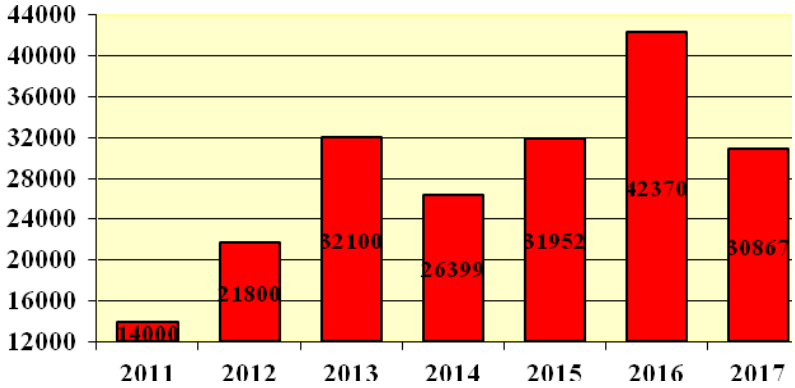
*Source: Financial statements of Tikkurila Poland Joint-Stock Company for 2017*

As the reports of Tikkurila Poland Joint-Stock Company show, the net profit in the years 2011-2016 also showed an upward trend. The increase in net profit meant an effective sales policy, which resulted in an increase in sales and higher profitability. This trend shows that the company focuses on development through the quality of products, and the generated profits are spent on investment in the company, on even more efficient use of production capacity, as well as on expanding the product offer and innovation related to the introduction of modern products or solutions. The company's net profit is shown in Figure 4.11.

The year 2011 ended with a fairly low net profit on economic activity compared to the following years, but it was the result of a nationwide economic crisis. Statistical data for 2011 from the Central Statistical Office (GUS) indicate a smaller number of built flats and high prices of primary products, so this largely contributed to this situation.

The following years, i.e. 2012 and 2013, showed an upward trend. The net profit for 2013 compared to 2011 increased by 9.63%.

The analysis of the data from Figure 4.11 indicates that in 2014 the net profit significantly decreased. The Tikkurila CEO explained these declines by unfavorable market conditions and low demand for paints.




**Fihure 4.11 Consolidated net profit in 2011-2017 (in PLN thousand)**
*Source: Tikkurila financial statements for 2011-2017*

Unfortunately, stagnation in construction industry, lower sales of apartments and greater caution of customers affected the paint industry. Thanks to effective sales and increasing prices, the company coped with this difficult situation. Restructuring measures, thanks to which production efficiency increased and its cost decreased, also helped. The year 2014 also brought new investments in the company. The financial resources were allocated to the modernization of factories.

The data in Figure 4.11 indicate that the situation improved since 2014 and the company recorded a continuous increase in net profit. At the end of 2016 it amounted to 42, 370 PLN.

The data indicate that in 2017 Tikkurila recorded huge declines of several dozen percent when it comes to profit on sales. The reasons were problems related to the implementation of the new ERP (Enterprise Resource Planning**)** system and problems with the supply of primary products and packaging materials. In addition, the factory of one of the largest primary products suppliers for Tikkurila was destroyed as a result of a fire in January last year, which caused additional supply problems. The company responded by raising prices in several markets, but it only partially compensated for the costs incurred.

Sales revenues remained at the previous year's level, but due to problems related to the implementation of the ERP system and lower availability of primary products, the company could not respond to market needs on an ongoing basis and lost its share in several markets,

including Sweden and Finland. In Poland, it managed to maintain its current strong position. In addition, the unfavorable economic situation in Russia improved and the ruble exchange rate proved to be helpful. The company closed the year 2017 with a net profit of: 30, 867 PLN.

Net profit in comparison with competing paint producer FFIL Śnieżka Joint-stock company is presented in Figure 4.12.

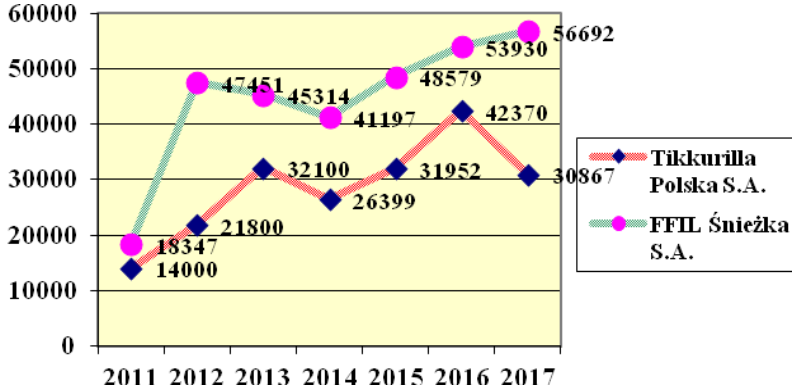



**Figure 4.12 Consolidated net profit of two competing paint manufacturers Tikkurila Poland Joint-Stock company and FFIL Śnieżka Joint-Stock company**

*Source: Own study based on financial statements of Tikkurila Poland Joint-Stock Company and FFIL Śnieżka Joint-Stock Company for the years 2011-2017*

The Śnieżka capital group has a strong position on the paint market and its share in the domestic market is estimated at around 16%. However, Tikkurila is also a leading producer. As the chart shows, EEIL Śnieżka Joint-Stock company is the clear leader in 2017, taking into account the net profit. It closed the year 2017 with a profit of 30,867 PLN, where Tikkurila generated a profit of PLN 56,692. Every year Śnieżka can boast an increasingly higher position in the ranking of best producers in terms of generated revenues. However, it is still far behind our investigated company.

**Conclusion**

Competitiveness of any company is affected by many components that can have impact in the short and long term. To maintain a high position on the market, a company needs a well-thought-out strategy.

Such strategy consists of many elements. These are mainly: vision, i.e. the direction in which an entity will be heading. This is an unspecified dream that the management of a given entity aspires to. Secondly, there is also a mission, i.e. the main goal of the company which aims to guide directions of all activities. Another element is an overall strategy which defines the ways of development of a whole company. Fourth, a company also needs strategic functional plans that set goals for specific business areas – production, marketing and finance. Taking all aspects into account, it can be seen that a company definitely needs to stand out in the market in order to attract as many customers as possible; customers who will be happy to come back for a given product and will be interested in the offer of a given manufacturer. Competitiveness is not an easy task because it is a constant struggle for a customer with the use of new solutions especially when the paint sector is highly saturated with producers who try to get a customer in every possible way, be it a lower price or promotions.

Based on the study, it can be concluded that the company in question is perfectly managed, however, in the last year of the audited period, i.e. in 2017, some of the company's results deteriorated. In the years 2011-2017, the company recorded a continuous increase in sales revenues, which may indicate good business benefits, accuracy of decisions made and care for customer satisfaction through high quality products. A positive phenomenon is that the company has no problems with current financial liquidity. However, it can also be presumed that the company may have frozen capital in current assets. Considering financial liquidity, it can be assumed that current assets guarantee repayment of current liabilities on due dates. At the same time, the company is able to repay its liabilities to other companies on an ongoing basis with its liquid financial resources.

The quality of the products offered is very important for the company, because it is one of the key elements of the company's competitiveness.

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# CORPORATE STRATEGIC CHANGES: STAKEHOLDERS MANAGEMENT CHALLENGES

## INTRODUCTION

Processes related to corporate strategic changes are continuous in market economies. Technological progresses consequential as well in the diffusion of innovations cause market disruptions and convergences. The latter create new markets and value networks, impact the scope and scale of consumption and related businesses changing the nature of competition and market dynamics. Such evolution affects all sectors of economic systems including processes of integration and globalization, causing strategic changes in enterprises in order to maintain or strengthen their market position. Considering the dynamics of global economy during last two decades the corporate strategic changes can be defined as a radical and challenging way of business reconstruction related to a great risk due to its essentiality and extent. Yet in this respect data subject to management of corporates strategic changes is fragmented, incomplete and publicly unavailable. Consequently, scientific researches on the subject in question are scarce and fragmentary. There has been no research to form the basis for preparation and effective implementation of economically justified solutions for corporate strategic changes made until now. Having in mind the context, the paper synthesizes a vast spectrum of literature and empirical data in the attempt to systematically approach this issue with specific focus on rationalization of corporate strategic changes as a complex. For this purpose, the author proposes to consider measures refining management process of corporate strategic changes focusing on stakeholders' management aspects in multicriteria terms. This empowers business entities when deciding on, altering and implementing measures for reconciliation of contentious management approaches in order to strengthen and balance interactions between strategic, tactical and operational deliverables and the related tasks thereto. In addition, this helps to focus on permanent improvement of management systems of

organisations in quest of divergent besides sustained competitive performance.

## THE ESSENCE OF CORPORATE STRATEGIC CHANGES

It is imperative to accentuate that corporate strategic changes are subject to strategic management techniques used to rationalise the activity of an organisation and resulting in essential changes of its strategy and structure in pursuit of the improvement of competitiveness in a clearly defined time outlook. Hereby hence, the trade-off when the speed of corporate reconstruction is lower than the rate, at which target business environmental conditions change (Hannan & Freeman, 1984; Bonatti & Fracasso, 2019) is not hallmarked. Furthermore, in this context, the theories of hubris (Roll, 1986; Hayward & Hambrick, 1997; Kim *et al.*, 2018) and reputation (Scharfstein & Stein, 2000; Aktas *et al.*, 2016), risk diversification (Amihud, Lev, 1981; Gorton *et al*., 2009), herding (Devenow & Welch 1996; Huang *et al*., 2015; Dalko, 2016) and entrenchment (Bhojraj *et al.*, 2017; Cremers *et al.*, 2016) as well as excess liquidity (Josephson *et al*., 2016) should be treated as factors magnifying (or at least subject to) agency issues and thus challenging the rationality of strategic changes but not justifying the need for strategic change. Therefore, precipitating factors (Perez-de Toledo *et al.*, 2016), involved interpretive processes and the piecemeal as well as quantum change concepts (Miller, 2007, Lord *et al.*, 2015) should be treated as contingency variables subject to substantiation tasks of the necessity for strategic changes. Of course, the concept of quantum changes – as featured by the attributes of corporate strategic changes set by definition stated above – can be respected pro rata. Moreover, in this sense it is imperative to implement strategic changes relatively quickly to achieve better results (within two years, as the results start degrading when implementation of changes takes up to three years and even demonstrate the irrational propensity once these limits are exceeded). Respectively, one of the essential tasks determining the purposeful management of corporate strategic changes is the objective evaluation of management measures and the results of their implementation.

Having this context in mind, the subsequent chapters propose solutions when dealing with strategic changes and related stakeholders' management aspects as to achieve the goals of the relevant levels of efficiency and effectiveness.

## THE INSIGHT ON CORPORATE STRATEGIC CHANGES IN EUROPEAN UNION (EU)

Without doubts, corporate strategic changes are prerequisite of economic systems whereas business entities must adapt to a dynamic target environment and shape it in order to remain resilient and competitive.

As per findings stemming from the analysis of cases of strategic changes among business entities in the EU during the last 10 years, corporate changes are often combative and unplanned (Eurostat, 2019). Yet once started, decisions are swift and flexible. Leaders (owners, CEOs and other relevant senior managers) are keen to improve in terms of time, effort and money. Motives for such insight have also been found when interviewing 18 Lithuanian, 26 Latvian enterprises during the period of 2008-2018 seeking to examine why and how businesses have been influenced by corporate changes. It was observed that strategic changes in business entities often signify one of the following forms:

- correcting internal processes and (or) structures and their interaction – diverse and due for enlargement or bankruptcy, closure or outsourcing business via sub-contracting (e.g., accounting, legal services, maintenance of IT, transportation) locally and internationally (e.g., consultancy); yet also caused by relocation and merger/acquisition. While this type is the most informal (limiting the amount of official statistical data), it prevailed during 2008–2018 in EU taking the following forms:

✓ change strategies, incl. diversification, expansion (while cost cutting measures were predominant during the last economic crisis);

✓ upgrade of internal processes and structures as well as ones subject to manufacturing, production processes;

✓ transforming communication networks;

✓ business transfers and successions (such tendency will continue up to 2022.

Even though cost cutting is the most prevalent when correcting internal processes and (or) structures and their interaction and includes outsourcing (IT, legal and back office services, accounting, and other homogenous and recurrent functions), innovation of goods and services, processes and management structures can also be pertinent;

- relocation – as the choice of business area depends on the place of residence of the owner and the strength of ties to the local personal and business networks, relocation has slight importance. Other possible

constrains are related to property costs/rent, wages, markets or available workforce, e.g.: i) in Lithuania, the level of business relocation is higher in the service sector than in the production sector as equipment is rather mobile and premises are standard; ii) in the UK, high-technology firms are less mobile due to reliance on their regional, social and business networks, including workforce;

- outsourcing – while considered for subcontracting the specific tasks, it is becoming also relevant for entities acting as contractors (e.g.: providing goods and services related to transport and communication, IT and business services as well as construction,): ~20% of business entities in the EU are outsourcing;
- closure and (or) bankruptcy – according to data 50% of entities fail to survive the first five years of their life-cycle while the average annual rate is 8%;
- merger or acquisition (M&A) – as EU average figure of M&As in the EU is 3 times higher for larger business entities while small and medium size enterprises are predominantly targets of M&A. The following dominant drivers for M&As with SMEs can be found: concentration (for France, Lithuania and Spain); expanding via buying entities (for Belgium, Denmark, France, Poland and the UK);
- offshoring and (or) delocalization was actual to the average of 10% entities during 2008–2018 in the EU with fluctuations caused by the risks related to the withdrawal of the United Kingdom from the European Union.

As for causes of corporate strategic changes, external reasons in principle corresponds to dominant spectrum of externalities vastly discussed in scientific literature, while for internal reasons the following are explicit, namely:

- insufficient resources in scale and scope (e.g., to outsource and engage in other efficiency-improving actions);
- modification of ownership structure – this brings new business outlooks and management mindsets and methods;
- owner's ambitions (e.g., to expand or shrink, redirect or diversify);
- reliance on few partners and clients – this may cause changes driven by requirements of the latter.

Corporate strategic changes are sparked by a combination of both internal and external factors with the greater impact of the former, e.g.:

- ✓ relocation is caused by specifics of macroeconomics, public

regulation as well as owner's personality;

✓ bankruptcy and (or) closure is due to internal constraints, macroeconomics and dependency on partners.

For instance, in terms of public regulation, the following aspects should be considered:

- National policies on foreign direct investment result both in subcontracting opportunities, which may cause correcting internal processes and (or) structures and their interaction aimed at relevant internal upgrades and in consolidation patterns causing M&A.
- Government policies promoting high-growth and export-oriented sectors cause corporate strategic changes (incl. business profile) in order to benefit, for instance, from the use of EU Structural Funds and other similar instruments.
- Taxation system (e.g., changing taxes and emergence of new taxes, growing wages), less transparent public procurement and administrative barriers (e.g., stricter requirements on renewable energy solutions, nuclear power plant construction, shale gas exploration, energy market liberalization activities etc.) endanger enterprises (by causing bankruptcy and (or) closure) and push them to search for new strategies: correcting internal processes and (or) structures and their interaction may be employed as a solution in case of the lack of working capital and lower taxes and business costs may lead to offshoring and (or) delocalisation of operations and their further internationalization (Kowalska, 2015).
- Upgrading infrastructure (e.g., expanding, modernising communication networks, refurbishing public and private buildings or the exploring land for regional, federal or country economic (sector specific) expansion) may cause enterprise relocation.

As for macroeconomics, fluctuations in consumption habits, exchange rates, commodity prices and inflation may lead to correcting internal processes and (or) structures and their interaction (Tamošiūnas, 2017, Tampakoudis *et al.*, 2019) or even cause a bankruptcy/closure in case of failure. The causes for correcting internal processes and (or) structures and their interaction – sudden lack of demand, limited working capital and access to external financing – co-relate with dismissals, reduced costs and working hours through outsourcing. Under such circumstances, new business opportunities will also arise from correcting internal processes and (or) structures and their interaction, diversification and M&A targeting businesses in distress. In this respect,

any potential for demand (or its growth) may render the internal systems inadequate and lead to correcting internal processes and (or) structures and their interaction as well. Hereby globalization stimulates outsourcing and competition locally and internationally, reshaping core competences, products and value networks, which results in correcting internal processes and (or) structures and their interaction of enterprises (delocalization and diversification is possible also). In this respect "long tails" of widespread technological progress provide enterprises with niche business opportunities causing greater heterogeneity that results in correcting internal processes and (or) structures and their interaction as well as outsourcing. Of course, demographic change and emigration cycles also reshape core competences, products and value networks of organisations, leading to correcting internal processes and (or) structures or outsourcing and transfer of ownership via M&A, although it can be limited to reorganization alone (Dervillé & Allaire, 2014).

In this context, with unlimited power as direct liability and driven by own interests, the owner or manager may use any of forms of corporate strategic changes mentioned above, e.g.: limited financial and human resources as well as the need to reduce production costs may result in outsourcing or merger, relocation or delocalization or offshoring. In this respect enterprises are also more flexible in avoiding or recalling value-destroying changes. In addition, the observed enterprise reliance on one or a few key clients or suppliers might require correcting internal processes and (or) structures or business expansion to comply with business specifics (e.g.: standardization or differentiation of products, processes, resources, diversification of markets, etc.) of the partner company. The risk of dependency on one or a few sources might result in bankruptcy or closure, or at least in correcting internal processes and (or) structures as to adjust to the demand shifts, e.g.: postponed public investments and delayed payments. For example, if an entity acts as subcontractor, partner relocation might also cause the company to relocate or otherwise adjust due to transportation costs.

Such an extensive and dynamic context of variables in scope and scale reviewed above reveals the necessity to consider measures aimed at integrated improvement of management of corporate strategic changes. Business entities need solutions that would enable them to act in the dynamic economic environment, to improve the management of the combination of its human, material and financial resources and other relevant assets, thus increasing competitiveness in a sustained and effective manner.

## FINDING STRATEGIC SOLUTIONS

The insight provided in the previous chapter stipulates the need to consider corporate strategic changes in the context of strategy competitiveness. For this purpose, it is necessary to analyse the features of the organization and its target business environment from the point of view of business network relevant to the operations of enterprise in question. This has to be done in terms of the focus, divergence and (or) exclusivity, and persuasiveness requirements of the organization's strategy. As to persuasiveness it is important convincing as potential partners and customers as employees and the shareholders of the concerned entity as well as other interested parties involved. In this respect it is reasonable to consider a network (the structure and its dynamics) of business entities related thereto and markets of enterprise subject to strategic changes. Consequently, the essence is that enterprise in question needs to be treated in terms of its target environment, networks (groups) of related organizations. However, individual market participants, for instance, not belonging to networks (groups) of concern has to be taken into consideration as well. The strategic context in this respect it is necessary firstly to be looked at as a whole, rather than as an examination of each networking organization. Subsequently set of market participants interrelated will have to be considered in terms of principles of the business ecosystem (Hein, 2019) due to potential aggregate of the links between the entities. Hereby the latter make up the networks of group, which are interconnected together using the same technology base (or platform) and (or) set of skills involved when developing business activities. And the possible examples are, for instance, the following:

- a group of IT companies developing software, providing repair services, assembling an end product or bundling a service, and even operating a finished product;
- enterprise assembling heat boilers or means of transportation or construction machinery, manufacturing their parts, and providing after-sales warranties and relevant services including maintenance.

Inevitably in this context M&A as outsourcing or correcting internal processes and (or) structures and their interaction as well as any other form of strategic changes have to be considered. The following main parameters characterizing the organisation as well as their network (or group) or even temporary, project-based (which is often the case in practice) have to be paid attention to:

– the type of organisations involved;
– the nature of the links between organisations;
– the status (financial, technological) of the entities involved;
– type of evolution, the nature of its dynamics;
– the nature of the strategic decisions of the market participants in question.

Concerning the target status as the result of strategic changes the following factors determine the state of the enterprise in question and (or) its business ecosystem:

– value, exclusivity (niche development capacity);
– critical mass in terms of potential market as well as in terms of enterprise capacity utilisation level;
– continuous improvement;
– the overall evolution of entity(ies) or the combined effect of improvements to be resulting of concerned strategic changes.

Consequently, the sustainability of the efficiency and the effectiveness of the activities of the enterprise subject to strategic changes will be determined by the variety factors. Surely, this is also true in case of number of interrelated market participants (constituting the group or partnership as well as any other form of business ecosystem). The related market participants have to be taken accordingly into account as well. For example, it is necessary to increase (at least to maintain) the relevant number of consumers, suppliers, inbound and outbound distribution channels (focusing on critical links of supply of raw materials, spare parts and other resources well as product sales network). This is crucial in order comply with the requirements of critical mass level as in terms of available enterprise capacity utilisation as in terms of minimum level of the revenues to be generated. In relation to this, as the example, the latter challenge would be critical for new market participants (at least during the first 5-years of life-cycle)**.** Coping with these tasks will make it possible to create, protect created value and provide less opportunities for potential competitors to compete with the enterprise concerned, or (and) its business ecosystem, if any, and (or) every distinct organisation constituting the latter. Subsequently, it is necessary not only to reach but also maintain and increase target critical mass in terms of market size and depth. In this respect it is also reasonable to focus on similarities of characteristic of consumers, their needs standardising market segments in terms of dominant features when considering development, expansion

opportunities sustainably. As the result the proprietary learning curve should positively influence the efficiency levels of business operations. Consequently, under such circumstances an influence and a power of stakeholders of making right and timely decisions are vital as within organisation as within the network of interrelated activities of business entities. In this respect power is understood as an acting relationship - the ability of one-person (and (or) organization) to persuade another person (or an organisation) to act in a certain direction or to turn away from unwanted behaviour. Hereby an influence is the ability to influence the decisions of others. In this sense, the capabilities of organization (and other entities related) to evolve in order to maintain the strategic position in the market at competitive speed with other related entities (e.g., as the members of the ecosystem) are important. The latter even should be treated as on the prerequisite factors of success of corporate strategic changes especially when striving of sustainable performance as of the enterprise in question as of entities related (as a member of the ecosystem). Consequently, the attention is to be paid to the following:

– access to consumers (e.g., distribution channel systems);

– access to the cornerstone production, supply structure systems required for the relevant market segment;

– the consumer's right to choose an alternative product.

Consequently, success of strategic changes depends on the ability of the organisation in question or (and) its partners (incl. every member of its business ecosystem) to maintain its distinctiveness from a perspective of future development. It should be noted, that corporate strategic changes risk to fail if at least one of the above-mentioned factors that determine the state of the enterprise in question and (or) its business ecosystem is ineffective.

In the context above it can be stated that specifics of strategic changes will be defined by the following parameters:

- the nature of target business environment of the enterprise subject to strategic changes,
- the speed, the scale, the scope of the evolution as well as maturity level of organisation(s) as well as the economy sector (the segment) the latter operate(s) in.

In this respect there could be at least the following approaches (strategies) for corporate strategic changes:

- Unifying, consolidating operations, processes to reasonable extent within the organization or the network of interrelated entities acting in

principle as particular business ecosystem**.** In practice, this type of strategic changes often manifests itself through the creation of a common technology base or platform, the value of which increases as the number of organizations using similar operations procedures due to compatible technology solutions increases as the result of changes (D'Sauza *et al.*, 2018).

- Integrating the functions horizontally and vertically developing metrics letting to standardise operations aiming at cost reduction per function of concern or reaching the goal of taking direct ownership of and (or) increasing dominance in managing business. In this respect the scenario of take over (or even hostile takeover) is possible negatively affecting decision making rights of entities involved (Aaldering *et al.*, 2018). Subsequently the attention has to be paid to the risk to have a negative impact on the diversity, the competitiveness in terms of consumer choice and the potential for innovation of the enterprise in question as well as for each member of its ecosystem, if any.
- Creating the aspiration to maximize the value of the organisations (and its ecosystem) and its strengths (determining its competitiveness) as the result of strategic changes. It has to be noted that this approach does not necessary create any new value for the enterprise in question (and(or) its ecosystem) and could even be aimed at minimizing (as to agency aspects mentioned in previous chapters) the contribution to creating, shaping the enterprise (its ecosystem) potential accordingly (Ikavalko *et al*., 2018). Ultimately, there is a risk to lose the competitive strengths therefore strategic changes have to be due diligence planned, assessed in terms of possible opportunities and risks to fail and the objectives to be achieved (e.g., forming new value, or new value combinations).
- Building on the potential to flourish developing the specific strengths. Definitely the comprehensive internal review (even management audit) might be reasonable accordingly for the enterprise as well as per each member of its network. Respective efforts will contribute to value-creating, developing innovations. Consequently, the organizations subject to strategic changes (its ecosystem) in essence seek to develop the capabilities that make them unique. Subsequently when additional resources are needed, the enterprise in question together with the entities via the interrelated operations (or in terms of their ecosystem) in question may seek to benefit enhancing each other's competitiveness. The success of the approach concerned will depend on the ability to create new value or new value combinations in order to maintain its

distinctiveness. In this sense, there can be a possible conflict of interest between the entities related to strategic changes - the need to complement each other and the need to outdo each other.

Inevitably the above context requires stakeholders to use multicriteria solutions when deciding which scenario of strategic changes to choose. In this respect the scientific literature (i.e., Zeleny, 2011; Opricovic, 2011; Bana e Costa *et al*., 2012) provides vast spectrum of multicriteria analysis (MCA) tools. Consequently, relatively simplest and reasonably efficient MCA exercise for evaluating and ranking possible scenarios could be based on Euclidean distance. For instance, if any scenarios of corporate strategic changes *A*, *B*, *C*, *D* and *E* were characterized by two criteria *x* and *y* and ranked according to the Euclidean distance $d = [(x^{max} - x)^2 + (y^{max} - y)^2]^{1/2}$ from the ideal choice I = ($x^{max}$, $y^{max}$) = (11, 11) as shown in the Table 1 the following order of preferences is resulting: *A*> *B*>*D*>*C* with *A* as most preferred. Nevertheless, let us assume that scenario *D* (3, 11) under first case has been reasonably corrected by the relevant stakeholder(s) in charge to (1, 6) as per second case (Table 4.2).

*Table 4.2*

**Changing order of preferences: first and second cases**

| First case | | | | Second case | | | |
|---|---|---|---|---|---|---|---|
| Scenario of strategic changes | Criteria | | Euclidean distance | Scenario of strategic changes | Criteria | | Euclidean distance |
| | *x* | *y* | *d* | | *x* | *y* | *d* |
| *A* | 6 | 8 | 5,83 | *A* | 6 | 8 | 4,00 |
| *B* | 8 | 5 | 6,71 | *B* | 8 | 5 | 3,61 |
| *C* | 10 | 3 | 8,06 | *C* | 10 | 3 | 5,00 |
| *D* | 3 | 11 | 8,00 | *D* (modified) | 1 | 6 | 9,22 |
| *E* | 0 | 0 | 0,00 | *E* | 0 | 0 | 0,00 |
| Ideal (I) | 11 | 11 | 0 | Ideal (I) | 10 | 8 | 0 |
| Order of preferences: | | *A*> *B*>*D*>*C* | | *B*>*A*>*C*>*D*; if *D* modified | | | |

*Source: author*

Due to the remarks of the stakeholder in question the ideal choice is changing as well to I = ($x^{max}$, $y^{max}$) = (10, 8) as well meaning that order of preferences changes into *B*>*A*>*C*>*D*. However, since typically

application process of solutions is dynamic, the list of scenarios of corporate strategic changes can be extended. Consequently let us add as per third case (Table 4.3) the scenario *E* (1, 10) and modify, for instance, the ideal choice as well to $I = (x^{max}, y^{max}) = (10, 10)$ Such development, even if *E* is not the best choice, changes further the order of preferences to *A*>*B*>*C*>*E*>*D*.

In this context the approaches presented above also underline the importance of counterparties involved whereas the latter are linked in terms of specifics of skills, technology used, the processes of value chain involved therein. It is obvious that under the circumstances revealed as per each of the approach there is crucial to have a sustainable business network of counterparties. Sustainability of the network needs to be based on objectives for value, integrity of technologies and other resources, critical mass of inner potential and external opportunities, joint learning and continuous performance improvement.

*Table 4.3*

**Changing order of preferences: third case**

| Third case | | | |
|---|---|---|---|
| Scenario of strategic changes | Criteria | | Euclidean distance |
| | *x* | *y* | *d* |
| *A* | 6 | 8 | 4,47 |
| *B* | 8 | 5 | 5,38 |
| *C* | 10 | 3 | 7,00 |
| *D* (modified) | 1 | 6 | 9,85 |
| *E* (added) | 1 | 10 | 9,00 |
| Ideal (I) | 10 | 10 | 0 |
| *A*>*B*>*C*>*E*>*D*; if *E* added | | | |

*Source: author*

These challenges justify the necessity to have means helping an organization and (or) their network (involving as private as public entities) to gain of opportunities resulting corporate strategic changes. In this respect the author will analyse in subsequent chapters in more detail peculiarities related to stakeholders' management consequently proposing the stakeholders' management model when coping with corporate strategic changes.

## PREMISES FOR IMPROVING THE STAKEHOLDERS' MANAGEMENT

The stakeholders' management is rather challenging task whereas the latter affect all the counterparties involved. Under current practice of the stakeholders' management the decisions are in the essence made basing upon the experience gathered and information available (the latter is also often fragmentary). Respectively there can be the shortcomings, i.e., as following: counterparties are selected of finite list of candidates; and assessment using incomplete data sources do not provide reasonable basis for objective quantitative comparison of the potential stakeholders. Traditionally enterprises, upon the completion of the cooperation agreements, reassess the eligibility of counterparties using a few indicators of business activities of the past without any complex and thorough assessment of activities in proactive context.

There are several reasons not contributing to the rationality of stakeholders' management. Firstly, it is limitation of information available. Secondly, objectivity of the stakeholders' management can be achieved using criteria of divergent content thus search for the solution transform into multiple criteria task. For instance, there can be even 26 various criteria used when managing counterparty. Other authors concerned propose to use not only the short or long lists of quantitative criteria but also the qualitative ones (Hurson & Siskos, 2014; Gudauskas *et al.*, 2015). This circumstance sophisticates the solution of the task in methodical sense.

There are many foreign scientists proposing to use the statistic models and the analysis of causal links for the stakeholders' management. The latter also pay attention to the mathematical programming and the set of indeterminate theories as expertise systems as well as other sophisticated methodical tools (Zeleny, 2011; Bana e Costa *et al.*, 2012; Yang *et al.*, 2016). Other authors propose to use the following criteria for the stakeholders' management: financial stability, interactions among counterparties, quality, managerial, technical and technological potential, and data respectively needed for assessment of counterparties (Gudauskas *et al.* 2015; Tamošiūnas, 2017).

Ideas, arguments to use newer analytic instruments for the stakeholders' management are mainly based on modern IT and related support systems for decision makers. In this regard there is intended to create synergy when using systematic innovations. There has to be noted that the progress in this area have resulted in possibilities to use not only principles, models tested in practice but also the prototypes of the system.

## THE STAKEHOLDERS' MANAGEMENT MODEL

The stakeholders' management as sophisticated, diverse and dynamic process consists of a few specific tasks. In order to select the counterparties reasonably the candidates have to be known, respective data on their accessibility and eligibility to become counterparty has to be assessed as well. Moreover, negotiations shall be useful whereas the latter let to improve conditions proposed by potential counterparties. Finally, signing the cooperation contract.

Many of scientific sources are focused on the autonomous use of various phases of the stakeholders' management. There were only a few sources identified where the management process is considered as the complex system of respective tasks. In this respect the author emphasizes the following three steps of the stakeholders' management process: searching the counterparties, negotiations and signing the cooperation contract. Basing upon the systemic analysis of the stakeholders' management process it can be clearly concluded that this is not enough. Hence, there have to be the stage for the counterparty' qualification assessment. On the contrary, management process needs to be constantly analysed for effective functioning. The latter can be reached when monitoring counterparties activities as well as the interactions among them. Having in mind such context there can be justified to consider the complex of tasks incorporated into one integrative model (Figure 4.13). Consequently, the latter could (basing upon thorough and complex assessment and synthesis) ensure the rational the stakeholders' management.

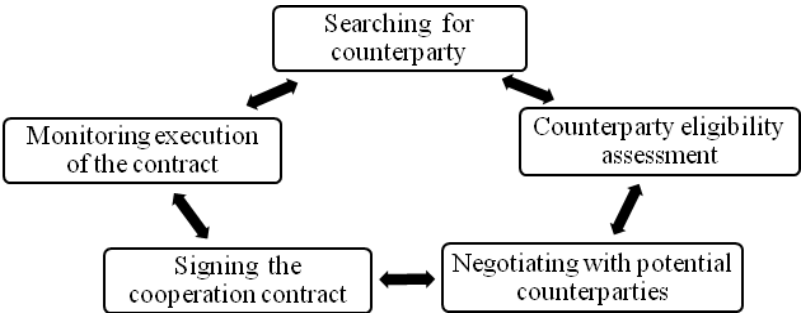


**Figure 4.13 The stakeholders' management model**

*Source: author*

Taking into account the specifics and level of dynamics nowadays of business and its environment, the composition of the model proposed has to be based on the set of specific phases where each of such phases is aimed at solving particular task. The outlook of such design is reasoned by two aspects. Firstly, it creates grounds to improve the tools used per every phase individually per respective tasks. Secondly, it contributes to flexibility of application of the model proposed in a dynamic business environment. For instance, it is important when adapting the latter to various practical circumstances, which depend not only on the decisions of counterparties but also upon variety of external factors and their combinations affecting the content of corporate strategic changes and the process of their implementation.

In this context the most critical tasks of the proposed model are analysed in detail in the succeeding chapters.

**FINDING COUNTERPARTIES**

Finding counterparties for corporate strategic changes is likely the least analysed phase of the stakeholders' management model as per scientific literature reviewed. This can be explained by challenges to formalize this phase however the latter is important whereas it serves in essence as the base for further assessment.

There are two essentials tasks when preparing for search of counterparties – to specify the cooperation targets and their characteristics to be searched, and data sources.

Evidently, potential candidates for counterparties can be public or private entities with vast variety of characteristics, eg.: legal form, type and specifics of activity, geography, scope and scale of activity and etc.

For the rationality of searching, a cooperation target is considered as searching feature. A product (a good or service or their combination) can be a cooperation target (causing the need for strategic changes) in the highest aggregation level. Technologically a search operation could be made per each cooperation target and it is not the subject to the highest aggregation level.

The specification of cooperation target as the searching feature depends on the nature of the cooperation target thus its specification can be subjective and relative to the experience available when rationalizing the specification.

Data on potential counterparties for corporate strategic changes can be received from a wide spectrum of diverse sources. Therefore, with respect to rationality of the process it is reasonable to target the

expedient data sources.

There were found no any specific recommendations in respective literature for selection of data sources for finding potential candidates to act as the counterparty. Nevertheless, the use of the traditional approach basing on analogies or well-known success stories, as well as relying on other good business practices can be reasonable when searching for the proper data source. In this respect consequently the possible data sources for finding the potential candidates were aligned according to their relevance using the least cost approach.

Considering data sources, the secondary information is regarded as a priority. Respectively due to the higher costs internal data sources have to be used before the external one.

The range of external data sources is broad. The data sources may have the prioritized sequence for searching, yet due to the high level of uncertainty such sequence can be hard to justify quantitatively. In this respect it is prudent to use the practical experience. With regard to the author's experience the following sequence for searching the potential candidates for counterparties using the secondary data sources is proposed:

1) commercial proposals from public and private entities;

2) advertisements of public and private entities and other related economic structures;

3) commercial data sources available to public including business centres (data bases);

4) annual reports of from public and private entities;

5) data from state statistics units of relevant countries (at state, federal and municipal levels as if needed);

6) respective data sources from international institutions (ie.: The World Bank, OECD, United Nations, International Monetary Fund, EUROSTAT);

7) special and scientific literature.

Primary data is collected executing the targeted search. Collecting data in the considered manner as well as using the external sources are costly thus the expediency of every search has to be justified in terms of potential for the respective economic benefit. Respectively hereby at least the method of independent expertise has to be applied.

**PRELIMARY ASSESSESMENT OF COUNTERPARTIES**

The objective of a preliminary selection is to select the potential candidates to act as the counterparty from all relevant public and private

entities using the respective data collected.

The complexity of this task as well as, namely, the number of alternatives of the decision, is explained by a great diversity of cooperation targets. The latter can range from a simple indiscrete good or service to sophisticated complex products (consisting of a range of components) and supplemented with related after sales services and goods. This variety stipulates a vast spectrum of characteristics that are needed for the description of a cooperation target in terms of both scope and scale.

Consequently, on the one hand, it can be sufficient to have just one particular characteristic in order to define a specific cooperation target in terms of relevant needs and requirements per consumer. On the other hand, hundreds or thousands of characteristics of most divergent content can be required. In this respect, there can be diverse requirements even with regard to particular characteristics in terms of a precision of their description, i.e.: in some circumstances a product with particular characteristics can be needed, in other situation – a range of specific characteristics is acceptable, while in other circumstances – any product of a particular model (or type or class) will be a satisfactory choice.

Practical analysis results in the following conventional cases in terms of description of cooperation target's characteristics:

1) precisely unequivocally defined characteristic based on quantitative indicator;

2) quantitative characteristic determined by a specific range consisting of the following possible partial cases:

a) with the least possible value of parameter ($\boldsymbol{v}_{\min}$);

b) with the maximum possible value of parameter ($\boldsymbol{v}_{\max}$);

c) with minimum and maximum possible values of parameter ($\boldsymbol{v}_{\min}$, $\boldsymbol{v}_{\max}$);

3) aggregated characteristics defined in a generalized manner with the following possible three conventional cases:

a) the unequivocally stated object title, for instance, glass, pipe, wire, computer, banker and etc.;

b) the title, type or class of the object in question, for instance, urban engineering, private consulting, apple juice, season's vegetables, portable computer, public investments program and etc.;

c) title and supplementary qualitative and quantitative characteristics of the cooperation target in question, for instance, knowledge of at least three foreign languages, turnover of no less than one million-euro, money transfer in 24 hours, software updates at least twice per annum

and etc.

Diversity of possible definitions of cooperation targets stated above and their specifics are pivotal to the selection of stakeholders. In this context the selection process can be specified as consisting of the following tasks:

1) according to the identification code of the cooperation target that is indicated in the query, corresponding targets (good, services, combination of both) are searched through and selected from the databases (one or several can be used) and (or) public data sources and similar alike ones;

2) the selected cooperation targets are examined in terms of level of their complexity and respectively divided into the following groups: indiscrete and complex ones;

3) the match of the selected cooperation targets to the characteristics indicated in the inquiry is examined.

In a formalized way the checking procedures of the characteristics depending on their descriptions are written as following:

1) characteristics can be described by following unequivocal quantitative indicator:

$$v^d = v^q \quad , \tag{1}$$

where $v$ – value of the target's characteristic, $d$ – database attribute, $q$ – inquiry attribute;

2) characteristics that are inquired by the least margin of the range:

$$v^d \geq v^q_{\min} \quad ; \tag{2}$$

3) characteristics that are inquired by the maximum margin of the range:

$$v^d \leq v^q_{\max}; \tag{3}$$

4) characteristics that are inquired by the selected minimum and maximum values:

$$v^q_{\min} \leq v^d \leq v^q_{\max} \quad ; \tag{4}$$

There has to be noted that practically certain situations are possible when there is not a single target in compliance with all the requirements for the cooperation targets found in the databases or any other relevant similar alike data sources. In such cases two essentially divergent solutions are possible, namely:

1) to update the data source(s) with the definitions of new targets

using the primary data sources;

2) to select the targets from the data source(s) with the characteristics similar to the requirements of the inquiry.

In case of the latter one, it is expedient to assess the compliance of characteristics of the targets described in the database(s) with the requirements given in the inquiry. For the execution of this task, it is proposed to use cooperation-target-homogeneity function as the assessment criterion. The value of the homogeneity function for each cooperation target is formalized as following:

$$H_j = \sum_{i=1}^{m} h_{ji} \cdot s_i , \qquad (5)$$

where $H_j$ – integrated value of the target's homogeneity; $h$ – target's homogeneity in terms of particular characteristic; $s$ – significance of the target's characteristic in terms of customer; $j$ – target's index ($j$ = 1, 2, 3, …, $n$); $i$ – index of target's characteristic ($i$ = 1, 2, 3, …, $m$).

Respectively a homogeneity of the target according to the $i$ characteristic ($i$ = 1, 2, 3, …, $m$) is set as a ratio of characteristics' values describing particular feature of the target and respective requirements assigned in the inquiry:

$$h_{ji} = 1 - \left( \left( v_i^{d} - v_i^{q} \right) \Big/ v_i^{q} \right), \qquad (6)$$

where $v$ – value of the target's characteristic, $d$ – database attribute, $q$ – inquiry attribute, $i$ – index of target's characteristic. [ $\overline{B}_j$, $B_j^*$ ]

In order to ensure a greater reliability of the analysis (eg., in terms as of scope as of scale) it is expedient to separate namely those cooperation targets which have a value of homogeneity function within the range [ $\overline{H}_j$, $H_j^*$ ],

$$\text{here } \overline{H}_j = \sum_{j=1}^{n} H_j / n ; \qquad (7)$$

$$H_j^* = \max \{H_1, H_2, ..., H_n\} \quad . \qquad (8)$$

In accordance with the proposed technology of the stakeholders' preliminary selection the focus is towards organizing data on cooperation targets and possible stakeholders in terms of the integrated database(s) (as publicly accessible or internal ones at organization level). The content of such database should consist of three data items (stakeholder, cooperation target, constituent of cooperation target), with

relevant reciprocal data flow among them and an option to describe every data item by *n* characteristics. Each stakeholder could set up their number (*n* value) taking into account the specifics of its business. Considering a possible variety of characteristics of stakeholders and cooperation targets, the description of a characteristic should consist of two parts, namely: an attribute and content. The description pattern per each is defined basing upon the assessment of inherent business practice of distribution of values per relevant characteristics.

## COMPLEX ASSESSMENT OF COUNTEPARTIES

Science can provide valuable theories, concepts, ideas and solutions on how to utilize various quantitative and qualitative methods (Zeleny, 2011; Bana e Costa *et al*., 2012; Scholten *et al.*, 2015; Yang *et al.*, 2016*)* of decision making for the assessment of stakeholders. Inherently, methods have their pros and cons. Nevertheless, it is necessary to emphasize two key barriers when explaining reasons why these solutions in question are not widely used in practice:

- most of works are not yet reaching the relevant level of practical application;
- the specific and sophisticated software as well as respectively highly qualified specialists are needed whereas complex methods are applied.

Most of researchers in question emphasize the need to consider a broad spectrum of dynamic and complex conditions when assessing possible stakeholders. Due to this circumstance the stakeholder assessment task is ranked to the class of the multiple criteria. Consequently, when forming the decision model of this task it is imperative to find the answers the following key questions: what set of criteria and what rules of their application can secure a needed level of justification of assessment and objectivity?

With respect to the case in question the decision on the criteria system can be reasoned using the following key factors:

1) the need for a comprehensive assessment;
2) diversity of cooperation targets and potential stakeholders;
3) diversity of priorities (and their combinations) of the stakeholders having the right to decide;
4) the need of comparison of alternatives of stakeholders.

During the last 50 years the application of multiple criteria assessments have been intensified and used in broader and more diverse context. The classification of such models can be based on various

indicators. With regard to the case in question the group of the ranking models distinguished by the purpose attribute is of particular interest. When considering models subject to the group concerned, the assessments are based on the preference structures (while also acknowledging the possible discrepancy in the content per criterion). Respectively the design of such structures is based on preference ratio (Opricovic, 2011; Zolfani *et al.* 2014). Summarizing, the purpose of the use of such models is to align the items of the set $G = \{g_1, g_2, ..., g_n\}$ according to the superiority. The set of criteria expressing the preference ratio is the essential component for the ranking models. The principle of ranking is based on a pair-wise comparison of all the alternatives. For the assessment of the interactions of alternatives a preference function is applied. The latter expresses at what ratio a particular alternative is superior to another in terms of respective criteria:

$$F_e(g_i, g_j) = F_e[\, f_e(g_i) - f_e(g_j)\,] = F_e[\,\Delta\, f_e\,(g_i, g_j)\,],$$
$$\forall\, i,\ j, e\,,\ 0 \le F_e\,(g_i, g_j) \le 1\,, \qquad (9)$$

where *F*, *f* – indications of function; *g* – alternatives; Δ - deviation; *i*, *j* – indexes of alternatives of potential stakeholders for corporate strategic changes; *e* – index of an assessment criteria.

Modifications of this principle are applied in various areas of science and economy sectors. There has to be noted as well that the latter principle is used in various multiple criteria systems (ie.: PROMETHEE, ELECTRE, VIKOR, TOPSIS) (Opricovic & Tzeng, 2004; Macharis *et al*. 2004; Behzadian *et al*. 2010; Brito *et al*. 2010).

Hence in such context considering the assessment of potential counterparties for corporate strategic changes as a multiple criterion ranking task of alternatives, for the complex assessment of alternatives the integrated criterion (*W*) is proposed. The latter can be described as following:

$$W = f(w_1, w_2, w_3 ..., w_m)\,, \qquad (10)$$

where $w_i$ – partial criteria.

Respectively every partial criterion $w_i$ belongs to the lower stage which means the latter is subject to a function of primary criteria, namely:

$$w_i = f\ (w_{i1}, w_{i2}, ..., w_{in})\ \ , \qquad (11)$$

*Table 4.4*

**Tentative primary criteria**

| Partial criterion | Primary criterion |
|---|---|
| Counterparty financial sustainability | Revenues preservation (net profitability, return on assets, return on equity |
| | Financial leverage (the golden balance rule, the net working capital, the current liquidity ratio, mobility, the asset turnover) |
| | Effectiveness of execution of contracts |
| Counterparty productivity | Labour productivity |
| | Required level of scope and scale for sales |
| | Velocity of resources |
| | Efficiency of resources |
| | Return on materials used for production |
| Quality of product (goods, services, their combination) | Conformity of product parameters to obligatory standards and norms |
| | Competitiveness of qualitative parameters of product |
| | Competitiveness of product development, production and sales cost parameters |
| | Level of innovation |
| | Marketing efficiency |
| Price | Maintenance costs |
| | Margin requirements |
| | Frequency of sales |
| | Reliability of payment system |
| | Speed of payment |
| | Unit price |
| Delivery efficiency | Speed of delivery |
| | Reliability of delivery |
| | Delivery costs per unit |
| After-sales service | Maintenance costs |
| | Guarantee period and extension program |
| | Expedition of service |

*Source: author*

Functions as of integrated criterion as of partial criterion are specified when setting up the parameter of significance per every criterion. Consequently, the function of integrated criterion can be considered as following:

$$W = \sum_{i=1}^{m} w_i \, s_i , \quad (12)$$

where $s$ – significance of partial criterion; $i$ – index of partial criterion and respectively a function of a partial criterion, namely:

$$w_i = \sum_{j=1}^{n} w_{ij} \cdot s_{ij} , \quad (13)$$

where $j$ – index of primary criterion.

Basing upon the analysis of various methodical sources as well as empirical investigations in the concerned area of research the tentative primary criteria have been determined (Table 4.4).

The content of every partial criterion is rather complex, and therefore the latter can be specified more accurately only via primary criteria. With regard to the primary criteria (unlike to partial criteria) there can be assumed that the overall list of the primary criteria is not expedient due to a diversity of potential stakeholders and cooperation targets as well as the specifics of environment (as per each stakeholder and the cooperation target). Although the latter could be concretized and classified into respective types in terms of specifics of stakeholder and cooperation target Nonetheless, it can be reasonable to have even a tentative set of primary criteria (Table 4.4) per every partial criterion proposed.

**DISCUSSION**

Having in mind the context above we see undoubtedly how the proposed approaches for corporate strategic changes can be useful as assessing the organization's target environment as identifying possible alternatives to the organization’s sustainable strategic position. Especially when nowadays it is common to see situations where an organization's production, distribution and sales chains depend on various groups of suppliers, distribution and sales channels and other similar organizations whose activities and relationships go (or went already) beyond boundaries of the traditional concept of a market (or particular economy sector). In this context, it is clear the enterprise subject to strategic changes and the members of its target environment are and can be associated in practice with various business models, related technology platforms (as well as (or) set of skills involved) and, as appropriate, use and multiply technology bases and / or platforms in various activities. Therefore, each case of corporate strategic changes can be considered as a dynamic

process. Furthermore, any business entity or their groups represent a dynamic system with changing characteristics and structure (including as well as scale and scope of operations related thereto). Consequently, changes are driven by the operational dynamics of the target environment constituent organizations. In this sense, the strategic development is determined by the ability to outdo one another or adapt. Definitely there have to be noticed that the obvious need for relations between various business entities implies not only rivalry or adjustment but also cooperation between market participants. In this context forming the target environment based on cooperation could be one of critical success factors of corporate strategic changes.

**CONCLUSIONS**

In the context of international and global integration of economies with their diversity of development the sophisticated business ecosystems are inevitably created and dynamically evolving under constantly changing business conditions resulting in technology progress, competition, altering regulations. Consequently, rational approach toward corporate strategic changes is due when considering major business development activities and consequently pivotal to the competitiveness of enterprise of concern, its ecosystem and other possibly related business networks. Reasoning the chosen approach towards corporate strategic changes become one of most critical factor determining possibilities of business entity to act rationally locally and globally. Definitely specifics of possible target environment stipulate to consider possible forms of strategic changes aiming at synergy forms as of cooperation as even of splitting off business solutions. Under these circumstances it is also expedient to increase justification of decisions subject to management of counterparties when implementing complex decisions concerning strategic changes. In this respect the proposed model consisting of integrative phases (search for counterparties, assessing candidates, negotiations with potential counterparties, signing cooperation contracts, monitoring their execution) cover the overall cycle of counterparties management process. Interactions among the phases as well as solutions per every task of the model are based on integrated data base or on the alternative data source subject to possible or actual counterparties and objectives of business reconstruction. In terms of importance and complexity the assessment of counterparties is separated from the rest of the phases of model proposed. In order to reduce expenditures, the assessment of potential counterparties is

divided into the following coherent tasks:

- Firstly, it is proposed to use cooperation targets homogeneity function. The universality of application is inherent to the latter, while quantitative assessment respectively reduces subjectivity.
- Secondly, complex assessment of counterparties is regarded as multiple criteria ranking task of possible variants of choice of stakeholders which is solved using three-stage-criteria system. Two parameters of the system concerned are proposed to be controllable – set of primary criteria and significance of primary and partial criteria add flexibility to the system when adapting the latter under various and dynamic business conditions while quantitative assessment ensure objectivity of decisions to be made.

The results of the paper could contribute to the inputs of further research on themes related to corporate strategic changes with regard to evolving circular economy models, divergent development including the specifics of business models of public and private organizations also of economy sectors at state, county and municipal levels. Consequently, in this respect, the insights, measures proposed could also contribute when challenging the convergence of economic development.

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## Chapter 5

# THE FORMATION AND USE OF INVESTMENT AND FINANCIAL-CREDIT RESOURCES TO ENSURE SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT

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## USE OF EUROPEAN UNION FUNDS IN FINANCING OF SMALL AND MEDIUM – SIZED ENTERPRISES IN THE SLOVAK REPUBLIC

Small and medium – sized enterprises (further as "SMEs") are the backbone of all economies, as well as a key source of economic growth, dynamism and flexibility. Their functioning and growth helps further with the multiplier effect to support the national economy, which can be tracked through indicators such as Gross Domestic Product (GDP), Gross National Product (GNP) or Unemployment Rate.

Creation of an appropriate business environment is an important factor in the small and medium business (corporate) sector development. It presupposes, among the others, especially improving of the access to capital. Financing is necessary to help SMEs set up and expand their operation, develop new products, and invest in new staff or production facilities.

As empirical study (Belanová, 2019) evaluating SME finance in the SR reveals, business financing shows improvement in the period 2012-2016, which helped Slovakia to gain a positive position in the international context. The availability of traditional sources (loans, equity) and modern forms of financing (individual investors and venture capital) is positively assessed, a little less the availability of government subsidies and very negatively chronic shortage of the capital market – the practical unavailability of funding sources through calls for subscription of shares.

SME finance is more complicated due to the fact, that they require different spectrum of financial tools in various stages of life – cycle.

These companies often depend on the informal sources of finance at the initial stages of their life. External sources are getting to be important with the beginning of the expansion stage and access to them can influence the development trajectory significantly.

OECD (2016) states that bank lending are the most common source of external finance for many SMEs and entrepreneurs, which are often heavily reliant on straight debt to fulfil their start-up, cash flow and investment needs. In Slovakia, SMEs are primarily financed from their own sources, respectively from loans and leasing.

SMEs, however, typically find themselves at a disadvantage with respect to large firms in accessing debt finance. It is connected with their smaller size, lower degree of diversification, more limited market and higher riskiness. As Covaci (2008) states, SMEs are riskier than large companies, in generally, because they present a high sensitivity to economic shocks while disposing of an inferior capacity to absorb variations. This makes it more difficult for SMEs to borrow than for larger companies, and may make it effectively impossible for many SMEs to borrow money at all. From this reason, support for small and medium-sized enterprises is very important.

Small and medium-sized enterprises in Slovakia may receive financial support from state or from the European Union.

We decided to focus on available financial help of the European Union to SMEs in the SR, especially its structural and investment funds (hereinafter referred to as “ESIF”).

The aim of the article is to evaluate the use of the European Union funds in financing of SMEs in the SR and to propose measures to improve the support system.

The bases of the study are legal acts of the EU and of the SR and statistics data. When writing this article, we used the methods of theoretical generalization, analysis and synthesis, analogy method, statistical analysis, abstraction and concretization, which enabled us to conduct a comprehensive study.

**SME sector in the SR**

To get an idea on the development where the SMEs operate, we describe the state and ongoing trends within the environment of small and medium-sized enterprises in Slovakia.

SMEs in the SR are defined according to the European Commission Recommendation 2003/361, which sets out the main factors for determining whether a company is a SME; number of employees and either turnover or balance sheet total. We can recognize three categories of enterprises: Micro (less than 10 employees, turnover or balance sheet total ≤ 2 million EUR), Small (less than 50 employees, turnover or balance sheet total ≤ 10 million EUR), Medium-sized (less than 250 employees, turnover ≤ 50 million EUR or balance sheet total ≤ 43 million EUR).

According to records of the Statistical Office of SR (hereinafter referred to as "SOSR"), the number of active business entities (according to SOSR, an ´economically active entity´ is an entity which had employees, generated revenues or made investments in the reference period under review) in 2017 reached 567,793, while SMEs represented 567,131 out of the above-stated figure. Compared to 2016, the number of active SMEs increased by 1.8%.

Out of the total number of enterprises, microenterprises represented 97.0% (550,016), small enterprises 2.5% (14,159) and medium-sized enterprises 0.5% (2,956). The number of registered active large enterprises amounted to 662 and their share represented 0.1%. Looking at the development of the total number of active SMEs in the period of 2008-2017, the number of microenterprises rose slightly, particularly before 2010. After 2010, the development of the number of microenterprises became stable and it currently oscillates at 97% out of the total number of business entities.

An opposite trend was seen in the category of small enterprises. In 2017, the proportion of small enterprises dropped by more than a half compared to 2008. The most dynamic year-on-year drop in the proportion (by 3.2 p.p.) was seen between 2009 and 2010. In the case of other size categories of enterprises, there is a stable development without any major oscillations.

From 2009 to 2015, the total number of SMEs was characterized by different development tendencies seen in individual legal forms. While the number of SMEs – legal persons would rise every year, the number of natural persons – entrepreneurs would decrease. A change in the development occurred after 2016 when the total number of natural persons – entrepreneurs as well as of SMEs – legal persons was rising. The data available for 2017 confirms the change in the development trends seen in the previous year in the number of the monitored legal forms, i.e. the rise in the number of natural persons – entrepreneurs (by

0.38 p.p.) and of SMEs – legal persons (by 4.12 p.p.) compared to 2016.

From the point of view of the industrial structure of SMEs, the core business line of more than a quarter (25.2%; 142,906) of active SMEs included business services (SK NACE section K to N) in 2017. SMEs were slightly less represented (21.2% or 120,178) in the trade sector, followed by the building industry (16.7% or 94,694 SMEs). Industrial activities were performed by 75,670 SMEs (13.3%). Representation of SMEs in other industries did not exceed 10%. In a long-term perspective, SMEs have been least represented in agriculture (4.4%) and in accommodation and catering (3.5%). In 2017, more than three quarters (76.3%) of SMEs operated in the following four sectors: business services, trade, construction and industry.

The evolution of main economic indicators characterizing the SME development was positive in 2017 as well. The added value of (non-financial) SMEs increased by 8.9% to EUR 21,774.6 million compared to the previous year. Almost three quarters of the added value of SMEs were created by business entities operating in industry, trade and business services. After the proportion of SMEs in the total created added value had been decreasing for six years, it rose again to 53.6%. However, compared to other EU countries, the Slovak SMEs still lag behind as for their proportion in the created added value. In absolute terms, other economic indicators increased as well: gross production (by 7.1%), pre-taxation profit (by 7.5%) and gross fixed capital (by 34.4%). The labour productivity per 1 employed person in SMEs represented EUR 16,700.

From the point of view employment, SMEs have an irreplaceable position in Slovakia. In 2017, their proportion in employment reached 73.8% in corporate economy and 59.1% in the entire economy. Compared to 2016, the proportion of SMEs in employment in corporate economy decreased by 0.3 p.p., particularly as a result of a more dynamic employment growth in large enterprises. In absolute terms, the number of persons employed by SMEs increased by 1.4% in 2017 (or by 19,066 persons) to 1,387,848 persons, representing the highest number since 2008.

Compared to other EU countries, Slovakia is characterized by a high business activity and the highest representation of microenterprises. In comparison with EU-28, the SMEs in Slovakia have a significantly higher representation in industry and construction. On the contrary, they are least represented in services.

The position of women in the business sector in Slovakia has not

changed significantly. The proportion of women in the total number of natural persons – entrepreneurs amounted to 29.0%, thus increased by 0.2 p.p. compared to 2016.

2017 saw a positive trend in the number of established and disestablished business entities. Compared to the previous year, the number of established SMEs increased by 11.2% to 65,404 business entities (according to data from the SOSR's Register of Organizations) and the number of disestablished business entities dropped by 2.4% to 52,599 entities. In 2017, the net increase of the number of business entities amounted to 12,805.

As for foreign-trade exchange of goods, large enterprises have maintained their long-term dominant position.

*Table 5.1*

**General and demographic SME indicators**

| Indicator | 2016 | 2017 | 2017/2016 (%) |
|---|---|---|---|
| Number of SMEs | 557,122 | 567,131 | 1.8 |
| Number of established SMES | 58,838 | 65,404 | 11.2 |
| Number of disestablished SMEs | 53,878 | 52,599 | -2.4 |
| Net increase in the number of SMEs | 4,960 | 12,805 | 258.2 |
| Number of SMEs bankruptcies | 273 | 285 | 4.4 |
| Number of permitted restructurings of SMEs | 68 | 46 | 32.4 |

*Source: processed by the author according to SO SR*

The territorial structure of the export of SMEs has long been marked by dominance of the common EU market. Only 9.1% of the total export of SMEs went to non-EU countries. Compared to other EU countries, Slovak SMEs are characterized by the lowest proportion of export to markets of third countries. At the same time, the passive balance of SMEs´ foreign trade increased by 13.8% compared to the previous year. The number of SMEs operating in high-tech sectors increased also in 2017 (to 21,772); the proportion of the above-stated entities represented 4.9% in the total number of SMEs. In a long-term perspective, the development of the number of SMEs in high-tech industries is characterized by growing dynamics, particularly as a result of a growth of SMEs in high-tech services. The proportion of SMEs in revenues and

gross investments in high-tech sectors is higher than one third and in the total employment it is higher than one half.

## SME finance – theoretical background

The differences in SME finance compared to financing of large, established companies, has always been in the interest of many studies.

SMEs have different structure of assets compared to large companies – share of their fixed assets to total assets is significantly lower. On the other hand, the share of current liabilities to assets is higher, which indicates their higher financial vulnerability (Cressy and Olofsson, 1997).

They tend to have less financial strength; do not have sufficient collateral, which is usually the main reason why banks refuse to provide credit to them and why such businesses obtain it so hard. Smaller businesses and enterprises with a shorter history have only short-term contacts with the banks and therefore pay higher interest rates and the banks require higher guarantees from them. (Berger and Udell, 1995). Later, Berger and Udell (2002) continued in studies of relations between SMEs credit availability and banks' organisational structure. They stated that companies size and age have an important role in obtaining external finance.

Berry, Grant and Jarvis (2015) addressed questions of getting funds and banks' attitude to SMEs. They showed that banks play a crucial role in SMEs financing, because of difficult access to capital market. Additionally, according to Dierkes, Erner, Langer and Norden (2013), SMEs are not the attractive client for bank lenders. Machauer and Weber (2000), in their empirical study, dealt with credit relationship of SMEs. Degryse and van Cayseele (2000) examined the relationship between interest rates and loan amount. Prevan and Kuvek (2014) asserted, that smaller and younger companies have bigger problems with external financing and also pay higher prices. Further Belas, Bartosa, Habanik, and Novak (2014) explained that conditions for SMEs have worsened because of the global financial crisis.

Virglerova, Kozubikova and Vojtovic (2016) pointed out to the necessity of the financial risk management and the impact of certain factors and approaches to managing financial risks in SMEs. They also held the position, that scanning and controlling the potential hazards can eliminate them as soon as possible, and it leads to the greater confidence of banks providing business loans.

**SME finance in the SR: practise**

As mentioned in the introduction, SMEs in the Slovak Republic are primarily financed from their own sources, respectively from loans and leasing.

According to a a joint survey of the European Commission and of the European Central Bank entitled Survey on the Access to Finance of Enterprises (SAFE) 2017, the Slovak SMEs most intensively use or consider using four sources for financing of their business activities. For 56% of SMEs, the most relevant source of financing is permitted overdraft of their bank accounts or credit cards. According to the survey results, the above-stated source is the most relevant also at the EU level (53%). Leasing is an important source of financing for more than a half of Slovak SMEs (55%). 41% SMEs consider bank or trade credits to be suitable sources of financing. Compared to EU-28, the Slovak SMEs are considerably lagging behind in the use of such forms of financing as grants or venture capital.

Based on the processed available financial reports of business entities, the state of bank loans granted to SMEs in 2016 (as of 31 December 2016) was 14,729 Million Euros (preliminary figure). In a year-to-year comparison, the state of bank loans granted to SMEs increased of 11.7%. The share of long-term bank loans on the total amount of bank loans for SMEs represented 57.4%. In 2015, the year-to-year increase of the rate of use of the bank loans for SMEs (the share of SMEs – entrepreneurs on the bank loans) was 0.5 of a point of percentage to 18.2%. The year-to-year increase of the share of business entities using bank loans was 0.5 of a point of percentage for microenterprises and 0.8 of a point of percentage for small enterprises. To the contrary, a decrease of 0.8 of a point of percentage was accounted for in the category of medium-sized enterprises. From a long-term point of view, the highest share of business entities using bank loans is in the category of medium-sized enterprises (52.0%). In the category of small enterprises, the use of bank loans is reported by 42.8% of entities and in the category of microenterprises 15.7%. The state-guaranteed loans are provided by the Slovak guarantee and development bank (SZRB), primarily to those SMEs, which do not possess sufficient credit security, or are considered unreliable for commercial banks. The basic principle of providing Guarantees for loans relies on the breakdown of risks between SZRB, the client and the partner subject. In the year 2016 the total sum of bank guarantee portfolio of SMEs was

104 Million Euros (inter-annual decrease of 4.5%). State-provided guarantees for the SMEs decreased in the interannual comparison too to a sum of 34 Million Euros (SZRB, Eximbanka). The Average interest rate of provided bank credits for SMEs in the year 2016, in accordance to NBS data, decreased again to 3.1%.

In 2017, loan standards were changing only through a drop in interest margins, i.e. the interest rates of credits provided to SMEs dropped by 0.1 p.p. compared to the previous year, what was caused by a gradual and stable trend of loosening the credit terms for SMEs. Mainly large companies saw an increase in interest rates. The internal bank criteria or the loan parameters themselves did not change in general. The proportion of failed loans remained at acceptable levels. Compared to other EU countries, the indebtedness of the Slovak corporate sector is one of the lowest ones. However, the Slovak corporate sector was marked by a high indebtedness growth dynamics in 2017.

According to preliminary estimates, the amount of credits provided to SMEs was lower (by 3.5%) in 2017 compared to 2016, mainly as a result of a drop in the amount of long-term bank credits for SMEs.

*Table 5.2*

**Economic and financial SME indicators**

| Indicator | Unit | 2016 | 2017 | 2017/2016 (%) |
|---|---|---|---|---|
| Bank loans provided to SMEs | EUR million | 13,523 | 13,051 | -3.5 |
| Short - term | EUR million | 5,394 | 5,442 | 0.9 |
| Long - term | EUR million | 8,129 | 7,609 | 6.4 |
| Interest rates for SMEs | % | 3.1 | 3.0 | 3.2 |
| Delays in B2B payments of SMEs | days | 19 | 19 | = |

*Source: processed by the author according to SO SR*

Generally, it can be said that despite the still existing space for improvement, the financing of entrepreneurship does not represent an obstacle, but rather the support of the establishment and development of entrepreneurial activities in Slovakia.

However, SMEs, especially in the early stages of their life, are often perceived as relatively risky subjects by the banking sector. So they are forced to obtain resources for the development of their business even from the public sector.

In Slovakia, the forms of the financial support provided to small- and medium-sized companies can be divided into two groups:

1. Direct forms – grants, additional charges, export premiums, grants and financial means from the European funds,

2. Indirect forms – advantageous credits, provision of financial guarantees, reduction of interests, tax allowances, consultations and a supply of information, state orders, and other forms.

So we can say that nowadays small and medium-sized enterprises in Slovakia may receive financial support from the Slovak Republic or from the European Union.

On the othe hand, no attention was paid to small enterprises until 1990, as this category of enterprises did not exist.

Only in 1990, in connection with privatization and transformation of the economy, the importance of SMEs started to be considered more significantly in the SR. The rapid growth of SMEs in our conditions was recorded between 1991 and 1992, and their development was conditioned by a number of factors. We present the most important ones:

1. The gradual disintegration of large state-owned enterprises in the process of the first wave of large privatization and the emergence of a larger number of SMEs,
2. Return of property to citizens as part of restitution,
3. Liberalization of business relations and the emergence of a larger number of SMEs with foreign ownership (Belanová, 2015).

As we will show, in 2017, SMEs were supported mainly from resources of the state budget and of the European Structural and Investment Funds. Non-repayable assistance in the form of grants prevailed. Similarly to previous years, innovative financial tools (venture capital funds) were not successful. Based on the documents received from individual institutions, the amount of funds disbursed through SMEs amounted to EUR 400,900,815.10. Non-financial form of assistance included providing business-related information and consultancy, business education, organizing and supporting participation in exhibitions, national, international or cooperation events or other activities focused on promoting enterprising.

**Legislative and institutional framework of support for SMEs in Slovakia**

On 9 January 2013, the European Commission adopted an Entrepreneurship 2020 Action Plan - Reigniting the Entrepreneurial Spirit in Europe with the aim to increase the number of entrepreneurs in order to achieve priority goals, i.e. to restore the economic growth and to increase the employment rate.

The Small Business Act for Europe Initiative is an overarching framework for the EU policy related to SMEs. It is focused on improving the access to entrepreneurship in Europe, simplifying the regulatory and political environment for SMEs and eliminating the remaining obstacles hampering their development.

The most important EU investment policy is the Cohesion Policy. It has set 11 thematic growth-promoting objectives for 2014-2020. Enhancing the competitiveness of small and medium-sized enterprises is one of its priorities. Investments are directed also at promoting growth in areas such as strengthening research, technological development and innovation, improving the access to information technology and increasing its use and quality, or supporting the transition to low-carbon economy.

Financial resources of the European Structural and Investment Funds are a significant tool of such Policy, helping strengthen the economic, social and territorial cohesion and decrease the persistent regional disparities. In the new programme period 2014-2020, SMEs may be supported through several operational programmes (hereinafter referred to as "OPs") financed by ESIF, such as OP Research and Innovation, OP Quality of Environment, OP Integrated Infrastructure, OP Human Resources, OP Efficient Public Administration, Integrated Regional OP and Rural Development Programme.

At the national level, in its Programme Statement for 2016-2020 the Slovak Government undertook to adopt a new act on SMEs the aim of which is to create a better business environment for SMEs and appropriate conditions for active application of the SBAfE principles and of the Entrepreneurship 2020 Action Plan.

The business environment in the Slovak Republic is characterized by frequent changes of legislative and legal conditions related inter alia to obligations and requirements applicable to SMEs. The year 2017 saw changes mainly in tax legislation, in electronic communication with public administration authorities and in the social and health insurance systems.

A new Act No. 290/2016 Coll. on Supporting Small and Medium-Sized Enterprises became effective on 1 January 2017, indicating a

positive change. The aim of the Act is to foster the "Think Small First" principle in the Slovak legal environment. The Act regulates the form of providing support to SMEs, direct support in the form of an independent financial contribution, subsidies and a financial tool, and forms of indirect support such as education, consultancy, supporting participation in internships, exhibitions, competitions, etc.

The National Reform Programme of the Slovak Republic 2017 describes structural measures which the Slovak government plans to implement mainly in the next two years. The measures planned for the business environment would have a positive impact on SMEs. Changes related to the Business Register will decrease the administrative burden of entrepreneurs and courts during registration of business companies. Fees will decrease and electronic services for entrepreneurs will improve. Availability of the services will be extended by extending the number of external registrars who will be able to register entities in the Business Register.

In the near future, a coherent and conceptual Economic Policy Strategy of the Slovak Republic by 2030 is supposed to be adopted. The Economic Policy Strategy is focused on a key area, i.e. business development. In relation to the fact that SMEs represent a significant element in creation of new jobs, the Strategy is focused on looking for solutions which would increase the growth of their labour productivity and overall competitiveness. It is the recommendation of the Strategy to focus on promoting the export of SMEs as well as their internationalization and involvement in global value chains. SMEs should thus be supported both during their establishment and development.

**General overview of the financial help to SMEs**

Statistical data show, that from 2015 to 2016, SMEs were mainly supported by EU grants (i.e. from European Structural and Investment Funds), accounting for more than 25% of the total amount of financial support for SMEs for those years. In 2017, support for SMEs through EU grants fell significantly and accounted for 1.6% of the total financial support for SMEs. The reason for such a decline is a slow start in the use of support programmes under the new 2014-2020 programming period. In 2017, financial support under loans from the budget resources represented 30% of the total amount of support for SMEs. Similarly to previous years, innovative financial tools (venture capital funds) were

not successful.

Looking at a year-on-year comparison of the total amount drawn by SMEs from public financial tools, we may see a decrease in the amount of the drawn funds by 42.95%.

In 2017, the proportion of SMEs in the total amount of state aid (EUR 301.59 million) amounted to 25.99%, representing EUR 78.37 million. Compared to the previous year, the proportion of SMEs in the total amount of state aid decreased by 37.01 p.p. The highest proportion of state aid (amounting to 100%) was provided to SMEs by the Slovak Audiovisual Fund (EUR 6.99 million), the Office of the Government of SR (EUR 4.15 million) and the Bratislava Self-Governing Region (EUR 0.25 million).

In 2017, the largest share (over 50%) of funds in the total amount of financial support for SMEs was in the area of access to finance, while the second largest share (19.31%) of the total amount of financial support was in employment and the third largest share (11.97%) of the total amount of financial support was given to SMEs in agriculture.

**Financial instruments of the EU (2014 - 2020) for a support of small and medium - sized companies**

For the period 2014-2020, the EU budget is used for six main categories of expenditure

- Growth (aimed at enhancing competitiveness for growth and jobs and economic, social and territorial cohesion)
- Natural resources (covering the common agricultural and common fisheries policies, and rural and environmental measures)
- Security and citizenship (covering justice, border protection, immigration and asylum, public health, consumer protection and culture)
- Foreign policy (including development assistance or humanitarian aid outside the EU)
- Administration (covering all the European institutions, pensions and European schools)
- Compensations (temporary payments to Croatia).

Financial instruments of the EU (2014 - 2020) for a support of small and medium - sized companies include:

1. COSME is the EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises running from 2014 - 2020 with a planned budget of EUR 2.3 billion. The aim is to increase SMEs' access to financial resources, to support entrepreneurs and their internationalization and to improve the business environment.

2. Horizont 2020 Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly EUR 80 billion of funding available over 7 years (2014 to 2020) – in addition to the private investment that this money will attract. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market. By coupling research and innovation, Horizon 2020 is helping to achieve this with its emphasis on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, removes barriers to innovation.

3. InnovFin "InnovFin – EU Finance for Innovators" is a joint initiative launched by the European Investment Bank Group (EIB and EIF) in cooperation with the European Commission under Horizon 2020. InnovFin aims to facilitate and accelerate access to finance for innovative businesses and other innovative entities in Europe and consists of a series of integrated and complementary financing tools and advisory services offered by the EIB Group, covering the entire value chain of research and innovation (R&I) in order to support investments from the smallest to the largest enterprise. InnovFin is available across all eligible sectors under Horizon 2020, in EU Member States and Associated Countries. By 2020, InnovFin is expected to make over EUR 24 bn of debt and equity financing available to innovative companies to support EUR 48 bn of final R&I investments. InnovFin financing tools cover a wide range of loans and guarantees which can be tailored to innovators' needs. Financing is either provided directly or indirectly via a financial intermediary, most usually a bank. Regarding SMEs, two forms are important:

a) InnovFin SME Guarantee provides guarantees and counter-guarantees on debt financing of between EUR 25 000 and EUR 7.5 m, in order to improve access to loan finance for innovative small and medium-sized enterprises and small midcaps (up to 499 employees). This facility will also be rolled out through financial intermediaries. Under the InnovFin SME Guarantee, financial intermediaries will be guaranteed or counter-guaranteed against a portion of their potential losses by the EIF.

b) InnovFin SME Venture Capital will provide, through selected

intermediaries (e.g. investment funds, venture capital funds or vehicles that provide co-investment facilities for Business Angels or co-operate with Business Angels) equity finance for R&I, in particular in the form of seed and venture capital for enterprises in the early stage. The equity support will be channelled through intermediaries who target life sciences, ICT, or otherwise technological, non-technological, organisational or social innovation.

4. EU funds are financial instruments through which blurred the differences between the Member States of the European Union. EU funds allow reallocation economically stronger partner for the development of weaker states and bring them closer to the developed European countries. The funds are used primarily to ensure increased performance of countries in various fields of sustainable economic growth, living standards and reducing regional disparities. The essential feature of EU funds help the weaker partner, thus profiting subsequently developed EU as a whole.The EU gives small companies the possibilities of financing in various forms such as grants, loans, financing of the particular projects, guarantees, and other forms. At present, Slovakia is in the 2014–2020 period, for which the European Union approved Slovakia support from European Structural and Investment Funds through 9 national and regional programs of nearly EUR 15.32 billion. With a national contribution of EUR 4.72 billion, the SR has a total budget of EUR 20 billion to be invested in different areas from job creation and growth through promoting sustainable transport to protecting the environment and investing in research and innovation. Nevertheless, in drawing of the euro-funds, the Slovak Republic is on the lash of the EU member states. Preparation for the start of the programming period 2014 – 2020 lasted longer than expected. A partnership agreement was sent to the EC on 14 February 2014 and was signed on 20 June 2014. Operational programs were approved by the end of 2014.

5. The Employment and Social Innovation Program provides microfinance of up to EUR 25 000 for entrepreneurs, especially those who are furthest from the labor market, and for micro-enterprises. It also covers social business and provides investment up to EUR 500 000 for social enterprises with an annual turnover and annual balance not exceeding EUR 30 million.

Regarding the structure of EU grants, support for SMEs was predominant through the European Structural and Investment Funds. Between 2015 and 2016, the amount of financial support for SMEs

decreased in almost all operational programs except for the Operational Program Health. The most significant decrease in the drawdown of funds for SMEs was recorded within the Operational Program Environment, in which no drawdown of funds for SMEs occurred in 2016.

Utilization of funds for the 2014-2020 programming period began only in 2017, in which financial support was provided to SMEs from the Operational Program Research and Innovation and the Human Resources Operational Program. Under the other operational programs approved for the period 2014-2020, in 2017, no funds were drawn to support SMEs, or only the allocation of funds under selected SME calls was approved.

The approved Operational Programs for the period 2014-2020 include the Operational Program Rural Development and the Operational Program Fisheries, which are included in the Common Agricultural Policy.

In the monitored years 2015-2016, the largest part of EU grants (more than 80%) was the Operational Program Competitiveness and Economic Growth. The decrease in the share of financial support for SMEs in the total amount of financial support for SMEs in the year-on-year comparison of the years 2016 and 2015 occurred within the Operational Program Science and Research, ie. j. from almost 10% to 3%. In 2017, EU grants were financially supported by SMEs through the Operational Program Research and Innovation and also through the Operational Program Human Resources.

## Conclusions

The position of small and medium-sized enterprises in the national economy in terms of job creation, local economy support or balancing of regional development disparities is significant in Slovakia in the long run. Not only macroeconomic development, a stable rate of economic growth, but also a range of support measures implemented within Slovakia's economic policy have had a positive influence on the business conditions of SMEs in recent years.

Last year SMEs were supported mainly by finances from the state budget and from the EU Structural Funds and partially also by other sources. Similarly to previous years, non-repayable aid in the form of grants prevailed and innovative financial tools still failed to be launched in 2017. Other tools such as active labour market policy measures and

venture capital were also aimed at supporting the SME sector. Regarding the structure of the financing forms, credits from the state budget dominated in 2017 with a proportion of 30.05%, followed by grants from the state budget with 19.44% and active labour market policy measures with 19.31%. Credits supported by the EU had also a significant proportion (15.39%) in financing SME in the period under review. The support under the Common Agricultural Policy represented 4.95% of the SME support. Guarantees represented 7.86 % of the amount drawn by SMEs, while the proportion of EU grants reached 1.57 %. In 2017 the proportion of SME financing through venture capital funds amounted to 0.73% and through incentives to 0.72%. From the point of view of negative development, there was a significant change mainly in the support within EU grants which dropped by as much as 97.35 % compared to the previous year (- EUR 230.56 million) due to the fact that a new programming period for EU funds is starting.

Looking at a year-on-year comparison of the total amount drawn by SMEs from public financial tools, we may see a decrease in the amount of the drawn funds by 42.95% to EUR 400.90 million in 2017.

In order to improve the use of support programmes and to streamline support delivery, we propose to: reduce time and simplify administrative processes between submitting a grant application until it is approved, simplify and streamline the procurement process, reduce the difficulty of defined measurable indicators, or introduce a "pre-class" evaluation of project objectives. Furthermore, it would be appropriate to simplify the EU grant scheme so that the applicant is able to develop the project self-help, without the need for external consultancy agencies. These measures would increase the attractiveness of these support programmes for entrepreneurs and the conditions for the use of support measures generally.

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# THE FORMATION OF EUROPEAN PRUDENTIAL AND MARKET TRANSPARENCY RULES

The chapter provides briefly explanation of European regulation of capital and other prudential requirements for credit institutions (including investment firms) and market transparency according to contemporary European law.

The common European rules set creation and maintenance of capital (so-called *capital adequacy*) for credit institutions and important investment firms. In addition, also some publicity obligations are the part of these rules. In comparison to that, in the European regulation of capital market prevail anti-misuse rules (rules against insider dealing and market manipulation), focusing on importance of an inside or misleading information for the investors.

## PRUDENTIAL RULES

The Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms (*CRR*) provides for the ***adequate solvency*** of an institution as a central requirement for ongoing supervision (see ref. 4). The European Central Bank (ECB) is responsible for implementing these requirements in accordance with the Council Regulation (EU) No 1024/2013 conferring specific tasks on the ECB concerning policies relating to the prudential supervision of credit institutions (Single Supervisory Mechanism Regulation/SSM Regulation). This is the ***"first pillar"*** of supervision. Own funds in the regulatory sense are those equity components which are available to the individual credit institution without restriction in economic and legal terms to cover losses. In the event of insolvency, these equity components are clearly

subordinated (see ref. 3). Union law identifies above all credit, market and operational risks as well as settlement risk as regulatory loss risks requiring capital backing. The requirement for adequate own resources has two effects. On the one hand, equity contributes to offsetting losses from banks' risky activities which cannot be offset by profits (see ref. 1). This in turn serves to protect investors, as the equity capital provides a cushion against an overly rapid insolvency of the credit institution. On the other hand, the available equity limits the scope of a bank's risk-prone business activities. As the equity capital must be available without restriction as soon as transactions are concluded that embody regulatory loss risks, the real available equity capital limits additional business activities. Here, equity capital law achieves the goal of investor protection of reducing risks on the assets side of the balance sheet. Finally, the capital requirements indirectly serve the purpose of financial system stability. The instrument of equity capital law cushions the risk of the collapse of individual credit institutions and the banking industry as a whole. This also reduces the risk of contagion risks (see ref. 3), which can emanate from individual, non-solvent institutions to the banking industry as a whole. Secondary capital requirements are complex. Only own funds that meet certain quality criteria for absorbing losses and are clearly subordinated in the event of insolvency are recognised as equity capital in the regulatory sense (see ref. 4). In view of the diversity of equity elements in company law and various hybrid forms, supervisory law divides eligible capital into three levels: hard core capital, additional core capital and supplementary capital. These own funds serve to back the balance sheet and off-balance sheet risk positions, which in turn must be determined and weighted. The determination of the appropriate risk weighting, expressed as a percentage of the nominal amount, and the procedures to be applied in credit institutions for this purpose takes up a great deal of secondary legislation. The range extends from a zero weighting, which does not require own funds backing (e.g. government liabilities), to a complete deduction of the exposure amount of an asset from own funds (risk weighting 1 250%). The own funds of an institution consist of the sum of its Common Equity Tier 1 capital (Articles 26 to 50 of the CRR), additional Tier 1 capital (Articles 51 to 61 of the CRR) and Tier 2 capital (Articles 62 to 71 of the CRR). On this basis, equity ratios are finally formed in accordance with Art. 92 of the CRR. The total capital ratio of 8% (*Cook-ratio*) reflects the historical average default level of the banks with their credit customers. In relation to the individual equity

components, there are two further ratios. The hard-core capital ratio must be 4.5%, while the core capital ratio, which also includes the additional core capital, must reach 6%. This means that the supplementary funds amount to only 2 percentage points of the total capital ratio, which is actually a "hardening" of the capital requirements compared with the previous legal situation under Basel II. Every credit institution must comply with these minimum values. In addition, the competent supervisory authorities may require institutions to hold additional own funds to cover risks not covered by the CRR. In addition to the capital ratios, the institutions have had to maintain various capital buffers in chronological order since 1 January 2016, all of which consist of hard-core capital. The CRR also deals with securitization and special purpose vehicle (SPV). The role of credit institutions in the securitization of receivables is many and varied (You can be an originator, structure the overall business, advise, provide credit lines, manage the SPV accounts, perform fiduciary activities and provide all investment services on the capital markets side).

Pursuant to the SSM Regulation, the ECB is also responsible for the supervision of ***large exposures*** of credit institutions. The supervisory regulations are aimed at preventing risk concentrations and improving the risk diversification of credit institutions (see ref. 2). The economic reason for these requirements is that a loss of receivables from a major customer would have massive negative repercussions on the bank's balance sheet. According to the definition under the CRR, a large exposure is a risk position vis-à-vis a customer or a group of affiliated customers if its value reaches or exceeds 10% of the credit institution's eligible own funds. Large exposures must be reported to the competent supervisory authorities. The amount of a single large loan may not exceed 25% of the credit institution's eligible own funds.

***Liquidity requirements*** concern the ability of credit institutions to meet their customers' monetary claims, in particular claims from the deposit-taking business, immediately and in full when they fall due. It should be borne in mind that the business of credit institutions is characterised by maturity transformation, i.e. by unequal maturities of deposit and lending business (see ref. 2). While lending business on the assets side is usually associated with long maturities, on the liabilities side customers can dispose of their receivables at any time in the case of demand deposits and at least in the short term in the case of savings and term deposits. Every institution can quickly become insolvent if depositors unexpectedly and extensively withdraw their deposits. Even

banks that refinance themselves on a larger scale on the interbank market must expect this source to dry up quickly even at the appearance of a crisis. Liquidity risks are therefore inherent in the banking business and cannot be eliminated, but at best reduced (see ref. 2). The CRR only requires institutions to have an adequate liquidity buffer. Furthermore, Directive 2013/36 EU of the European Parliament and of the Council on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms (*CRD IV*) requires that institutions "have sound strategies, principles, procedures and systems for managing liquidity risk over an appropriate period of time". On the other hand, secondary legislation does not contain any more detailed substantive provisions on basis of which measures institutions should manage their liquidity. This means that the Member States lay down the concrete requirements in national law. However, the Commission is empowered to establish, by delegated act, gradually uniform liquidity management requirements.

As a further instrument of banking supervision, leverage ratios were introduced on basis of the capital adequacy agreements of the Basel Committee on Banking Supervision of 2010 (Basel III) (see ref. 4). Unlike own funds requirements, ***debt limits*** are not based on a risk-weighted view of assets and off-balance sheet items of credit institutions, but simply relate core capital to the sum of risk exposure values (assets and off-balance sheet items). Collateral is also not deducted in order to determine the risk exposure values. The institutions are initially only obliged to report their debt ratio to the supervisory authority. The latter shall ensure that institutions are able to identify, manage and monitor the risk of excessive indebtedness and to take measures to prevent excessive indebtedness. The associated definition of the risk of excessive indebtedness is considerably blurred and leaves the supervisory authorities with corresponding leeway. The debt ratio calculated individually for a credit institution in accordance with the CRR is therefore of indicative and precisely no normative significance.

The supervisory requirements for ***corporate management and risk management*** of credit institutions are given a great deal of attention (the ***"second pillar"*** of supervision). This is intended to create the basis for credit institutions to deal prudently and appropriately with the risks inherent in the banking business. In doing so, the supervisory authority promotes the individual responsibility of the credit institutions in the formulation and execution of their business model and pays comprehensive attention to compliance with regulations, procedures and

mechanisms that serve the purpose of risk provisioning and risk management. These qualitative requirements supplement the quantitative requirements on capital adequacy law, liquidity management and debts limits (see ref. 1) and thus also serve to protect investors and the stability of the financial system. Mandatory secondary risk management requirements include the separation of credit risk monitoring and management functions as well as the independence of the unit responsible for credit risk monitoring. Corporate management requirements set monitoring the professional competence of the managers of credit institutions. Since the financial crisis, the question of the appropriateness of remuneration systems has also played a significant role. The aim is to prevent remuneration systems from triggering false incentives for management and employees to take inappropriate risks that exceed the performance of the institution and ultimately contribute to the emergence of systemic risks. The supervisory competence to monitor Internal Ratings Based (IRB) models relates to internal rating systems used by credit institutions to determine the creditworthiness of their debtors. The use of such systems requires permission from the supervisory authority, which must check, inter alia, whether the internal systems and procedures are suitable for meaningful, accurate and reliable credit risk measurement.

Finally, secondary legislation regulates the ***disclosure obligations*** of institutions. Within the Basel Committee's supervisory approach, this is the ***"third pillar"***, which has the function of keeping typical business risks of credit institutions within reasonable bounds through the instrument of market discipline (see ref. 1). The connection is that the information published by the credit institutions on risk management on the capital markets is rewarded or sanctioned by investors or in case of non-disclosure could be misused by insiders. Therefore, in addition, the disclosure requirements are intended to increase the transparency of credit institutions as well. In terms of supervisory law, this instrument thus has a complementary function which cannot, however, replace sovereign supervision by the competent authorities, because it relies on market efficiency and integrity. The actual effects of this mechanism on management are unclear, as investor decisions are typically supported by a set of motives.

The European legislator adopted ***specific capital adequacy requirements*** in order to better monitor the specific capital adequacy problems, in particular the contagion risks, within financial conglomerates, in Directive 2002/87/EC of the European Parliament and

of the Council on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate [*financial conglomerates are groups of undertakings in the financial sector consisting of at least one credit institution or investment firm and at least one insurance undertaking*]. The aim of the rules is to prevent the double or multiple use of own funds (see ref. 2). In addition, this Directive regulates the "supplementary supervision" of financial conglomerates, whereby one of the supervisory authorities involved must be designated as coordinator. In the case of significant regulated entities, the ECB performs this role, otherwise it remains with the national competent authorities.

**MARKET TRANSPARENCY (ANTI-MISUSE) RULES**

The aim of European anti-misuse rules is to stipulate the information obligations of selected capital market subjects and various forms of capital market abuse offences in the European and subsequently in national legal framework. Contemporary European legislation in that area consists of following Acts: Regulation (EU) No 596/2014 of the European Parliament and of the Council on market abuse (Market Abuse Regulation) and Directive 2014/57/EU of the European Parliament and of the Council on criminal sanctions for market abuse (Market Abuse Directive). The subject of these laws presents a) information obligations regarding regulated market, multilateral trading facility and organized trading facility (ad hoc publicity), b) preventive regulation of market abuse: ***insider dealing*** and ***market manipulation***, c) the exemptions of abusive offences, d) sanctioning mechanism introducing criminal and administrative sanctions for market abuse. General conclusions on the state of play can be summarized as following. There is an essential need for equal, timely and non-discriminatory access to market information for all investors, and the need of prevention tools to prevent various forms of market abuse.

A substantial part of the regulation of the capital market abroad called "law of capital market" is determined by a public intervention of the State to selected business entities operating in the capital market (mainly supervised bodies), in order to protect the financial stability, financial consumers of these entities and investors and maintaining market confidence. The location of manipulative and insider handling is focused mainly on regulated market as a place of match of supply and demand for financial instruments. In connection with its operation it is stipulated a legal obligation in relation to the information which are of

market importance and price significance for financial instruments. The fact that its application is not attractive as it should supposed to be verifies its practical use by the issuers. Market efficiency is directly proportional to the extent of disclosure of information on investment titles and economic situation of their issuers. The issue of inside information and the related prohibition of handling with it is a neglected area. It can be concluded that the unlawful practices of investment banking at present are above the scientific research on its system. We consider as necessary to make partial conclusions in connection with the insider dealing, especially regarding the arguments for its regulation, legislative gaps, definition of inside information, the formulation of different types of offence proceedings as well as the possibilities of liberation of the duties associated with it. On that basis, we conclude that insider dealing is composed of two homogeneous actions (*trading, tipping*). Tipping can be categorized to two other offences. This approach takes into account the current European law on market abuse (Market Abuse Regulation). We emphasize here the importance of preventive action of certain organizational measures (e. g. Chinese walls, grey lists, window shopping), especially related to investment firms or investment banks.

It should be stated there is a numerous literature in this field (see ref. 5-7). On the other hand, the European general provisions on the definition of market manipulation are relatively flexible and can be divided to four basal facts, but a detailed research is missing. Market abuse and related market transparency should not be examined in isolation from the investment services and investment activities conducted on a regulated market in relation to financial instruments. We give the importance of the exceptions to the scope of regulation on market abuse by using of so called general and specific exemptions.

Based on recently issued decisions of Court of Justice of European Union (see ref. 8-11) could be set specific principles regulating this area (*the principle of non-discrimination, the principle of general application, the principle of equality and proportionality, a rebuttable presumption of trading*).

Regulation of market abuse is increasing and progressing significantly forward in covering so far unsolved or disputed issues. It is noteworthy, that the European legislator evaluates the degree of effectiveness of national administrative legal sanctioning regimes in the Member States as insufficient. We appreciate the European efforts to unify the administrative sanctioning regimes (Market Abuse Regulation)

and harmonize criminal penalties (Market Abuse Directive), like the minimum imprisonment for individuals, as the offences of market abuse are still in some Member States absent comparing with USA or other Member States of European Economic Area (e.g. The Czech Republic or Federal Republic of Germany). It is necessary in parallel with introducing of penalties to look for the development possibilities of the domestic capital market. However, the European legislative developments substantially exceeded the current needs of legal environment of small Member States, including Slovakia.

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# GUARANTEE, RISK AND PROFIT OF INVESTMENT CERTIFICATES

## INTRODUCTION

Development in the area of financial markets, financial management, and also financial instruments are very dynamic, and in addition to traditional financial instruments and methods of financial management, new ones are constantly emerging, as a respond to new needs and requirements. This process of modernization and innovation is closely linked to the development of information and telecommunication technologies. Without this development new financial instruments could not exist and function effectively. Financial institutions, in particular banks and investment firms, are entering the financial market with new financial instruments, mainly modern structured financial products, including investment certificates.

Structured products are a relatively young type of investment instrument. They first appeared on the capital market at the end of the 1990s. Since that time many authors have dealt with the issue. The concept of structured products, however, has not yet been clearly defined. Many more or less complex descriptions have appeared in the literature dealing with the subject, but a definition that clearly fulfilled the essence of structured products is lacking. Wallmeier (2012) considers structured products to be deposits or investment securities, as a common feature is that their returns depend on the evolution of the prices of their underlying assets.

Wallmeier, (2012) defines structured products as financial assets that consist of different components combined to generate a specific risk-return profile tailored to investor needs. Vinago et. al. (2008) call structured products as an investment form in which various financial instruments are combined into one new unit. In addition to basic investments such as stocks or bonds, derivatives may also be part of structured products.

Based on these definitions, it is possible to determine three basic characteristics of structured products. However, it should be noted that all three parameters must be met in order to avoid confusion with other investment instruments. Given parameters are (Mokrička, 2010): (i) there are combined and pooled payment flows of more than one basic financial instruments in a single structured product; (ii) the structured product typically contains one or more components that are derivative; (iii) the individual components of a structured product form one legal unit and cannot be transferable to another person or concluded with different parties.

The main type of structured products is investment certificates.

## INVESTMENT CERTIFICATES

Investment certificates are the debt securities whose value depends on the present value of the underlying asset to which they are linked and on the type of certificate. There are a variety of designs of certificates and types of underlying assets. (Šoltés & Šoltés, 2006)

Investment certificates are financial instruments that are traded on the stock exchange but also on an unorganized OTC market. The price of investment certificates depends on the development of the underlying asset. (Vigano, et. al., 2019) Investment certificates may have different underlying assets, such as stock indices, individual stocks, stock baskets, various commodities, currencies, etc. Unlike traditional financial instruments such as stocks, bonds, participation certificates, currencies, their price is not determined by supply and demand on the financial market. The price of the investment certificate depends on the development of the underlying asset for which the certificate is issued. The rules for determining the price of a certificate are precisely defined at every moment. The maturity of investment certificates may vary, be limited or unlimited. (Líška, et. al., 1997) An investment certificate is a bond issued by a bank for a particular type of underlying asset. However, by purchasing an investment certificate, an economic entity does not buy shares, units, oil or gold, but lends its money to the bank. The transaction is conducted on the basis of precise rules and criteria that are known in advance to both entities. Initially, investment certificates were intended only for large institutional investors, but are gradually being built for various economic entities. Thus, each entity can find a certificate that accurately reflects its investment portfolio by profitability, liquidity and risk. Investment certificates are mainly classified according to the guarantee of the capital injected into three

basic groups: investment certificates without a guarantee of invested capital, investment certificates with a partial guarantee of invested capital and investment certificates with a full guarantee of invested capital. (Suhányi, Vravec, 2010)

## INVESTMENT CERTIFICATES WITHOUT A GUARANTEE OF INVESTED CAPITAL

To this group of investment certificates belong (i) *index certificates*, (ii) *basket certificates*, (iii) *sprint certificates* and (ii) *knockout certificates*.

(i) *Index certificates* are determined by the development of the relevant stock or commodity index in a predetermined ratio. (Svoboda, 2001) If the stock index to which the index certificate is linked to grows by 10%, the value of the investment certificate will also increase by 10% and vice versa. The advantage of this instrument is that the maturity of index certificates is usually unlimited and gives the unlimited and complete possibility to participate in the growth of the underlying asset. The disadvantage is that the decrease in the value is not limited and this increases its risk. (Scholz & Walther, 2010)

(ii) *Basket certificates* are characterized by the fact that they contain a created basket of securities, the composition of which is decided by the issuer of the certificates. (Šalomonová & Kelnerová, 2008) This basket can be targeted to a single industry or geographical area. Basket certificates have a limited or unlimited maturity. Their price will vary depending on the value of the securities contain in the basket. Their advantage is that the investor can choose an industry he knows and assumes the highest appreciation of his resources.

(iii) *Sprint certificates* allow the investing entity to double participate in growth of the underlying asset. They are based on the principle of leverage, and the highest possible return is being determined. If the underlying asset climbed above the target value, this certificate will no longer increase in value. If the underlying asset falls below the issue price, the value of the certificate will decrease accordingly. However, investor losses will not double. These certificates have a shorter maturity, which usually ranges from a few months to two years. (Rozumek & Svodoba, 2005)

(iv) *Knockout certificates* are also based on the leverage, with full participation in price changes of the underlying assets. Given the leverage effect, investing in these certificates can be very profitable, but at the same time very risky. If the price of the underlying asset reaches

the specified threshold, this certificate becomes worthless. Duration of these certificates can be unlimited or limited. This type of certificate is designed for aggressive investors who are not afraid to invest whit a high risk. (Kováč, 2010)

## INVESTMENT CERTIFICATES WITH A PARTIAL GUARANTEE OF INVESTED CAPITAL

There are 3 basic types of investment certificates in this group; (i) *discount certificates*, (ii) *bonus certificates* and (iii) *airbag certificates.*

(i) *Discount certificates* are characterized in that the investing entity pays less the value of the underlying asset. (Scholz & Walther, 2010) But there is also predetermined the maximum profit that an investor can achieve. This discount on purchase serves as a protection that allows the entity to be profitable even if the underlying asset falls below the purchase value of the certificate. These certificates are intended for conservative investors and allow some appreciation even in slightly declining markets, depending on the discount rate.

(ii) *Bonus certificates* are characterized by the fact that entities can receive interesting pre-agreed bonuses depending on the evolution of the underlying assets prices. If the underlying asset has been above the issue threshold for the entire duration of the issue, the investor will receive a nominal value plus a bonus. Or if the underlying assets fall below the specified threshold, the investor will obtain the current value of the underlying assets but will not receive any bonus. Duration of these certificates is limited from two to six years. (Kováč, 2010)

(iii) *Airbag certificates* are characterized by prevent the possible losses on the basis of a predetermined protective limit. The investing entity is fully involved in the growth of the underlying asset. If the underlying asset does not fall more than the protective threshold, then the entity will receive the issue value of the certificate. If the underlying asset falls below the protective threshold, the invested entity will be at a loss. Due to the effect of partial reinsurance, the loss would be less as in the underlying asset. Duration of airbag certificates is also limited from two to six years. (Kováč, 2010)

## INVESTMENT CERTIFICATE WITH A FULL GUARANTEE OF INVESTED CAPITAL

These certificates are called *guaranteed certificates*. Guaranteed certificates provide the investing entity the full protection against impairment of the underlying asset. The counterpart is that the invested

entity will only partially contribute to the potential increase in the value of the underlying asset. The guarantee principle is based on the fact that the majority of the certificate value is invested in a zero coupon bond. (Scholz & Walther, 2010) The other part of the certificate value is invested in the underlying asset. The investment entity participates in the growth of underlying asset by percentage share. The duration of guaranteed certificates is limited from five to ten years.

## ANALYSIS OF PROFITABILITY AND RISK OF INVESTMENT CERTIFICATES

For all economic entities engaged in investment is the main importance the relationship between profit and risk. In the case of investment certificates, the investor´s return depends on the relationship between the value of the investment certificate and the value of the underlying asset. There are also the certificates where the relationship between the value of the certificate and the underlying asset may not be directly proportional. These mean that the value of the investment certificate increases as the underlying asset decreases. (Wallmeier, 2012)

The investor's return is closely related to the change in the market price of the investment certificates. It is a return of capital, and the investor achieves it if the purchase price of the financial instrument is lower than its selling price. The additional return of investment certificate depends on the type of certificate. As with most financial instruments, the market price may rise and fall. This market price depends not only on market demand and supply, but also on the evolution of the market price of the underlying asset. Demand and supply being affected by many different factors depending on the type of investment certificate and the underlying asset. An investment certificate may be converted into cash by selling it on the financial market, or by repaying it to the issuer if the certificate has a specified maturity.

Among the important advantages of investment certificates is the fact, that the investor can choose the type of certificate that corresponds to his return and risk profile. The risk of investment certificates is similar to other financial instruments, such as shares and bonds. The main risks of investment certificates include: (i) *Credit risk*, (ii) *market risk*, (iii) *currency risk*, (iv) *inflation risk* and (v) *operational risk*. (Svoboda, et. al., 2012)

(i) *Credit risk* is one of the most discussed risks associated with

investment certificates. Investment certificates are actually debt securities; so there is the possibility that the issuer cannot be able to meet its obligations. Credit risk can be diversified by purchasing the investment certificates from different issuers or by purchasing investment certificates in different countries.

(ii) *Market risk* is the risk of loss form changes in market prices or changes in values of market instruments. This risk involves a number of factors that can be divided into two groups. The first group is defined as *systematic market risk* and consists of adverse changes in market conditions as a whole. The second group is defined as the *specific market risk* that arises from the development of a particular investment product.

(iii) *Currency risk* or foreign exchange risk is the risk arising from changes in foreign exchange rates. It is undertaken by investors buying structured products denominated in non-domestic currency. The currency risk also arises if the currency of the structured product differs from the currency in which the underlying asset is traded.

(iv) *Inflation risk*. This risk is that there is a risk that the price of goods and services will accelerate over the period of investment in the national economy, causing a decrease in the purchasing power of the invested capital. Instead of the nominal return that is collected at the end of the investment, each investor should be more interested in the real expected return.

(v) *Operational risk*. This risk is mainly related to human error. Operational risk is the risk of direct or indirect losses due to inadequacy or failure of internal processes, people and systems, or due to external events.

By purchasing an investment certificate from a particular issuer, the investor shows him a high degree of confidence. The creditworthiness of the issuer and its rating grade is a very important consideration when selecting the appropriate investment certificate. It is important for the investor to analyse what credible or risky the issuer is and focus on investment certificates from the best rated issuers. (Svoboda & Rozumek, 2005)

Among the least risky but also least profitable certificates belong the guaranteed certificates, which are intended for entities that prefer a conservative way of investing. Discount and sprint certificates belong to the group of less risky and lower rate of return. The index certificates and basket certificates, whose underlying assets are mainly shares, are comparable with the return and risk of shares. The riskiest and at the

same time the highest yielding certificates are knockout certificates. Leverage can make investing in these certificates very profitable and risky. If the price of the underlying asset touches a set threshold, the knockout certificate becomes completely worthless to the investor.

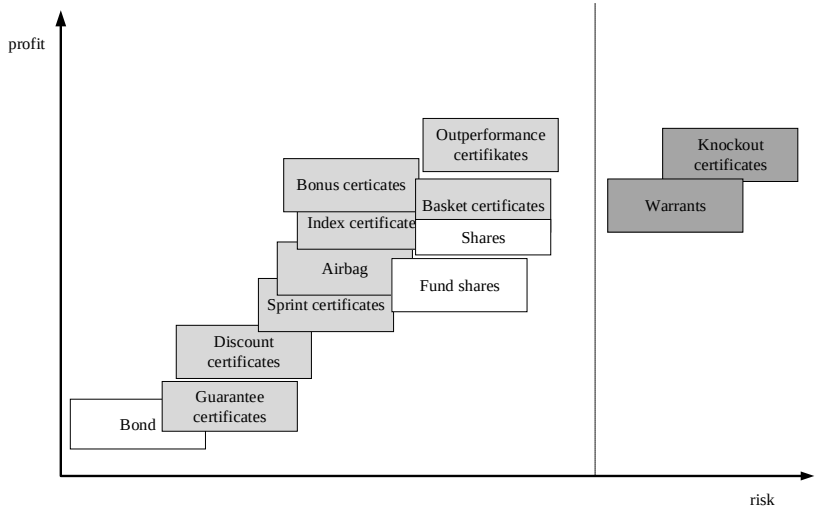


**Figure 5.1 Comparison of investment certificates according to profit and risk**

*Source: Authors (based on: www.zertifikatejournal.cz)*

## CONCLUSION

New requirements and needs coming from investors have contributed in recent years to the discovery of new investment products that differ from traditional financial instruments. In particular, these are modern structured products that have been marketed by large financial institutions, in particular banks. One of the main types of structured products is investment certificates, which originated in Germany and, thanks to the popularity of the market, have developed rapidly all over the world.

Issuers of certificates are financial institutions in most cases banks and investment companies. Both the investor and the issuer know the predetermined conditions and criteria for disbursement of funds. Thus, the price is not determined by the supply and demand on the financial market, as is the case with conventional securities – stocks, bonds, participation certificates. For investment certificates, the price depends

on the process of developing the underlying asset (eg stock indices, individual shares, stock baskets, currencies, commodities, etc.) to which the certificate is issued, specifying specific rules for compiling its price at any time. These securities have the possibility of trading on the stock exchange as well as on the OTC market (Chovancová & Tofčák, 2012).

The investment certificate may be purchased or sold at any time by the investor on the stock exchange or directly from the issuer. The content of the exact procedure is specified in the issue prospectus of the certificate. In terms of time horizon, we know investment certificates with limited or fixed maturity, but there are also a number of certificates with unlimited maturity, which further increases the variability of investment opportunities (Svoboda et al, 2012). Investment certificates were initially available only to large institutional investors, and over time the possibilities of investment certificates became remarkable for other groups of investors (Mokrička, 2015). Institutional investors used investing in investment certificates in order to participate in the value development of stock indices, without complicated reallocation of their investment portfolios and not being subject to high transaction fees. Small investors were given the opportunity to participate directly in the exchange rate development of indices in the mid-1990s (Svoboda & Rozumek, 2005). Certificates have quickly integrated into the preferred alternative of direct investment, and currently certificates belong to investment products recording large volumes of business. Almost every day, new securities are still on the market. The offer of issuers is rich in a number of different types and types of investment certificates, not only focusing on index certificates as it was at the beginning (Svoboda et al, 2012). Therefore, every investor has the opportunity to find a certificate that is suitable for his investment portfolio by profitability, liquidity and risk (Vigano et al, 2019).

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**Chapter 6**

# MODERNIZATION OF EDUCATIONAL MANAGEMENT AND THE INTRODUCTION OF THE LATEST TEACHING TOOLS TO ENSURE SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT

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## ANALYSIS OF EDUCATION STRUCTURE AND MACROECONOMIC INDICATORS ACCORDING

## INTRODUCTION

*Educational at regional level based unemployment*

Nowadays, more and more poverty is influenced by the labor market (respectively unemployment) in the developed countries, but also in Slovakia. Since the late 1970s, even in developed counties (after 1991) there has been a rise in mass unemployment (Oppenheim, 1990); (Mareš, 1999); (Michálek et al., 2004). There is a strong negative correlation between education and unemployment, as higher education subject is a few times less likely to be unemployed as a person with a lower level of education (Porubčínová, 2011). Therefore, educational reforms play a decisive role in improving the employment in the long term. However, it takes some time for education policy to clearly influence the composition of labor supply (Ministry of Environment of

the Slovak Republic, 2011). Such an active labor market policy and the support of lifelong learning serve as a means of helping the workforce to further develop its skills, competencies and ultimately to adapt to changes in the labor market (Kureková, 2010).

*Educational at regional level GDP per capita*

For a large number of authors Kožiak et al. (2012); Bačík & Gburová (2012); Kotulič et al. (2015); Matlovič & Matlovičová (2011) the multi – criteria evaluation of the regions is dominated by a selected economic indicator and economic growth. Properly selected set of indicators adequately reflect the particular economic, social and other aspects of regional disparities (Hamada & Kasagranda, 2014). The aim of the contribution is to analyze the educational structure and the macroeconomic indicator, namely per capita GDP.

Regional GDP per capita is a share of two indicators: regional GDP (at market prices) and the average resident population living in a given region (based on the residence principle). In most regions, there is no greater difficulty in comparing these two indicators, based on different principles. In regions with high commuting to work from surrounding regions, which are mainly capital regions this indicator is overvalued. GDP is nowadays a well-used and globally most frequently used indicator with a relatively high reporting value, which assesses the degree of economic development or the standard of living of the population, but also the intensity of development, or the observation of developmental time series and changes over time. The application of the same methodology also allows spatial comparison, thus comparing the level or intensity of development at the selected level of spatial units - regions (Sloboda, 2006); (Hamada et al., 2014).

*Education system in the Slovak Republic*

According to § 4 ods.1, písm. b) of Act no. 245/2008 Z. z. on education and training (the Education Act) and on the amendment and supplementation of certain laws as amended the purpose of education and training is to enable a child or a pupil to gain competencies, particularly in the area of communication skills, oral capabilities and written capabilities, use of information and communication technologies, communication in state language, mother tongue and foreign language, mathematical literacy and competence in technical

science and technology, lifelong learning, social and civil competencies, business ability and cultural competences.

*International Standard Classification of Education ISCED*

The International Standard Classification of Education – ISCED was designed by UNESCO in the early 1970's to serve 'as an instrument suitable for assembling, compiling and presenting statistics of education both within individual countries and internationally'. It was approved by the International Conference on Education (Geneva, 1975), and was subsequently endorsed by UNESCO's General Conference when it adopted the Revised Recommendation concerning the International Standardization of Educational Statistics at its twentieth session (Paris, 1978). The ISCED 2011 classification was adopted by the UNESCO General Conference at its 36th session in November 2011. The framework is occasionally updated in order to better capture new developments in education systems worldwide (Ministry of Education); (Ministry of Environment of the Slovak Republic, 2011).

The primary role of regional education is to provide citizens of the Slovak Republic with the lower level of education, which means all levels of education, except university education. Specifically, it is a primary level of education, a pre-primary level of education, several types of lower secondary education and several higher education levels. In the past, the classification level of education scale used just three stage of education, i.e. primary education, secondary education and higher education. At present, Slovak education legislation already uses a classification derived from the international ISCED classification (Ministry of Environment of the Slovak Republic, 2011); (Ministry of Education). ISCED is an international standard that serves as a tool for gathering, compiling and presenting comparable indicators and statistics of education within countries, individually but internationally (International Standard Classification of Education ISCED, 1997).

In 2016, the Government of the Slovak Republic approved the Government Program for 2016–2020, in which a significant part is dedicated to education – particularly:

- to support pre-primary education, with a special focus on learners from a socially disadvantaged background,
- to create conditions for inclusive education,
- to improve service of professional psychological and special educational counselling and diagnosis,

- to promote vocational training in the system of so-called dual education (Source: Raising the Achievement of All Learners in Inclusive Education – Slovak Republic Country Report), (Eurostat, 2018).

*The Nomenclature of territorial in the Slovak Republic*

On the basis of statistical findings, the regional level is determined on the basis of the NUTS-based principles. The NUTS II level is in the Slovak Republic a grouping of regions in four regions and NUTS III. It means the territory of 8 regions (Soukiazis & Proença, 2008).

*Table 6.1*

**The Nomenclature of territorial input's for statistics**

| **Region** | **N$^{o}$** | **Territory** |
|---|---|---|
| **NUTS I** | 1 | Slovakia |
| **NUTS II** | 4 | Bratislava region, West Slovakia, Central Slovakia, Eastern Slovakia |
| **NUTS III** | 8 | Bratislava region, Trnava region, Nitra region, Trenčin region, Banska Bystrica region, Žilina region, Košice region, Prešov region |

*Source: Eurostat, 2018*

The European Regional Planning Charter established the following classification of regions, which was adopted in 1983: *"rural regions, urban regions, border regions, mountain regions, structural regions, declining regions, coastal regions and islands"* and later Council Recommendations of 1991 Council of Europe experts, the following types of regions: "*open regions, regions of partial adaptation, lagging regions"* (Oppenheim, 1990); (Dejeant-Pons, 2010).

Author's Šprocha (2009) is one of the major authors dealing with the issue of the educational structure of the population in Slovakia. One of the main factors influencing the dynamic changes in the educational structure in Slovakia over the last two decades is a high increase in participation rates in education. The share of people who reported in the censuses as students was rising. Especially in the last interclassing period, especially in women, we see a relatively dynamic increase in participation rates in education. Slovakia has long been one of the countries where university education was previously a male domain. The past regime diminished these differences, but it was still true that

somewhat more often students and university graduates were men.

At the end of the 1980s, women accounted for approximately 45% and graduates of less than 46% of the total number of university students, respectively graduating from college in the relevant school year (Šprocha et al., 2016).

## MATERIAL AND METHODS

The aim of the contribution is to analyze the expected dependencies of the selected macroeconomic indicator and the educational structure on the level of regions in the Slovak Republic according to the structure – NUTS III, i.e. the definition of the EPS (educational potential of the company) indicator from the SODB (statistical database of the SR), which is collected once every 10 years. In the analysis are used 2 most recent censuses from years 2001 and 2011. For a more efficient comparison we are in measuring relationship between education and selected macroeconomic indicator used except EPS additional indicators of the ISCED (International Standard Classification of Education) which represent the relative representation of the population for the each levels of education. The present results emerged from the econometric program GRETL. GRETL is a software product focused on statistical methods supporting econometric analysis. In measuring the dependency between the unemployment rate and the educational level of the regions in the SR, the sequence is concentrated in two steps as follows:

- Correlation analysis
- Pearson`s correlation coefficient.

### *Quantification of the educational level of the population*

To measure the dependence between the educational level of the population and the other macroeconomic indicators, we need to define, first of all, an indicator that will help the best quantify the educational level of the country's population.

There are several ways to measure the educational level of the population:

- Education index, which is also one of the components of HDI (Hou, Walsh & Zhang, 2015),
- Education coefficient (EC1), which is the sum of four times the relative share of population with university education, twice the relative share of the population with secondary education and

one times the relative share of the population with or without primary education (KLAS, 2000),

- Education potential of society, which has the advantage of giving more weight to a higher degree of education than a lower one, and that weight does not grow linearly (Osadchy & Akhmetshin, 2015).

To quantify the level of education of the population we have in our study chose EPS indicator, which appears to us as the most relevant. The educational potential of the society is expressed by:

$$EPS\,(r) = \frac{\mathbf{1}}{r - \sum_{i=0}^{n} fk * k}, \qquad (6.1)$$

where: $r$ is the maximum value of the set of values k,

$fk$ is the relative proportion of the population who, as the highest level of education, has reached the k-th level of education and

$k$ is a serial number assigned to the appropriate level of the education that can be obtained in the education system of the country.

However, one of the problems in using this relationship is that the r parameter takes different values in different countries. Therefore, it is recommended to harmonize different education systems in different countries when establishing r (Kulčár, 2005); (Glick & Miller, 1956).

For the levels of educational structure, we have set 5 levels of education in this paper:

- k = 0 (population without education or without giving education),
- k = 1 (population with elementary education),
- k = 2 (population with secondary education without graduation - GSCE),
- k = 3 (population with secondary education with graduation-GSCE or higher post-secondary studies),
- k = 4 (population with university education), (Kulčár, 2008).

From the data taken from SODB (population and housing census) we have determined EPS for each region. Since the Statistical Office of the Slovak Republic performs such complex censuses only once every 10

years, we used data from the last two censuses of 2001 and 2011 to measure the dependence between the ENP and other macroeconomic indicators.

*Research objectives*

Research tasks are formulated on the basis of the stated main objective and sub-objectives:

- analysis of the educational structure and registered unemployment rate within the regions of Slovakia,
- analysis of educational structure and amount of gross domestic product per capita within regions of Slovakia.

## RESULTS AND DISCUSSION

***1). Measuring the relationship between the unemployment rate and the educational level of the Slovak Republic***

Analysis of the relationship in **2001**

Table 6.2 presents data on the education structure in terms of the registered unemployment rate for the calculation of the correlation analysis.

*Table 6.2*

**Indicators of unemployment and education levels for regions in Slovakia for the year 2001**

| Region of | UR (v %) | ISCED 0-1 | ISCED 2 | ISCED 3 | ISCED 4 | ISCED 5-6 | EPS |
|---|---|---|---|---|---|---|---|
| **Bratislava** | 5,79 | 0,188 | 0,1518 | 0,1917 | 0,2980 | 0,1704 | 0,529 |
| **Trnava** | 15,51 | 0,205 | 0,2286 | 0,2650 | 0,2401 | 0,0604 | 0,438 |
| **Trenčin** | 12,7 | 0,207 | 0,1888 | 0,2690 | 0,2651 | 0,0695 | 0,454 |
| **Nitra** | 23,12 | 0,198 | 0,2480 | 0,2487 | 0,2400 | 0,0647 | 0,439 |
| **Žilina** | 16,38 | 0,226 | 0,2001 | 0,2524 | 0,2521 | 0,0690 | 0,441 |
| **Banská Bystrica** | 23,59 | 0,217 | 0,2321 | 0,2225 | 0,2577 | 0,0701 | 0,440 |
| **Prešov** | 23,96 | 0,2571 | 0,2181 | 0,2226 | 0,2415 | 0,0608 | 0,422 |
| **Košice** | 25,55 | 0,2394 | 0,2094 | 0,2154 | 0,2607 | 0,0751 | 0,439 |

*Source: author's calculation, ŠU SR.*

*UR – registered unemployment rate, ISCED – the relative representation of the population for each category ISCED (international standard classification of education), EPS - the educational potential of society.*

***H*$_1$**: *We assume that there is a statistical dependence between the educational structure of the population and the registered unemployment rate within the regions of the Slovak Republic.*

The Pearson correlation analysis results, which contain the correlation coefficients of all pairs of variables, are shown in Table 6.3.

*Table 6.3*

**Correlation analysis of the UR and education levels for the year 2001**

| | UR | ISCED 0-1 | ISCED 2 | ISCED 3 | ISCED 4 | ISCED 5-6 | EPS |
|---|---|---|---|---|---|---|---|
| **UR** | 1,0000 | | | | | | |
| **ISCED 0-1** | 0,6663 | 1,0000 | | | | | |
| **ISCED 2** | 0,7962 | 0,2535 | 1,0000 | | | | |
| **ISCED 3** | 0,0163 | -0,1036 | 0,4142 | 1,0000 | | | |
| **ISCED 4** | -0,6868 | -0,4398 | -0,8870 | -0,6068 | 1,0000 | | |
| **ISCED 5-6** | -0,7090 | -0,5140 | -0,8082 | -0,6888 | 0,9128 | 1,0000 | |
| **EPS** | -0,8195 | -0,6626 | -0,8209 | -0,5191 | 0,9195 | 0,9737 | 1,0000 |

*Source: author's calculation, Gretl*

Pearson`s correlation coefficient based on the resulting value of 0,81952 reflects a very strong indirect relationship. Because the p-value (0,0128) is lower that the test level $\alpha = 0,05$, the hypothesis H0 is rejected and the correlation coefficient is considered statistically significant.

In the regression analysis, we will detect the statistical significance between the dependent variable y – the unemployment rate and the independent variable x, which is an indicator of the EPS level of education. Using the GRETL analytical tools, we have processed the point estimates of the regression function parameters listed in the following Table 6.4.

Based on the data from table 4 we can identify the coefficient b1 (EPS), whose value is -172,1 and the locating constant b0, whose value is 95,89.

*Table 6.4*

**Correlation analysis of the UR and education levels for the year 2001**

| Point estimation of regression function parameters | Coefficients | Misleading error | t-share | p-value |
|---|---|---|---|---|
| **Locating constant** | 95,89 | 22,8932 | 4,32 | 0,005 |
| **EPS** | -172,1 | 49,1327 | -3,503 | 0,0128 |

*Source: author's calculation, Gretl*

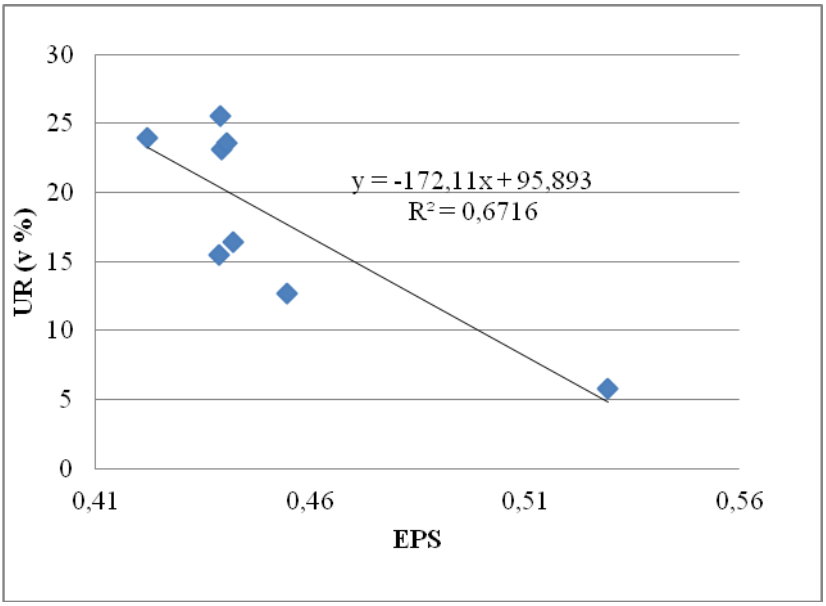


**Figure 6.1 Dependence of unemployment rate on the level of education in 2001**

*Source: author's calculation, Gretl*

The correlation coefficient -0,81952 points to the correlation and the determinant coefficient of 0,671 indicates that 67% of the unemployment rate is dependent on the increase (decrease) in the educational level.

Finally, we use the F-test to test the statistical significance of the linear regression model. Since F>F crit (44106,28>3.79) a p-values of both parameters are higher than 0,05, we conclude that the linear regression model UR = -172,1EPS + 95,89 is suitable for describing the

dependence of UR and EPS.

*Table 6.5*

**Two-sample F-test for variance (unemployment rate and educational level in 2001)**

| | *Set 1* | *Set 2* |
|---|---|---|
| Median | 18,325 | 0,4506875 |
| Variance | 47,8771714 | 0,001085496 |
| Comparison | 8 | 8 |
| Difference | 7 | 7 |
| F | 44106,2813 | |
| P(F<=f) (1) | 1,0335E-15 | |
| F krit (1) | 3,78704354 | |

F>F krit

*Source: author's calculation, Gretl*

Analysis of the relationship in **2011**

The analysis from 2011 applies as in the case of the 2001 analysis. In the same way, we will pass the calculation of the correlation analysis based on the registered unemployment rate (UR) and the level of the education levels indicated in the table 6.6.

*Table 6.6*

**Indicators of unemployment and education levels for counties of Slovakia for 2011**

| **Region of** | **UR (v %)** | **ISCED 0-1** | **ISCED 2** | **ISCED 3** | **ISCED 4** | **ISCED 5-6** | **EPS** |
|---|---|---|---|---|---|---|---|
| **Bratislava** | 5,41 | 0,1521 | 0,0955 | 0,1712 | 0,3194 | 0,2617 | 0,642 |
| **Trnava** | 8,88 | 0,1671 | 0,1651 | 0,2648 | 0,2880 | 0,1150 | 0,504 |
| **Trenčin** | 9,95 | 0,1649 | 0,1293 | 0,2693 | 0,3115 | 0,1251 | 0,527 |
| **Nitra** | 13,27 | 0,1642 | 0,1698 | 0,2576 | 0,2885 | 0,1199 | 0,507 |
| **Žilina** | 11,91 | 0,1892 | 0,1390 | 0,2476 | 0,2946 | 0,1296 | 0,509 |
| **Banská Bystrica** | 19,83 | 0,1852 | 0,1643 | 0,2247 | 0,3025 | 0,1233 | 0,503 |
| **Prešov** | 18,95 | 0,2200 | 0,1700 | 0,2179 | 0,2752 | 0,1170 | 0,476 |
| **Košice** | 18,76 | 0,2180 | 0,1549 | 0,2018 | 0,2947 | 0,1306 | 0,491 |

*Source: author's calculation, ŠU SR*

We are still testing the fist hypothesis (**$H_1$**: We assume that there is a statistical dependence between the educational structure of the population and the registered unemployment rate within the regions of the Slovak Republic).

The results of the Pearson correlation analysis, which contain the correlation coefficients of all the pairs of variables, are shown in Table 6.7

*Table 6.7*

**Correlation analysis of the UE and the educational level for the year 2001**

| | UR | ISCED 0-1 | ISCED 2 | ISCED 3 | ISCED 4 | ISCED 5-6 | EPS |
|---|---|---|---|---|---|---|---|
| **UR** | 1,0000 | | | | | | |
| **ISCED 0-1** | 0,8230 | 1,0000 | | | | | |
| **ISCED 2** | 0,7001 | 0,4999 | 1,0000 | | | | |
| **ISCED 3** | -0,0821 | -0,2128 | 0,4534 | 1,0000 | | | |
| **ISCED 4** | -0,5364 | -0,6168 | -0,8471 | -0,3075 | 1,0000 | | |
| **ISCED 5-6** | -0,5829 | -0,4549 | -0,8580 | -0,7360 | 0,6928 | 1,0000 | |
| **EPS** | -0,7376 | -0,6729 | -0,8974 | -0,5309 | 0,7994 | 0,9603 | 1,000 |

*Source: author's calculation, Gretl*

Pearson's correlation coefficient reached value (-0, 7376), which represents a very strong indirect relationship. Because p- value (0, 0368) is lower than the test level ($\alpha = 0, 05$), hypothesis H0 is rejected and the correlation coefficient is considered statistically significant.

The correlation analysis confirmed relations between the variables in both cases, i.e. for both years 2001 and 2011, we can conclude the following:

The hypothesis H1 was confirmed because there is a statistical dependence between the registered unemployment rate and the educational structure within the region in SR.

In the regression analysis, we will detect the statistical significance between the dependent variable y – the unemployment rate and the independent variable x, which is an indicator of the EPS level of education.

*Table 6.8*

**A point estimate of the regression function parameters**

| Point estimation of regression function parameters | Coefficients | Misleading error | t-share | p-value |
|---|---|---|---|---|
| **Locating constant** | 53,17 | 14,9411 | 3,559 | 0,0119 |
| **EPS** | -76,51 | 28,5963 | -2,676 | 0,0368 |

*Source: author's calculation, Gretl*

Based on the data from Table 6.8, we can identify a coefficient b1 (EPS), whose value is je -76,51 and a locating constant b0, whose value is 53,17.

Based on these facts, we can formulate the linear regression equation: UR = -76,51EPS + 53,17.

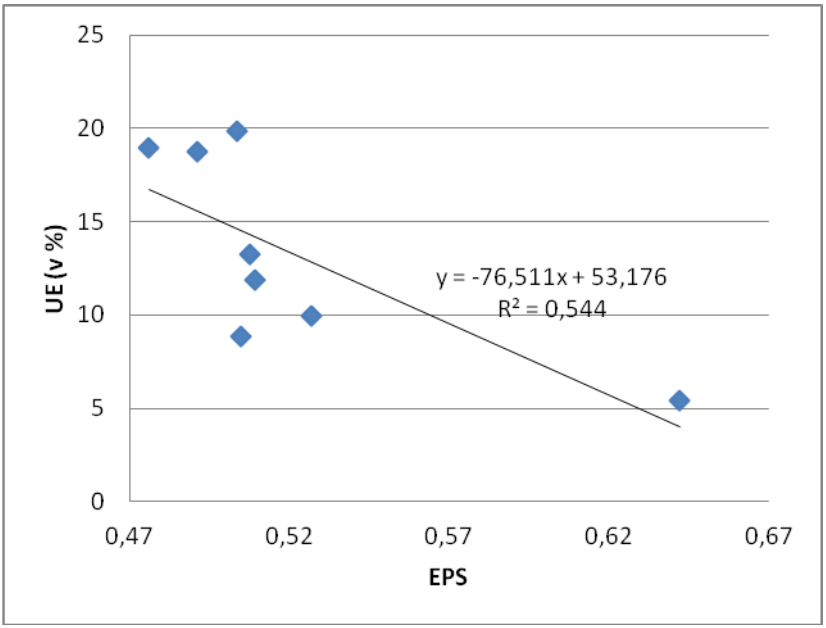


**Figure 6.2 Dependence of the unemployment rate on the level of education for 2011**

*Source: author's calculation, Gretl*

The correlation coefficient (-0,7376) points to the correlation, and the coefficient of determination (0,544) indicates that 54% of the unemployment rate is dependent on the increase (decrease) in the educational level.

The locating constant 53,17 represents the expected value of the unemployment rate at the zero level of the educational level. The regression coefficient -76,51 tell us how many units will change the unemployment rate, when the EPS changes by one unit

Finally, we use the F-test to test the statistical significance of the linear regression model. Since F>F crit (10760,4>3.79) a p-values of both parameters are higher than 0,05, we conclude that the linear regression model UR = -76,51EPS + 53,17 is suitable for describing the dependence of UR a EPS.

*Table 6.9*

**Two-sample F-test for variance (unemployment rate and educational level in 2011)**

| | *Set 1* | *Set 2* |
|---|---|---|
| Median | 13,37 | 0,5202625 |
| Variance | 28,468543 | 0,002645677 |
| Comparison | 8 | 8 |
| Difference | 7 | 7 |
| F | 10760,4 | |
| P(F<=f) (1) | 1,44E-13 | |
| F krit (1) | 3,7870435 | |

F>F krit

*Source: author's calculation, Gretl*

**2). *Measuring the relationship between the educational level and the GDP per capita in the Slovak Republic.***

Analysis of the relationship in **2001**

For the calculation of the correlation analysis, we used the data on the regional gross domestic product per capita and the level of education levels indicated in Table 6.10.

*Table 6.10*

**GDP indicators and educational level of the population in 2001**

| Region of | rHDP v € | ISCED 0-1 | ISCED 2 | ISCED 3 | ISCED 4 | ISCED 5-6 | EPS |
|---|---|---|---|---|---|---|---|
| **Bratislava** | 14 055,17 | 0,1881 | 0,1518 | 0,1917 | 0,2980 | 0,1704 | 0,5293 |
| **Trnava** | 6 510,95 | 0,2059 | 0,2286 | 0,2650 | 0,2401 | 0,0604 | 0,4386 |
| **Trenčín** | 6 005,90 | 0,2076 | 0,1888 | 0,2690 | 0,2651 | 0,0695 | 0,4545 |
| **Nitra** | 5 396,96 | 0,1985 | 0,2480 | 0,2487 | 0,2400 | 0,0647 | 0,4394 |
| **Žilina** | 5 275,64 | 0,2264 | 0,2001 | 0,2524 | 0,2521 | 0,0690 | 0,4419 |
| **Banská Bystrica** | 5 369,11 | 0,2176 | 0,2321 | 0,2225 | 0,2577 | 0,0701 | 0,4406 |
| **Prešov** | 3 893,25 | 0,2571 | 0,2181 | 0,2226 | 0,2415 | 0,0608 | 0,4221 |
| **Košice** | 5 918,24 | 0,2394 | 0,2094 | 0,2154 | 0,2607 | 0,0751 | 0,4391 |

*Source: author's calculation podľa ŠÚSR, SODB 2001*

*rHDP – Regional Gross Domestic Product per Capita, ISCED – Relative Population Representation for each ISCED Category (International Standard Classification of Education), EPS – Educational Potential of the Company*

Verify hypothesis:

**$H_1$:** We assume that there is a statistical dependence between the educational structure of the population and the level of the gross domestic product within the regions of the Slovak Republic.

To this hypothesis we have created an alternative hypothesis H0, which asserts that there are no statistical depencence beetween variables. For verification, we used Pearson correlation analysis performed using MS Excel analytics tools.

The Pearson correlation analysis results, which contain the correlation coefficients of all pairs of variables, are shown in Table 6.11.

Pearson's correlation coefficient reached 0.9816, which represents a very strong direct relationship. Because of the p-value (0.000) is lower than the test level $\alpha = 0.05$, the H0 hypothesis is rejected and the correlation coefficient is considered statistically significant.

In the regression analysis, we will detect the statistical significance between the dependent variable y – gross domestic product per capita and the independent variable x, which is an indicator of the EPS level of education.

*Table 6.11*

**Correlation Analysis of GDP and educational level for 2001**

| | rHDP | ISCED 0-1 | ISCED 2 | ISCED 3 | ISCED 4 | ISCED 5-6 | EPS |
|---|---|---|---|---|---|---|---|
| **HDP** | 1,0000 | | | | | | |
| **ISCED 0-1** | -0,6527 | 1,0000 | | | | | |
| **ISCED 2** | -0,7695 | 0,2535 | 1,0000 | | | | |
| **ISCED 3** | -0,5452 | -0,1036 | 0,4142 | 1,0000 | | | |
| **ISCED 4** | 0,8722 | -0,4398 | -0,8870 | -0,6068 | 1,0000 | | |
| **ISCED 5-6** | 0,9697 | -0,5140 | -0,8082 | -0,6888 | 0,9128 | 1,0000 | |
| **EPS** | 0,9816 | -0,6626 | -0,8209 | -0,5191 | 0,9195 | 0,9737 | 1,0000 |

*Source: author's calculation, Gretl*

Using the GRETL analytical tools, we have processed the point estimates of the regression function parameters listed in the following Table 6.12.

*Table 6.12*

**Point estimation of regression function parameters**

| Point estimation of regression function parameters | Coefficient | Missleading mistake | t- share | p-value |
|---|---|---|---|---|
| **Locating constant** | -35428 | 3345,08 | -10,59 | 0,00004 |
| **EPS** | 93150 | 7404,88 | 12,58 | 0,00002 |

*Source: author's calculation, Gretl*

Based on the data from table x, we can identify a coefficient b1 (EPS) whose value is 93150 and a locating constant b0 whose value is – 35428.

Based on these facts, we can formulate a linear regression equation: GDP = 93150EPS – 35428. Using MS Excel, we have expressed this equation as follows in a two-dimensional set of elements (Figure 6.3).

The correlation coefficient of 0.9816 points to a correlation, and a 0.963 coefficient of determinant indicate that 96% of the unemployment rate is dependent on the increase (decrease) in the education level.

The locating constant -35428 represents the expected GDP value at the zero level of the educational level. The regression coefficient 93150 tells us how many units of measurement the GDP per capita will change when the EPS changes by one unit.

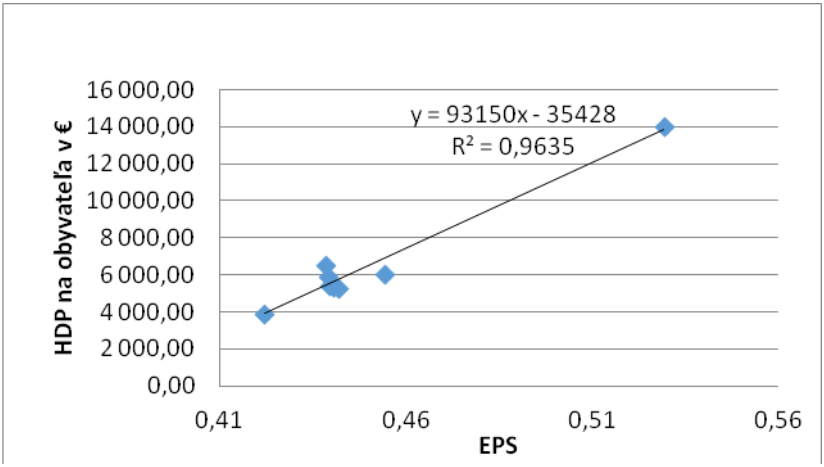


**Figure 6.3 Dependence of GDP per capita from the level of education for SR counties for the year 2001**

*Source: author's calculation, Gretl*

Finally, by using the F-test we test the statistical significance of the linear regression model. Since the F> F criteria (9005824794> 3.79) and the p values of both parameters are higher than 0.05 we state that the linear regression model GDP = 93150EPS – 35428 is suitable for describing the dependence of GDP and EPS.

*Table 6.13*

**Two-sample F-test for dispersion (GDP per capita and educational level in 2001)**

| | *Set 1* | *Set 2* |
|---|---|---|
| Median | 6553,15013 | 0,4506875 |
| Variance | 9775782,61 | 0,001085496 |
| Comparison | 8 | 8 |
| Defference | 7 | 7 |
| F | 9005824794 | |
| P(F<=f) (1) | 2,6871E-34 | |
| F krit (1) | 3,78704354 | |

F>F krit

*Source: author's calculation, Gretl*

Analysis of the relationship for **2011**

For the calculation of the correlation analysis, we used the data on the regional gross domestic product per capita and the levels of education level listed in Table 6.14.

*Table 6.14*

**Indicators of GDP and population education level in 2011**

| Region of | rHDP v € | ISCED 0-1 | ISCED 2 | ISCED 3 | ISCED 4 | ISCED 5-6 | EPS |
|---|---|---|---|---|---|---|---|
| **Bratislava** | 32 488,69 | 0,1521 | 0,0955 | 0,1712 | 0,3194 | 0,2617 | 0,6423 |
| **Trnava** | 14 562,85 | 0,1671 | 0,1651 | 0,2648 | 0,2880 | 0,1150 | 0,5047 |
| **Trenčín** | 11 503,92 | 0,1649 | 0,1293 | 0,2693 | 0,3115 | 0,1251 | 0,5270 |
| **Nitra** | 11 608,40 | 0,1642 | 0,1698 | 0,2576 | 0,2885 | 0,1199 | 0,5077 |
| **Žilina** | 11 274,81 | 0,1892 | 0,1390 | 0,2476 | 0,2946 | 0,1296 | 0,5093 |
| **Banská Bystrica** | 9 189,52 | 0,1852 | 0,1643 | 0,2247 | 0,3025 | 0,1233 | 0,5036 |
| **Prešov** | 7 631,40 | 0,2200 | 0,1700 | 0,2179 | 0,2752 | 0,1170 | 0,4761 |
| **Košice** | 10 168,01 | 0,2180 | 0,1549 | 0,2018 | 0,2947 | 0,1306 | 0,4914 |

*Source: author's calculation podľa ŠU SR*

*rHDP – Regional Gross Domestic Product per Capita, ISCED – Relative Population Representation for each ISCED Category (International Standard Classification of Education), EPS – Educational Potential of the Company*

We are still verifying H1 (We assume that there is a statistical dependence between the educational structure of the population and the level of the gross domestic product within the regions of the Slovak Republic).

To this hypothesis we have again created an alternative hypothesis H0, which claims that there is no statistical dependence between variables. For verification, we used Pearson correlation analysis performed using MS Excel analytics tools.

The results of the Pearson correlation analysis, which contain the correlation coefficients of all pairs of variables, are shown in Table 6.15.

Pearson's correlation coefficient reached 0,9697, which represents a very strong direct relationship. Because the p- value (0,000) is lower than the test level $\alpha = 0,05$, the hypothesis H0 is rejected and the correlation coefficient is considered statistically significant.

The correlation analysis confirmed the relationship between variables in both cases, i.e., for both 2001 and 2011, we can state the following:

*Table 6.15*

**Correlation Analysis of GDP and educational level for 2011**

| | rHDP | ISCED 0-1 | ISCED 2 | ISCED 3 | ISCED 4 | ISCED 5-6 | EPS |
|---|---|---|---|---|---|---|---|
| **rHDP** | 1,0000 | | | | | | |
| **ISCED 0-1** | -0,6313 | 1,0000 | | | | | |
| **ISCED 2** | -0,8212 | 0,4999 | 1,0000 | | | | |
| **ISCED 3** | -0,5592 | -0,2128 | 0,4534 | 1,0000 | | | |
| **ISCED 4** | 0,6689 | -0,6168 | -0,8471 | -0,3075 | 1,0000 | | |
| **ISCED 5-6** | 0,9555 | -0,4549 | -0,8580 | -0,7360 | 0,6928 | 1,0000 | |
| **EPS** | 0,9697 | -0,6729 | -0,8974 | -0,5309 | 0,7994 | 0,9603 | 1,0000 |

*Source: author's calculation, Gretl*

The hypothesis $H_1$ was confirmed because there is a statistical dependence between the recorded unemployment rate and the educational structure within the SR.

*Table 6.16*

**Point estimation of regression function parameters**

| Point estimation of regression function parameters | Coefficients | Missleading mistake | t- share | p-value |
|---|---|---|---|---|
| **Locating constant** | -64056 | 8022,25 | -7,985 | 0,0002 |
| **EPS** | 14917 | 15354,1 | 9,716 | 0,00007 |

*Source: author's calculation, Gretl*

Based on the data from Table 6.16, we can identify a coefficient b1 (EPS) whose value is 14917 and a locating constant b0 whose value is – 64056. Based on these facts, we can formulate the linear regression equation: GDP = 14917 EPS – 64056. Using MS Excel, we have expressed this equation as follows in a two-dimensional set of elements (Figure 6.4).

The correlation coefficient of 0.9697 points to the correlation, and the determinant coefficient 0.940 indicates that 94% of the unemployment rate is dependent on the increase (decrease) in the educational level.

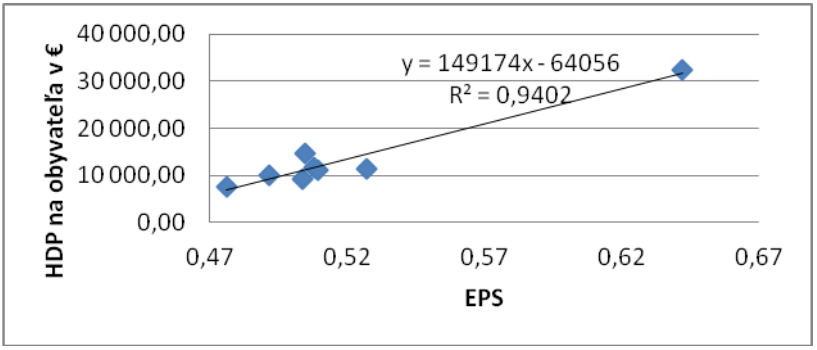


**Figure 6.4 Dependence of the HDP rate on the level of education for 2011**

*Source: author's calculation, Gretl*

The locating constant -64056 represents the expected GDP value at the zero level of the educational level. The regression coefficient 14917 tells us how many units of measurement will change the GDP per capita, when the EPS changes by one unit.

Finally, we use the F-test to test the statistical significance of the linear regression model. Since F>F crit (23667399975>3.79) and p-values of both parameters are higher than 0, 05 we conclude that the linear regression model HDP = 14917 EPS – 64056 is suitable for describing the dependence of HDP and EPS.

*Table 6.17*

**Two-sample F-test for dispersion (GDP per capita and educational level in 2011)**

| | *Set 1* | *Set 2* |
|---|---|---|
| Median | 13553,45 | 0,5202625 |
| Variance | 62616295 | 0,002645677 |
| Comparison | 8 | 8 |
| Difference | 7 | 7 |
| F | 2,367E+10 | |
| P(F<=f) (1) | 9,132E-36 | |
| F krit (1) | 3,7870435 | |

F>F krit

*Source: author's calculation, Gretl*

## CONCLUSION

One of the indispensable assumptions of the perspective and long – term growth of the standard of living of the population is their education and training. Education in the regions has a great importance not only in economic area, but also in social and environmental area. This analysis has also shown that unemployment is a complex and multidimensional problem that has not only its socio – structural but also its socio – educational dimension. It is precisely that character and development of the educational structure that is one of the important aspects that can play an important role in its gradual removal in the affected regions from the point of view of unemployment. The contribution present one of the possible methods of measuring the level of the educational structure in relation to the macroeconomic indicator – unemployment; respectively identification of regions from the point of view of ISCED (International Standard Classification of Education) and EPS – educational potential of the society.

In 2008 there is a situation in which the Slovak state education policy finally begins to focus on the creation of legislative conditions for system reform (create of the new school law), mainly as a result of the debate on the unfavorable results of Slovakia in international OECD measurement of reading, natural science and mathematical literacy (PIRLS , PISA, TIMSS). The new Education Act is characterized mainly by the introduction of a two-level curriculum for all schools ranging from pre-primary to secondary education, in which the state education program defines the basic compulsory education lines for individual types of schools and the school educational program as a manifestation of the organizational and educational autonomy of each school, and specifies supplements according to its needs. It creates formal conditions for the real possibility of 'innovative change', but in a situation where enthusiasm at the micro level almost totally disappeared (Kosová & Porubský, 2011).

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# KNOWLEDGE PROCESSES AND MANAGEMENT

## INTRODUCTION

We now see a world of rapid change ahead, a global economy full of chaos and uncertainty. In such an environment, it is necessary to increase the pace of innovation in enterprises, new management strategies that have not been used so far, and to increase the pace of overall recovery in the company. Knowledge management is among such successful strategies. "It is hard to open the Wall Street Journal, Business Week and other popular business journals and business magazines today and not to read or hear about "knowledge management" (Oferek and Sarvay 2001).

The knowledge-oriented world, which does not limit development perspectives due to the inexhaustibility of its possibilities, comes to the forefront. Of course, this also applies to our companies and, in

particular, to the management of these companies, which must, among other things, learn how to look at their companies from a different perspective – in terms of knowledge. The idea of the past can no longer be promoted – capital in connection with labor creates value. The reality is that people are an essential source of value creation. And with the help of guru of management, Peter Drucker (1998), this statement can be updated: knowledge capital (KC) in conjunction with work creates value. However, it is also necessary to mention why this is the case. Finding an answer to it requires remembering a few historical milestones that have led us to the point where more emphasis is placed on intangible assets and tangible assets – buildings, machines, money, etc. become inferior. So, when less and less labor and capital are enough, how do we create added value? Knowledge or intellectual capital is the right answer. Knowledge capital is not mutually exclusive with technological development, but on the contrary. Of course, in today's notion we mean the development of far more perfect "machines" – so-called high-technologies. They are the result of innumerable laboratory experiments and scientific research. They thus bind themselves to qualified professionals and at the same time realize careful handling of natural resources. Thus, they fully meet the requirements of today's globalization process, which I mentioned in the introduction. Who or what constitutes knowledge capital? Today, when it is quite realistic to produce without a hand, but not without a head, we can also speak of a new type of worker – a new worker, representing in particular a qualified technician, engineer or manufacturing expert. However, such a definition is not sufficient for the overall picture of knowledge capital. The concept of knowledge-capital is defined as organized knowledge that can be used to create wealth, we also encounter a definition that speaks of KC as a system or even a system of systems for capturing, processing, understanding and ensuring that this information can be used at the right moment as knowledge. Of course, the definitions are innumerable, but in common, KC is made up of human capital, structural capital and customer capital.

In a more detailed analysis of the knowledge capital issue, it is generally important to think about whom these specialists and intellectuals are, who are not lost in post-industrial society and who are able to reflect on its demands. To a lesser extent, it is the representatives of companies that have held their interests for a long time, and by their practice, but of course also by their acquired knowledge and experience, they are helping to create added value. This idea is also confirmed by

the statement: “Knowledge management theories assume that knowledge is a major determinant of value creation” (Alhashmi, 2005). They form the first category. But we must not forget those who still have the ambition to become such a "brain of capital" and are still preparing for their mission. These can be categorized as second. For both of the above categories, the claims and requirements they have to meet is different active ability to work with information, also referred to as functional literacy. It forms a kind of process pyramid, at the top of which is the creation of one's own opinion “built” on the basis of searching, sorting and combining information. Compared to industrial times, there is a fundamental difference. In the past, an exact approach was preferred, based on work with finished information, but the focus is now on the entire decision-making process. These principles should be applied not only in practice, but also in the training of future managers. It is argued that: “Organizations are aware that access to quality information and knowledge will help them to remain competitive”. (Oferek and Sarvay, 2001) Globalization is currently the determining aspect of developmental changes. (Citalli and Reyes and Guzman and Kumar and Cherrafi, 2019, 10-12) claim that “...managers need to implent KM, as they will enable a better understanding and awareness regarding the global dangerous impacts from unsustainable operations mainly focused on sales and cost reduction”. They also draw attention to the justification of using benefits in this era.

In the context of knowledge management, the importance of which the authors point out (Rosendal and Skjaerseth and Andresen, 2019, 4-5), it is necessary to understand the concepts of data and information correctly. These are essential for defining the most important concept of knowledge. Data are expressed as symbols (letters, text, sound, image), but it can also be sensory perceptions (smell, touch). They reflect the objective reality and specific events without any relation to other influences. There is everything we can monitor by the senses, objective facts about events, and exist independently of human consciousness. (Rosendal and Skjaerseth and Andresen, 2019, 4-5).

Information includes a message, along with its content meaning for the recipient, a message that expresses a certain status. This status serves a specific goal, or induces an action. The message becomes information by human interpretation or by processing it by algorithms or by being stored in certain files. Knowledge is a semantic unit formed by the system of knowledge. It is an interconnected (changeable, complementary) structure of related knowledge that can be used in

interaction with the world. It represents the final comprehensive information with practical use, it is transformed into the level of practical application and use.

It is interesting to confront the whole spectrum of theoreticians' opinions on the importance of knowledge management with its practical use, not only in Slovakia but also in other countries. The authors Shamim and Cang & Yu, (2019) claim that "Despite the acknowledged importance of knowledge management (KM), many employees avoid practicing KM at the individual level. This avoidance often leads to loss of the intellectual capital due to employee turnover". Greater interest in the application of knowledge management can be observed in different sectors in different countries differently, as exemplified by the authors Razzaq & Shujahat & Hussain & Nawaz & Wang & Ali & Tehseen (2019), who point out that "....have developed knowledge management functions to address the problems of low organizational commitment (higher turnover rates) and knowledge-workers" performance and, as a consequence, they investigate "...examine the mediation role of organizational commitment in the relationship between knowledge management practices and knowledge-worker performance".

## KNOWLEDGE PROCESSES

Knowledge management is formed by knowledge processes. There is no one-size-fits-all solution to implement knowledge management that is appropriate for each business. Therefore, it is important to find out which knowledge processes the company needs and wants to develop and has not yet sufficiently secured. This is followed by the next step - choosing the optimal software and hardware security as well as the right technology for your business. The next step is then to identify the appropriate knowledge processes for the implementation of the knowledge management system.

Based on the analysis, it is necessary to identify existing and missing knowledge processes in the company and to prioritize the identified knowledge processes. Knowledge processes, or more precisely, creation of knowledge can be divided according to Paralič (2011) as follows:

Knowledge discovery:

- combination (suitable for explicit knowledge)
- socialization (suitable for tacit knowledge),
- knowledge capture:

– internalization (explicit knowledge),
– externalization (tacit knowledge).

Knowledge sharing:

- distribution, exchange – suitable for explicit knowledge,
- socialization – suitable for tacit knowledge,
- knowledge application:

– routine (for both explicit and tacit knowledge),
– leadership (for both explicit and tacit knowledge).

When designing a knowledge management system, it is necessary to declare the conditional factors of knowledge management:

Characteristics (type) of tasks in a small business:

- the uncertainty rate of the tasks solved – high or low,
- the independence rate in solving tasks – high or low.

Characteristics (type) of knowledge to solve tasks:

- explicit or tacit,
- procedural or declarative.

Organization characteristics:

- size of the enterprise – small,
- Management strategy – low cost or differentiation.

Environmental characteristics

- degree of uncertainty – high or low.

The organizational culture is in charge of the organization's ability to effectively utilize knowledge-sharing processes that increase or decrease the organization's ability to manage knowledge.

## CHARACTERISTICS (TYPES) OF TASKS IN A SMALL COMPANY

The knowledge processes appropriate to a given organizational unit (department or geographical location) depend on the nature of the tasks addressed there. There are several different characteristics of tasks to be solved, but from the point of view of knowledge management, the uncertainty of tasks (or their variability) and independence of tasks (to what extent the achievement of the objectives of the task depends on the efforts of other organizational units). High uncertainty (variability) of solved tasks reduces the ability of the company to create routines, and therefore the application of knowledge depends on the management of the company. The process of externalization and internalization is more demanding and expensive due to ever-changing tasks. In the case of uncertainty, knowledge tends to remain tacit, thus suppressing the

possibility of using combination and distribution. In the case of high uncertainty of tasks it is recommended to give priority to leadership and socialization. Conversely, with low uncertainty of tasks, guidance, routines, combination, externalization and internalization are recommended.

Performing independent tasks primarily requires knowledge available directly to people in the department. They often require deep knowledge of a particular area. Independent tasks are based on externalization and internalisation. By externalization, knowledge becomes more understandable to other department employees. By internalization, individuals acquire knowledge by observing, or more precisely, interviews with others. In particular, the dynamics of interactions in which departmental knowledge is combined and transformed by communication and coordination between different functional groups determine the performance in dealing with dependent tasks. Socialization and combination as processes facilitating the integration of new knowledge are suitable for dependent tasks. Guides and routines can be used for both dependent and independent tasks. Their selection affects the uncertainty of tasks, as their dependence.

Knowledge processes are most directly influenced by the expressiveness of knowledge (explicit or tacit) and also by the psychology of knowledge (declarative or procedural). Procedural or declarative knowledge include acquiring, capturing and sharing knowledge. Purely procedural knowledge is also called “know-how”. In them, guides and routines are suitable for both explicit and tacit knowledge. Some knowledge processes may not contribute to the value of a certain type of knowledge because they are either not effective in management or are too expensive or very slow to share knowledge. The characteristics most influencing the suitability of individual knowledge processes are: company size, application of knowledge (leadership and routines), knowledge sharing (socialization and distribution), and company management strategy. Larger and more bureaucratic firms will benefit more from routines by making greater use of process standardization. Smaller companies are not so bureaucratic and are not dependent on standardization and rules, so management is more appropriate in their case. In addition, the circumstances necessary for leadership (e.g. the confidence of knowledge workers in the individual who leads) are much more likely in small businesses.

Sharing knowledge by distribution is appropriate in large businesses, while socialization is recommended for small businesses. There are

many more opportunities for socialization in small businesses than in larger ones. The disadvantage is the distribution, which is inefficient for small businesses, is very advantageous in large companies. Management strategy can be low-cost (focused on applying existing knowledge instead of creating new knowledge) and differential, or more precisely, specialized (searching for new opportunities, frequent product innovations – knowledge acquisition). Application of knowledge by leadership and routines is suitable for companies with a low-cost strategy. Acquiring knowledge through combination and socialization is more appropriate in companies with differential strategies.

## ENVIRONMENTAL CHARACTERISTICS

The environment is characterized by a degree of certainty, i.e. the extent to which market conditions are stable in the business sector of the firm. In an environment of low uncertainty, knowledge capture and knowledge sharing processes are appropriate as captured knowledge will be relevant over a longer period. In an uncertain environment, on the other hand, knowledge acquisition processes are more appropriate (contributing to the company's ability to deliver innovative problem solving) as well as knowledge applications (enable individuals to solve problems based on the solutions recommended by those with the necessary knowledge rather than a time-consuming knowledge sharing process). Based on the analysis in the respective company it is necessary to identify existing and missing knowledge processes. It is then necessary to prioritize the identified knowledge processes. When determining the priorities between the knowledge processes in the company in question, it is necessary to determine their mutual suitability for all types of knowledge processes and all the conditional characteristics: 1.0 if appropriate, 0.0 if not appropriate and 0.5 if appropriate for both alternative values. Subsequently, it is necessary to calculate all assigned values for each type of knowledge process separately. Finally, it is necessary to compare the cumulative values and organize the knowledge processes accordingly.

In the Table 6.18 (Parlička, 2011) we see the result of the analysis of the conditioning factors for the selection of appropriate knowledge processes in the respective company. The company focuses mainly on the development of knowledge processes, leadership and socialization (in order to acquire and share knowledge). To develop and support socialization, the company can be recommended to establish and use

e.g. brainstorming meetings, practical trainings, more frequent meetings, etc. As Tokarcikova (2011) says: "All kinds of benefits that bring about increased business competitiveness and profit levels are welcomed by most market players". Recent years have brought new trends in all areas of life. One area that is heavily influenced by globalization is management.

*Table 6.18*

**Prioritization between identified processes**

| Knowledge management processes | Uncertainty of company tasks | Dependent tasks of the company | Tacit knowledge of the company | Procedural knowledge of the company | Low cost company | High uncertainty of the company | ∑ |
|---|---|---|---|---|---|---|---|
| **Combination** | 0 | 1 | 0 | 0.5 | 0 | 1 | 2.5 |
| **Socialization – acquisition** | 1 | 1 | 1 | 0.5 | 0 | 1 | 4.5 |
| **Socialization – sharing** | 1 | 1 | 1 | 0.5 | 0.5 | 0 | 4 |
| **Distribution** | 0 | 1 | 0 | 0.5 | 0.5 | 0 | 2 |
| **Externalization** | 0 | 0 | 1 | 0.5 | 0.5 | 0 | 2 |
| **Internalization** | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 1 |
| **Leadership** | 1 | 0.5 | 0.5 | 1 | 1 | 1 | 5 |
| **Routines** | 0 | 0.5 | 0.5 | 1 | 1 | 1 | 4 |

## CONCLUSION

In corporate and entrepreneurial activities, management strategies are developed to maintain and strengthen the competitiveness of enterprises. Knowledge management is one such strategy and represents strategies and processes for identifying, capturing and effectively utilizing knowledge in order to increase the competitiveness of a business. Knowledge management is formed by knowledge processes. We focused on knowledge processes and their application in the respective company. "The knowledge base of an organization is seen as its intellectual capital and is increasingly emphasized as an essential source of competitive advantage. Engineering, management and use of knowledge (individual, group and organizational levels of knowledge) are becoming strategic activities in many organizations to achieve a competitive advantage". (Senthil, 2008, 145-153)

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# INTERNATIONAL STUDENT MOBILITY AS AN IMPORTANT PROCESS OF INTERNATIONALIZATION OF UNIVERSITIES AND IMPROVEMENT OF EDUCATION QUALITY

One of the most important trends in the development of modern higher education in the world is the internationalization process that is defined economic and socio-political factors the convergence of countries and implies the need to ensure the compatibility of education, the formation of General educational space

In modern society, in in conditions of market economy, competition is manifested in all spheres of our lives. Prestigious, well-paid job is no exception. In the competition for a good job, position, decent wages and social guarantees, only highly qualified specialists win, since the market economy is mainly based on private property. One of the features of the functioning of private property is that the heads of such enterprises need only qualified workers with certain skills.

The task of forming, educating and developing competitive specialists is of course assumed by our education system.

In modern conditions, educational institutions operate in an extremely dynamic environment, the instability of which is caused by changes in the material well-being of the population, the labor market, technological progress and demographic trends.

HEIs of the Republic need to simultaneously implement educational programs of high quality, introduce innovations in the educational process, as well as compete for students in the educational market. At the same time, with the development of the globalization of the economy and business, higher education has new goals – the training of professional staff able to work effectively in the changed conditions not only of the domestic market, but also of the world market.

It is no secret that the number of graduates and students in the Republic of Moldova is decreasing from year to year, and this fact raises

the question of further development of the educational services market in the Republic of Moldova (Table 6.19).

*Table 6.19*

**Education by type of educational institutions in the Republic of Moldova**

| | 2015/2016 | 2016/2017 | 2017/2018 | 2018/2019 |
|---|---|---|---|---|
| **Educational Institutions** | | | | |
| Primary and general secondary education | 1323 | 1291 | 1243 | 1246 |
| Technical and vocational secondary education | 92 | 86 | 86 | 89 |
| Higher education | 31 | 30 | 29 | 29 |
| **Pupils and students (thousand)** | | | | |
| Primary and general secondary education | 334,5 | 333,7 | 335,6 | 334,2 |
| Technical and vocational secondary education | 46,5 | 48,8 | 46,6 | 44,3 |
| Higher education | 81,7 | 74,7 | 65,5 | 60,6 |

*Source: National Bureau of Statistics of the Republic of Moldova // Statistical databank "Statbank" https://statbank.statistica.md/*

In the 2018-2019 academic year, the education process in the Republic of Moldova was organized in 1364 educational institutions, which include 1246 institutions of primary and secondary general education, 89 technical and vocational secondary education and 29 institutions of higher education. The network of vocational education institutions includes 13 model centres, 34 colleges and 42 vocational schools. The number of vocational institutions decreased by 3.3% compared to the 2015-2016 academic year, and institutions of primary and secondary general education-by 5.8%.

If we consider the number of graduates, we can see the following dynamics (Table 6.20).

*Table 6.20*

**Graduates by type of educational institutions in the Republic of Moldova (thousand)**

| Type of education | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|
| Primary and general secondary education | 46,3 | 43,1 | 40,4 | 41,8 |
| Technical and vocational secondary education | 15,5 | 10,4 | 14,0 | 14,1 |
| Higher education | 23,6 | 21,9 | 19,9 | 18,1 |

*Source: National Bureau of Statistics of the Republic of Moldova // Statistical databank "Statbank" https://statbank.statistica.md/*

Compared to 2015, the number of graduates decreased in 2018 at all levels of education: by 10% in the primary and general secondary education, by 9% – technical and vocational secondary education and 23% – in higher education.

Consider the number of graduates per 10000 populations, which are produced by all categories of educational institutions (Figure 6.5).

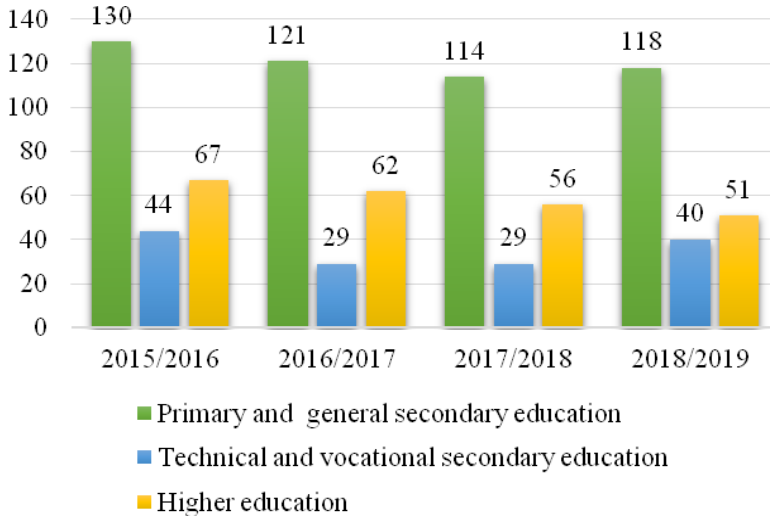


**Figure 6.5 Number of graduates per 10000 population of the Republic of Moldova**

*Source: National Bureau of Statistics of the Republic of Moldova // Statistical databank "Statbank" https://statbank.statistica.md/*

This figure shows that the number of graduates per 10,000 populations has a negative trend in all categories. Thus, the number of graduates of Primary and general secondary education in the 2018-2019 academic year was 118 graduates/10000, which is less by 12 people (40%) compared to the 2015-2016 academic year. The number of graduates of Technical and vocational secondary education in the 2018-2019 academic year was 40 graduates/10,000, which is less by 4 people (10%) compared to the 2015-2016 academic year. The number of graduates of Higher education in the 2018-2019 academic years was 51 graduates / 10,000, which is less than 16 people (23.8%) compared to the 2015-2016 academic year.

From this analysis it is clear that Moldovans must fight for each student and for their "tomorrow". In addition to PR – campaigning and attracting students, Moldovan Universities must respond to the changing demands of society, in addition to fundamental knowledge, they must provide self-learning skills that will allow the graduate to realize himself in the chosen field. This is required to maintain its relevance and attractiveness among other operators of the market of educational services.

In our opinion, in order to achieve these goals, the universities of the Republic of Moldova should be oriented towards internationalization. The issues of internationalization and the quality of higher education are closely linked, as the process of internationalization and the entry of universities into the international market contributes to improving the quality of education. In order to be competitive, universities cannot limit themselves to national borders – and this is an objective reality today. Internationalization, in turn, leads to the strengthening of international cooperation in education and the development of globalization (Figure 6.6).

Currently, the internationalization of the University is considered as one of the most important characteristics of the competitiveness of a modern University, and the indicators of internationalization, respectively, have great weight among other indicators of the effectiveness of the University. It is important to note that internationalization of education does not mean it unification, destroying originality and positive national traditions. This involves the mutual enrichment of the content of education, analysis and use of positive foreign experience and on this basis improving the efficiency of education [7].

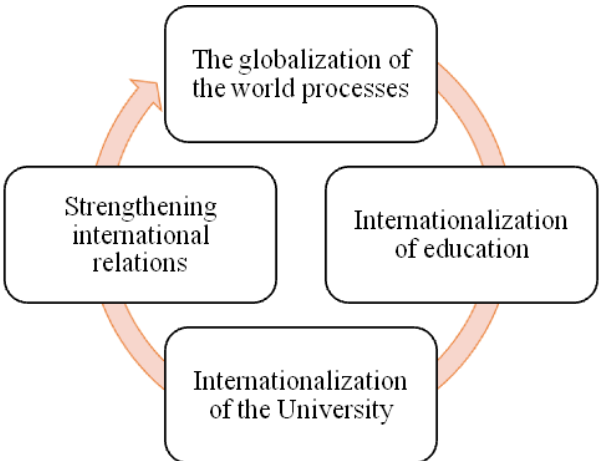


**Figure 6.6 The ring of internationalization of education**

*Source: Krasnoshchekov, V.V. (2014) The internationalization of the university as a factor in improving the quality of the graduate // Fundamental Research. No. 6-5. - pp. 1045-1048.*

It is accepted to allocate three main elements of internationalization of HEIs:

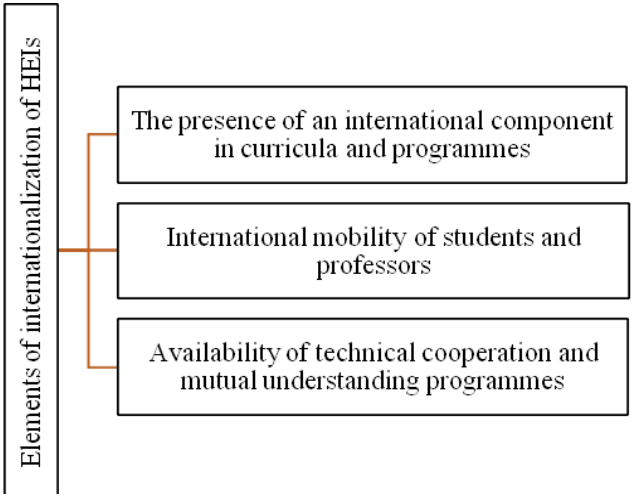


**Figure 6.7 Elements of internationalization of HEIs**

*Source: compiled by the authors on the basis of open sources*

The most common and effective form of internationalization of educational experience is a foreign internship.

*Mobility in General* is the ability to adapt to new circumstances, conditions, technical capabilities, place (both within a particular educational institution and in the global educational space). This quality is an integral characteristic of any specialist. It should be noted that the professional socialization of the specialist begins in the student years, and therefore, the quality of mobility must be acquired by them during the training period.

Under the *academic mobility of students* is usually understood as the movement of students of higher educational institutions for a certain period of time to another educational or scientific institution within or outside their country for the purpose of training. After graduation, such a student returns to his / her educational institution. At the same time, there is a practice of recognition (credit, certification, examination) of periods of study passed by students in other universities.

Currently, the migration of academically oriented youth is becoming the Central link of the world system of higher education. The quantitative indicators of the development of academic mobility of students are very impressive: over the past forty years, the increase in the number of international students worldwide has exceeded the overall rate of expansion of higher education. Over the past 25 years international academic mobility has increased by more than 300% [1].

Unlike all other measures to internationalize educational services, it is the organization of education abroad that provides “a significant part of learning by experience” and “the opportunity to learn by studying almost 24 hours a day”. Studies show that the majority of students (60 to 90%) who have studied abroad on exchange programs between universities are satisfied with this experience and would like to participate in the student exchange program once again [2].

At the same time, according to the majority of human resources specialists, multicultural experience is being found as a great asset that helps in finding a dream job. Candidate with experience gained during internship abroad is being perceived by recruiters as an active, determined and independent person who is ready to take on challenges and show flexibility and willingness towards new situations under demanding circumstances. Internship abroad is also the best way to acquire international adaptability and cross-cultural sensitivity and self-confidence by effective learning how to share your ideas, doubts or fears. [6]

As a consequence, there is a need to create a specific educational system in the University, in which the future specialist not only acquires knowledge that provides him with mobile behavior in the labor market, but also acquires competencies that allow him to develop an individual strategy of his professional activity, successfully adapt and realize his potential in modern society. In these conditions, there is a growing interest of students and teachers to participate in academic exchange programs, international projects, as well as to continue education abroad. In addition, the use of foreign technologies and materials in the work, which is quite common in the Republic today, requires a specialist to have certain knowledge beyond the program of the Russian University. If the graduate participated in academic exchange programs, visited while studying abroad at the specialized production, he will make fewer mistakes while working in the specialty.

Governments of many countries and European organizations actively support the development of academic mobility, realizing its key role for the growth of competitiveness of universities, the country, the entire European education, the development of the single labor market and the competitiveness of the European economy as a whole

Regarding Comrat state University, we have to note that in 2016 the University joined the consortium of the international project ERASMUS+ "Elevate".

Elevating the Internationalization of Higher Education in Moldova.Aims of this project are to develop and implement meaningful, transparent and far-reaching national and institutional strategies, policies and measures that will ensure a long-term systematic and strategic approach to the internationalisation of Moldovan HE and research, facilitate international relations across Moldovan universities and raise the quality and scope of international partnerships established within EHEA and ERA [3].

Within the framework of this project, taking into account the received international experience, CSU developed and approved: "Regulations on the recognition of the results of student mobility" and "Regulations on the recognition of academic mobility". In addition, it should be noted that CSU has developed and approved the "Strategy of internationalization of Comrat State University for 2018-2022".

This strategy has four priority areas:

Priority 1. Internationalization of curricula;

Priority 2. Increase in the number of foreign students studying at the University;

Priority 3. Professional development of teaching staff and students including through academic mobility;

Priority 4. Raising awareness of the University at the international level.

For Comrat State University, student mobility is one of the most important ways to improve the competitiveness of the University and methods of improving the quality of the educational process.

The advantages and prospects of mobility:

– free access to better educational programs;

– growth of research opportunities of students;

– the possibility of acquiring not only academic but also new cultural experience;

– the opportunity to take more favorable positions in the labor markets and labor resources;

– expansion of individual and professional ties;

– ability to build individual educational trajectories;

– increasing the share of practice-oriented component in training;

– incentives for learning foreign languages.

In addition, the implementation of programs of academic international cooperation allows you to create a positive image of the institution and promotes the integration of universities in the international educational space.

It would seem that the solution to the problem has been found – it is possible to exchange students and improve the quality of education. However, participation in academic mobility programs and their implementation in modern educational institutions of Moldova are associated with the solution of a large number of problems, such as problems related to adaptation to the new cultural and linguistic environment; the problem of imperfection of the legal framework; the problem of insufficient resources; limited choice of programs for training. It should be noted that the solution of these problems, European projects (as "ELEVATE") and the State as a whole will allow modern students to use all the advantages of academic cooperation and become competent specialists who are able to acquire knowledge independently, adequately use them in practice. Also, this will help Moldovan universities to integrate faster and more successfully into the world educational and scientific space, gain access to international funding in educational areas, establish closer ties with international partners, increase the volume of exports of educational services and become more competitive at least in the European space.

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## Chapter 7

# CURRENT GLOBALIZATION TRENDS: DIGITALIZATION, VIRTUALIZATION, THE FORMATION OF GLOBAL NETWORKS, ICT-BASED TECHNOLOGYIZATION, GREENING

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## CROSS-BORDER SUPPLY CHAIN: PAPERLESS TRADE SOLUTIONS AND THEIR USE FOR FREIGHT DELIVERY

Researchers are giving greater attention to the paperless trade since 2015. It involves more processes than just crossing borders, including freight inspection, cabotage control, and other reporting to state authorities.

Many types of research have paid attention to sustainable development highlighting eco-service, the effect on the environment, the benefits for business, by leaving other components not identified.

The earliest related literature reviews identify supply chain as the network and later literature review points that supply chain is a complex adapting system. Some authors pointed Rogers's model for the application of new solutions. Nevertheless, the number of models dedicated to supplying chain highlights physical flow and information flow between the partners.

Besides, paperless trade solutions are part of freight delivery, which is supply chain activity. The international organisation has delivered several papers and models representing upcoming changes for supply chain partners.

The increased use of information technologies (IT) in trade has influenced the selling processes, which is now handled with more advanced producers and wholesaler's IT systems, also the process is

more complex and time- slot given for providing documentation is shortening.

Now, paperless trade solutions are at the piloting stage. This depends on ongoing initiatives. Among various countries, pilot solutions are driving cross-border paperless transactions. However, in some countries, the application on national territory has higher implementation level than the cross-border one (Figure 7.1).

In previous decades, companies were used to manage their solutions individually or produce national solutions for higher performance. To improve efficiency, companies need an end-to-end view of the supply chain.


**Figure 7.1 Trends in cross-border paperless trade implementation**
*Source: United Nations (2019)*

The information exchange between supply chain partners is specified by ISO/CD 24533, and, it is given in BPAWG[1] reference model for cross-border supply chain provided by United Nations Economic Commission for Europe (UNECE). Various levels of aspects are identified here. For example, ISO/CD 24533 document is giving more attention to the change of transport mode, while BPAWG reference model focuses on complexity and highlights the number of different partners.

[1] *Business Process analysis working group*

Below is provided cross-border supply chain reference model (Figure 7.2). Various actors are involved in cross-border supply chain activities, including service providers and customs. The cross-border activities cover the interconnection of processes. Among them, the activities of carriers are stated by The International Road Transport Union (IRU) on a logistical and regulatory level.

Usually, the order placement, its delivery is the main physical activities. However, the speed of other trade transactions and the simplification of those are highly important for all supply chain partners.

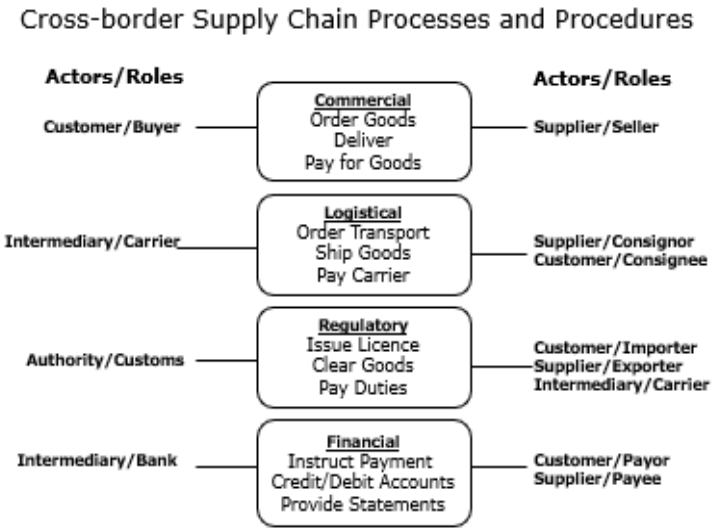


**Figure 7.2 Cross-border supply chain reference model**

*Source: UNECE (2003)*

The implementation of cross-border supply chain solutions gives wider visibility of freight delivery. By cross-border supply, chain reference model and holistic views on logistics transactions supply chain partners get an opportunity in decision-making as well as business development.

**Behavioural aspects of an industrial buyer**

Depending on the number of parties involved in trade transactions, different models could be taken. Supply chain deliveries from a

producer to a retailer are specified under a two-tier model. But in more complex supply chain systems. The models of three tiers (or more) can be deployed; they incorporate a link with an intermediate (then there are links: a retailer to a service provider to a manufacturing plant). Some retailers purchase products frequently from wholesalers; thus, the documentation is leading all these transactions (i.e. paperless trade transactions).

The models become more complex when enterprises are integrated into outsourcing. It is a preferred way of handling products in the supply chain. So, the application of paperless trade process is a joint decision made by a producer and his supply chain partners. Supply chain linkages are important for both a producer and an intermediate as they are connecting faster.

Asare et al. (2011) mention that the usage of paperless freight documentation provides benefits to the participating firms.

Beckstrom's Law offers many insights for different processes in sectors and efficiency gains which can be made under different chain structures, taking the aspects of economics, ICT and industrial behaviour.

According to Beckstrom's Law, the value to each partner is determined by calculating the net benefit value the presence in supply chain network adds to all transactions conducted by its users (buyers, sellers) over that network. The model can be used for any size of the network, whether it has two users or billions. The network means e-services to participate parties, which are provided to entities, and those services can be valued by an accounting of the costs and benefits of all transactions that are enabled by those services since benefits and costs are calculated from the unique standpoint of each partner, when there is no double-counting (Beckstrom, 2009).

## Paperless in freight delivery

Nowadays, companies can choose from a variety of viable options. The growing number of standardised and cloud-based supply chain management solutions is driving down costs and reducing implementation time.

The analysis of publications (i.e. review of papers, published by M. E. Sharpe, Routledge, Elsevier, H. C. Publishers, Wiley Publishing, etc.) shows that greater attention is given to invoice and custom declarations topics (Table 7.1).

*Table 7.1*

**The analysis of publications on trade documentation**

| Area | Traditional trade | | | |
|---|---|---|---|---|
| Period | CMR | Invoice | Packing list | Import/export declaration |
| 1990-2000 | 1,280 | 3,840 | 8,450 | 17,900 |
| 2001-2010 | 4,500 | 12,700 | 16,000 | 43,200 |
| 2011-2019 | 8,610 | 18,700 | 18,600 | 26,400 |
| Area | Paperless trade | | | |
| Period | e-CMR | e-Invoice | e-Packing list | e-Import/ e-export declaration |
| 1990-2000 | | 41 | | |
| 2001-2010 | 15 | 96 | 18 | 52 |
| 2011-2019 | 22 | 229 | 74 | 25 |

The researchers on the digital freight document topic highlight e-invoice. This provided analysis proves that e-CMR is lack of attention in the area of paperless trade. The authors Moon et al. (2011), Civelek et al. (2017), De (2011) point the necessity of electronic documents for freight delivery.

The author of the paper states that freight delivery by land transport costs around 0,044 Eur per kilometre and these costs could be minimised in case the number of papers carried together with freight become the digital ones.

## The development of a paperless solution for freight delivery

The development of a paperless solution for freight delivery could bring such opportunities for partners involved:

1. Reduce time slot for the administration of documents (minimise the entry of manual data, remove the handling of paper documents, exchange and archiving of physical documents, increase data accuracy);
2. Allow monitoring and control of freight delivery by providing on-line access to status information, i.e. proof of pick-up and drop-off;
3. Provide integration possibility with various services, including cross-border ones, such as insurance, customs declaration, bank processing and other services;
4. Reduce the impact on the environment and improve safety on the roads.

The environment for paperless solution for freight delivery is partly ready: on IT side, there are many standards announced for information exchange; on legal side, the additional protocol for Electronic Consignment Notes is in place and is ratified in many countries; on business side, the companies expect the solution, which is improving their operational performance.

As stated in the cross-border supply chain reference model, there are many parties involved in trade transactions, which ones will be touched by digitalisation, including business-related associations, IT companies and high spectra of governmental authorities.

At least in Lithuania, there are 5,000 companies performing freight delivery activity with average business profitability of 3,9 percentage (The Lithuanian Department of Statistics, 2017).

Many parties fill the freight delivery document: sender fills 17 fields; carriers give the data for 8 of them; and a single one in the field of the receiver.

The table 7.2 shows that the fields of freight delivery document are re-used in import/export declaration, packing list, and invoice. Also, the use of digital CMR data for trade documents, mentioned under this table, would correspond to a single point of data entry. The significant number of electronic CMR data could be used for filling the import/export declaration.

It is also necessary to mention that all fields mentioned under import/export declaration are important for Customs authorities; the fields specified between a and f categories (see Table 7.2) are checked by Road transport inspectors; the fields matched with invoice are the point of interest for Tax authority; and, finally, the data stated under packing list is important for Environment agency. The implementation of paperless freight delivery documentation could also affect the work of authorities. The digitalisation of the above stated fields means the change of the work process for all parties involved. By applying Beckstrom's Law, authorities could revise the effect and identify extra efforts that give additional features and benefits that are reached due to the reduction of manual work or automatized activities.

The online form of the document is highly important before, during and after freight delivery for the inspectors representing Road, Customs and Police authorities, which are preventing cabotage, truck overweights and illegal deliveries. Also, the cross-border dimension is linked with higher complexity as authorities to take over the country, transit countries and destination country must-have tools and possibilities to

access the online document. Also, any update in the online form must be shared with all supply chain partners (depends on which type of model two-tier or multi-tier is taken for delivery).

*Table 7.2*

**The number of common fields**

| Category of fields in CMR | CMR | Invoice | Packing list | Import/ export declaration |
|---|---|---|---|---|
| (a) Date and place at which it is made out | 1 | 1 | 1 | |
| (b) Details of the sender, receiver and carriers | 4 | 2 | 3 | 3 |
| (c) Place and date of taking over goods and place designated for delivery | 2 | | | 1 |
| (d) Description of nature of the goods, the method of packing, and classification | 3 | 2 | 3 | 3 |
| (e) Number of packages and their special marks | 2 | | 1 | 1 |
| (f) Weight of goods or quantity | 2 | 1 | 1 | 1 |
| (g) Charges relating to the carriage | 1 | | | 1 |
| (h) Requisite instructions for customs and other formalities | 6 | | | 5 |
| (i) Approvals | 5 | | | |
| Total number of fields | 26 | 6 | 9 | 15 |
| Percentage of fields identified as common by comparing CMR with other trade documents | 100% | 23% | 35% | 58% |

So, paperless solution for freight delivery must guarantee the real-time exchange of freight documentation data, allow the update of the document at any point of time.

## Conclusions

Paperless trade solutions are linked with cross-border supply chain where theoretical and conceptual frameworks are required, as the

implementation of the cross-border solution is still lagging compared to the level achieved in a national trade case.

The review of the literature shows that a paperless solution for freight delivery is the lack of attention when it corresponds to the cross-border solution and involves a high number of supply chain partners.

Due to complexity in the cross-border supply chain, the implementation of electronic freight documentation is a very slow process. Companies have main challenges that eventually slow down the implementation of stated innovation. However, the solution itself is beneficial.

The electronic freight documentation process is treated as the exchange of freight documents by electronic tools excluding workforce intervention, which generates benefits such as time and cost savings in the supply chain. It is stated by the author, that the digitalised data of freight document could be used for the issue of other cross-border trade documents, such as invoice, packing list and import/export declaration. The highest impact of CMR digitalisation could be achieved by re-using data for filling import/export declaration.

Considering paperless trade transactions, various models are present: two-tier and multi-tier ones which are evident in the supply chain. The paper shows that the document for freight delivery is filled by various parties: sender, receiver and carriers. So, a paperless form could have updates in any time of freight movement from the point of primary loading to the point of destination. During the trip, the document must be available online for the control of Road, Police, and Customs authorities.

The benefits achieved by the implementation of paperless freight delivery documentation could be measured from the stand-alone position of each party involved in trade transactions. To determine the value gained by each partner, it is proposed to apply the logic of Beckstrom's Law.

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## TRADE IN ENVIRONMENTAL GOODS: HOW IT CONTRIBUTES TO SUSTAINABLE CIRCULAR ECONOMY

### Introduction

The goal of the present paper is to discuss developments in environmental goods trade and the interaction of these developments to circular transition. The evidence from the EU countries and Georgia as a country on the path of approximation with the EU is given. Generally

circular economy strategies are developed at national, regional and international levels. By discussing trade issues, we provide analysis of how local and international dimensions of sustainable circular economy interact with each other. EU countries are prominent in the institutionalization of the elements of circular economy system. Although it was Chinese government that has pioneered the implementation of the Circular Economy strategy in 2008 (Kirchherr et al., 2017), the transition to a sustainable circular economy in Europe is an essential building block of achieving the Sustainable Development Goals (SDGs). EU is a global player and its efforts will undoubtedly have influence on the implementation of circular and sustainable development strategies outside its borders, including Georgia. Empirical data are taken from EU countries and comparative analysis with Georgia in the context of its Association process with the EU is given. The study is mainly focused on trade and environmental aspects of the multifaceted process of transition to circular economy.

The paper is organized as follows: first part analyzes the theoretical aspects of how circular and sustainable transition relates to environment goods and services. The second part gives comparative analysis of trade in environmental goods in the EU countries and Georgia and the final part studies policies adopted in the EU and Georgia in the context of Association Agreement.

## Environmental Aspects of Circular and Sustainable Transition

The concept of the Circular Economy is relatively new. As an opposite the linear economic model, where growth largely depends on "take, make, use and waste" materials sequence, circular economy relies on the cyclical or loop-like nature of production and consumption. There are numerous definitions of the concept in the literature. By the definition of World Economic forum, circular economy is a restorative or regenerative industrial system (WEF, 2014). OECD defines it as a concept that involves using resources more efficiently across their life-cycle by closing, extending and narrowing material loops that could result in decoupling of primary raw material consumption from economic growth (OECD, 2018, p. 4). The concepts of sustainable development, green economy and circular economy are sometimes used in similar contexts. However there are significant differences between these terms. Geissdoerfer et al. (2017) identified types of relationship between sustainability and the Circular Economy and consider the

Circular Economy as one of the conditions for achieving sustainable economic development. By the broadly accepted definition of Ellen Macarthur Foundation, a circular economy is a systemic approach to economic development and the beneficiaries are businesses, society, and the environment. Thus environmental concerns are one of the central elements of circular economy.

Eurostat has made big contribution to the development of circular economy indicators and its environmental aspects. According to the Handbook on how to compile Environmental Goods and Services Sector by environmental activities relevant for EGSS encompass those economic activities (or the products produced as a result of that activity) whose primary purpose is to reduce or eliminate pressures on the environment or to make more efficient use of natural resources (Eurostat, 2016).

There are many overlapping areas within circular economy and Environmental Goods and Services Sector. The latter consists of economic production activities related to both environmental protection and resource management. However, circular economy is a very comprehensive concept and includes a wide variety of activities that do not all fit within the conceptual framework of the EGSS (Schoenaker & Delahaye, 2018).

One of the primary goals of Environmental Goods and Services Sector is to produce environmental goods and services. According to The recent EU (European Union) Action Plan on Circular Economy, circular planning and policy topics that are very important at EU level comprise both production and consumption, waste management; market for secondary raw materials; sectorial action on plastics, food waste, critical raw materials, construction and demolition, biomass and bio-based materials; innovation and investments; monitoring[2].

The Action Plan is an important document as it has been leveraged by means of creating new employment and business growth (European Commission, 2015). In addition to it, adoption of "Circular Economy package" in 2018 was also an important step towards supporting implementation of circular economy policies. The policies have economic and managerial implications depending on how circular economic principles are adopted at macro and micro levels. European Commission sets 10 indicators to evaluate progress towards circular economy. Among them green public procurements and waste generation

[2] *https://www.eesc.europa.eu/sites/default/files/files/qe-01-19-425-en-n.pdf*

characterize production and consumption trends and data on the market of recyclable raw materials throws light on how trade can promote transition to circular economy. Another important aspect is competitiveness and innovation indicators, which comprise private investments, patents and gross value added by circular economy sectors. All these indicators give characteristics on the environmental aspects of the transition process and the related consequences.

## Trade in Environmental Goods

Trade affects transition to circular economy in a number of ways. First, raw materials, technologies, products, components, waste, and services can be produced and consumed in any location of the planet and the diverse flows intensively cross borders. The main point is that under circular system the nature and direction of resource and end-product flows are changing. Trade in environmental goods, secondary and recyclable materials, etc. can have potential impact on transition to circular economy at national and international levels.

OECD identifies areas of intersection of trade and circular economy. They are trade in materials and waste for recycling and energy recovery; trade in secondary raw materials; trade in second-hand goods; trade in goods for refurbishment and remanufacturing (OECD, 2018, p. 5). The organization also provides definition and classification of environmental goods. According to OECD definition, environmental goods and services measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This includes cleaner technologies, products and services that reduce environmental risk and minimize pollution and resource use (Steenblik, 2005).

It is important to note that priority ranking of the environmental goods and services vary depending on the stage of development of a country and the environmental challenges it face. As noted by Butcher et al (2014), developed countries are prioritizing energy efficiency, renewable energy and reduction of $CO_2$ emissions, developing and particularly least developed countries will probably place a higher priority on investments in waste and wastewater management. The latter aspects appear significantly in Georgia's trade patterns. The data on Georgia's environmental goods trade show, that import exceeds exports over the whole period of 2004-2013. Import growth rate is higher than export growth. Overall the demand on foreign environmental goods has

significantly increased since 2004. Based on OECD classification, in 2013 the largest amount among all categories was wastewater management, followed by solid waste management and renewable energy plant. The development of export was more stable over the period and was relatively modest compared to the amount of import flows. In 2013 the largest export category was wastewater management followed by heat/energy savings and management.

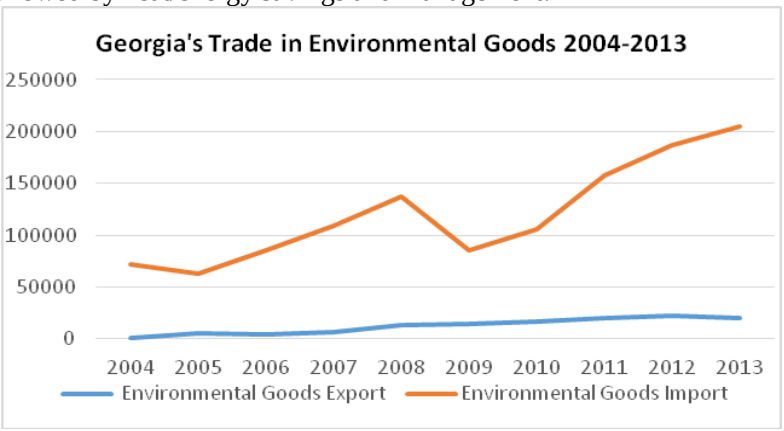


**Figure 7.3 Georgia's Trade in Environmental Goods 2004-2013 (thousands of US dollars)**

*Source: Data obtained from UN Environmental Program*

Figure 7.4 shows that among the EU countries Germany is a leading trader of environmental goods and services. Other top exporters are Netherlands, Denmark, UK, Austria and France.

For all top exporters in the EU, the largest share in exports is taken by pollution management category (according to OECD classification). It accounts for about 89% in Austria, 90% in Germany and above 92% in the UK. It is followed by resource management group (varies around 7-9% across countries) and the smallest share is taken by cleaner technologies and products.

During 2004-2013 the development of the overall trade of the selected EU countries is given in Figure 7.5.

Trade related aspects are included in Politico Circular Economy Index. It takes into account seven key metrics, namely: annual food waste per person, annual municipal waste per person; municipal recycling rate; trade of recyclable raw materials; material reuse rate; investments in circular economy sectors; circular economy patents.

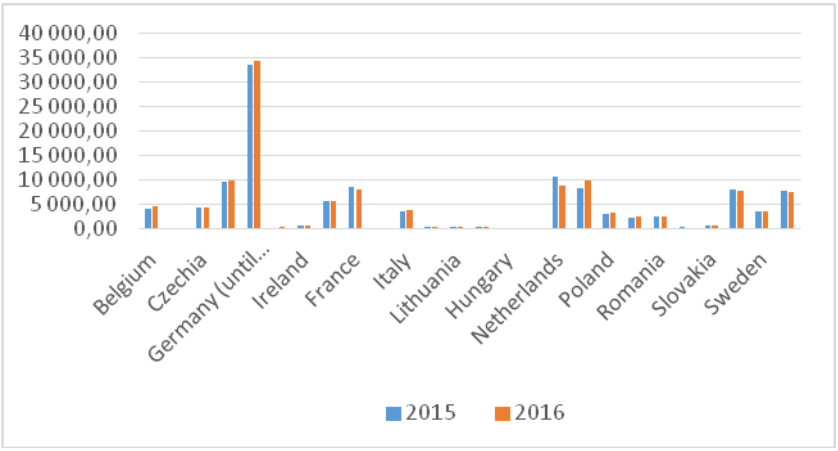


**Figure 7.4 Export of Environmental goods and Services by EU countries, million €**

*Source: Eurostat data*

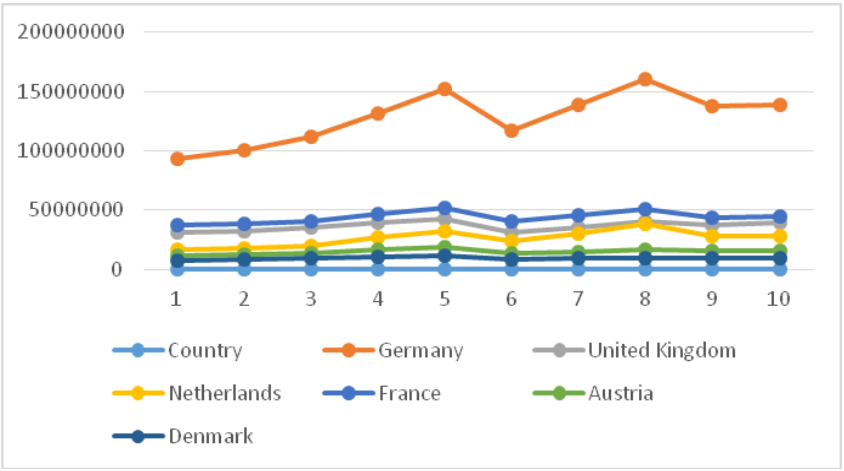


**Figure 7.5 Trade in Environmental Goods by Country, 2004-2013, thousands of US dollars**

*Source: UN Environmental Program*

By the third component among EU countries Luxembourg is leading the list with 0.97%, followed by Slovenia and UK with 0.41% and 0.35,

respectively[3]. The relationship between environmental goods exports and the last three components named above is positive. The leading exporters are also leading investors in circular economy sectors.

## Peculiarities of Transition to Circular and Sustainable Economic Model

There are different tools and instruments in the EU to facilitate the transition towards a more Circular Economy. They involve increase of environmental consciousness among people and adoption of life-cycle based methods to quantify the environmental footprint of both goods and organizations. These methods are designed to contribute to circular economy growth in the EU by offering a strong gross-border market boost to products and stronger competitive position to companies assessed based on the EU harmonized methods.

Government has a central role in encouraging and implementing circular practices, both as a driver for economic activities and in its choices as a major consumer.[4] Green public procurement is one of the important indicators showing the role of government in circular transition. Green Public Procurement (GPP) is defined as "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured."[5] By the percentage share of green public procurement in total the UK, Austria and Sweden lead the EU countries with 75%, 50% and 48%, respectively. Top environmental goods trader, Germany and Netherlands have much lower shares (29% and 27%, respectively)[6]. Percentage share of organizations with environmental component in procurement contracts is the highest in Denmark (90%), followed by the UK and Sweden with 89% and 84%, respectively. Germany and Netherlands have 72% and 67%, respectively.

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[3] *https://www.politico.eu/article/ranking-how-eu-countries-do-with-the-circular-economy/*

[4] *ttps://msdec.gov.mt/en/decc/Documents/environment/gpp/2019/secondNap/gppSecondNap.pdf*

[5] *Communication (COM (2008) 400) "Public procurement for a better environment"*

[6] *https://ec.europa.eu/environment/gpp/pdf/statistical_information.pdf*

Georgia has adopted EU-Georgia Association Agreement implementation framework on trade and sustainable development work plan for 2018-2020. It is focused on pre-determined steps for trade and sustainable development. However a number of environmental issues that Georgia faces today hinder the development of sustainable and circular economic model (it is noteworthy that awareness about circular economy is at extremely early stage and the concept is scarcely used in any strategy documents). The typical environmental concerns involve waste management, land and water use, inefficient farming technologies, etc.

Georgia's DCFTA with the EU does not make explicit reference to circular economy. It defines goals and objectives towards sustainable development. That is primarily related to the usage of natural resources, support for electronic maintenance of fish stocks, a strong science-policy interface and inclusive governance arrangements (Kalpakchiev, 2016). Large share of ores, metal scrap, copper alloys and ferrous waste in Georgia's export indicate that its circular production and consumption potential is not efficiently used. In the area of renewable energy Georgia is mainly a producer of hydropower. Consumption of solar and wind energy is at low level.

Step by step implementation of the sustainability, environmental and food safety reforms foreseen by the DCFTA will contribute to the improvement of circularity indicators of the country.

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# CHINA URBAN TRANSPORT POLITICS DEVELOPMENT, PROBLEMS AND FUTURE CHALLENGES

## Introduction

The rapid pace of growth of China is unprecedented. Coupled with its sheer size (more than 1.3 billion inhabitants in 2010), the fast growth makes China an important player in the world community. In terms of gross domestic product (GDP), it is the second economy in the world, after the United States, with its GDP increasing more than twentyfold from US$268 billion in 1978 to US$5,900 billion in 2010. China's real per capita income has more than quadrupled between 1980 and 2010. At the same time, the rapid growth has resulted in tremendous problems and challenges to China and to the world. Rapid urbanization and motorization have included substantial migration from the rural area to the cities. The urbanization rate has increased from 18 percent in 1978 to 47 percent in 2009. By the end of 2011, more than 50 percent of the Chinese population will be urban residents, putting tremendous pressure on the urban infrastructure. Rapid motorization is another direct result of higher income. Since 1990, the total number of motor vehicles in China has increased more than twentyfold, from 5.54 million in 1990 to 105.78 million in 2011.1 The combination of urbanization and motorization has led to alarming increases in traffic congestion, traffic deaths and injuries, air pollution, noise, and energy consumption, accompanied by the urban sprawl in the megacity areas. Leaders of most Chinese cities are facing the daunting challenges of meeting the ever-increasing demand for mobility while working to reduce air pollution and energy consumption without hampering economic growth, and have gradually come to realize that they cannot build their way out of congestion with additional roadways – public transportation is the only real solution to their problems.

Transport infrastructure contributes to the economic development of human society in industrial, agricultural or even knowledge-economy using post-industrial society. Since it is often mentioned as a key to promoting growth and development, it gives a stimulus to the

advancement of civilization and functions as an imperative for the world to avoid chaos and establish order. Historical construction of infrastructure such as railroads coincided with periods of rapid economic growth in Western Europe, Japan, and the United States. Thus, the significance of transportation development grows with social and economic development (Coyle et al., 2000). The history of the old civilization in China has witnessed an impressive in transportation development as well as social progress.

**Relationship between economic development and transport system**

Transportation infrastructures are among the foremost issues in the development of China; and include roads, railways, ports, airports, and waterways. They have been one of the major engines of China's economic growth (Fan, Bai, &Pan, 2004; Lou, 2003; Zhang, 2009). There is actually internal links between economic development and transport, which is important to thoroughly understand for China's macro-management of transport development. The analysis of the internal links is at three levels: macroeconomic level, microeconomic level, and general equilibrium.

**Current status of transport infrastructure development in China**

China's highway carried a total of 16,190,970,000 passengers in 2015 against 16,973,810,000 passengers in 2005, a decrease of 782840 passengers. The total highway passenger-km increased by 1,074,270 million passenger-km in 2015 against 929210 million passenger-km in 2005. The volume of freight dispatched by the highway in China amounted to 31,500,190,000 tons in 2015 against 13,417,780,000 tons in 2005. The total highway freight-ton-km reached 5,795,570 million ton-km in 2015 against 869,320 million ton-km in 2005. Highways length has increased from 3,345,200 km in China from 1978 to 2015, reaching 4,577,300 km in 2015. The layout of the road network has further improved. The technical grades and road surface grades have been both upgraded. Highway construction has broken through the historical records. Road length in the counties and towns has continuously and rapidly increased. The road density has also increased, and the accessibility by roads has been improved.

**Railways**

By the end of 2015, the length of running railways was 121,000 km, 37.6 percent up from 2005. Passengers by Rail in 2015 reached 2,534,840,000 against 1,155,830,000 passengers from 2005 year. The total railway passenger-km was 1,196,060 million passenger-km in 2015 against 606200 million passenger-km in 2005. The total freight capacity was about 3,358,010,000 tons in 2015 against 2,692,960,000 tons in 2005. The total railway freight-ton-km increased to 2,375,430 million ton-km in 2015 while it was 2,072,600 million ton-km in 2005.

**Waterway**

The total transportation capacity of the freight increased 2,196,480,000 tons in the 2005 year from to 6,135,670,000 tons in the 2004 year. The total waterway passenger traffic reached 270,720,000 passengers in the 2015 year against 202,270,000 in the 2005. The total waterway passenger-km and freight-ton-kilometer were 7,130 million and 9,177,250 million respectively against 6,780 million and 4,967,230 million in the 2005 year.

**Airline**

The civil airline of China became the second large air transportation system in the world, next to the United States, in 2005, based on data on the total turnover of regular airlines by the International Civil Airline Organization of the Member States. China has the fastest growing passenger air market of any country in the world (by total passenger numbers) and between 2005 and 2015 the number of passengers increased 3 times from 138,270,000 to 436,180,000. The total railway passenger-km was 728,260 million passenger-km in 2015 against 204,490 million passenger-km in 2005. The total freight capacity was about 6,293,000 tons in 2015 while 3,067,000 tons is registered in 2005. The total airline freight-ton-km increased to 20,807 million ton-km in 2015 while it was 7,890 million ton-km in 2005.

**Regional level**

As the world’s largest developing country, China’s has various geographic conditions in different parts for building transport

infrastructures. It also has experienced interprovincial inequality growth during its transition process to a market-based economy. Studies by Fan and Sun (2008) show that here was declining inequality since 2004. These studies have also pointed out various factors that drive regional inequality such as human capital endowment, infrastructure, coastal location, fiscal transfer, deregulation of private enterprises, and Open-Door Policy that attract FDIs. Studies by Kanbur and Zhang (2005) attributed regional inequality to three key policy variables: the ratio of heavy industry, the degree of decentralization and the degree of openness. The ladder-step development strategy has been carried out by China in the early stages of economic reform. The government has encouraged certain regions to get rich quickly (Wei, 1999), that what explains the higher economic growth and a more advanced infrastructure in the eastern region since 1978. China's transport infrastructure has been shaped by diverse institutional reforms and policy over 60 years (Fan & Chan-Kang, 2008). In the 1960s, heavy industry was favored due to infrastructure investments by centralized decision-making structure. Areas such North-Eastern China, where most of the heavy industry were based, have noticed the rapid development of transport network. More specially, railway development was a priority over other types of transport, to carry huge quantity of resources and raw materials. Central & Southern registered the highest highway passenger traffic, with nearly 4,696,890,000 passengers in 2015. Eastern ranked second in terms of highway passenger traffic and amounted to 4,349,830,000 passengers. Water transportation in China could be generally categorized under "ports" and "inland waterways". According to the National Bureau of Statistics (NBS), China's waterway carried a total 270,720,000 passengers in 2015. Eastern's waterway carried a total of 110,720,000 passengers in 2015. The waterway passenger traffic of Eastern ranked first among all the regions in China.

**The expansion of transport infrastructure along with investment**

With economic reforms in 1978 and fiscal decentralization in the 1990s, both central and local governments have increased the investment in various types of "transport facilities". As the result of these investment levels, the performance of China's transport has improved in the last decades. Despite great efforts by the central and local governments to improve transport infrastructure, China's service is still insufficient to satisfy the huge demand induced by its booming

economy especially during the "Spring Festival" and the "Golden Weeks". The traffic jams and pollution in big cities, the inadequate basic transportation services in rural and remote areas and the problems in the transportation of coal are among the transport problems, which have a great negative impact on the economic development. Therefore, China's transport system is still incapable to completely satisfy the demand of passengers and enterprises although; it has witnessed a great improvement of its transport facilities. Due to rapid economic growth and rapid increase demand for mobility, a new round of transport bottlenecks is emerging. The government has then taken some initiatives to solve these problems mentioned above. The outline of the Thirteen Five-Year Plan for National Economic and Social Development approved by the Fourth Session of 12th National People's Congress makes a blueprint for the national economic and social development in the next five years. It is pointed that the Thirteen Five-Year Plan period China's transport development should "build a comprehensive transportation system that connects domestic and international transportation routes, develop modern and efficient urban intercity transportation, develop comprehensive international hubs, make a headway in the low carbon, smart and safe transportation.

## Challenges and Opportunities of Public Transportation in Chinese Cities

The rapid urbanization and large scale motorization inevitably bring challenges to the urban environment. Almost all large and middle-sized cities in China have been facing similar problems, such as population increase, urban sprawl, traffic congestion, air pollution, and increased energy consumption. These problems are interwoven. For example, from 1990 to 2009, the city of Beijing had a population increase from 10.8 million to around 17.6 million.4 The urban area in 1990 was mainly located within the third ring beltway, comprising an area of about 150 km2; while in 2009 the main urban area expanded to the fifth ring beltway with the size increasing to 750 km2, a five- fold expansion. The average motor vehicle speed in central Beijing on arterials fell from 45 kph in the 1990s to around 17 kph in 2009.2, 5 At almost the same time, the vehicle ownership in Beijing has more than quadrupled, from 1 million in 1997 to 4.76 million in 2010.1 The concentration of employment in cities has attracted a large inflow of rural migrants, which increases the demand for urban transportation, housing, and other

infrastructure. The expansion of cities has increased the length of trips for most urban residents, leading to more travel demand for roadways and public transportation, and making it more difficult for travel demands to be satisfied by non motorized travel modes such as cycling and walking, once the dominant travel modes in China. The falling non motorized share of trips adds more demand and pressures to motorized transportation systems. The motorization of urban residents certainly creates challenges to public transportation, as owning a private automobile has become a desirable symbol of social status. However, rapid urbanization, along with the traditional mono centric urban structure of most Chinese cities with most activities concentrated in the city center, create great opportunities for urban public transportation. Most of the migrant population, as well as the urban poor, cannot afford private vehicles and rely on public transportation and bicycles for their daily traveling. Yet the cities' initial public transportation policies, investment, and planning did not capitalize on this opportunity.

**Public Transportation Policies and Investments**

In dealing with traffic problems in Chinese cities, the initial approach in the 1990s and early 2000s focused on the expansion of the road system, in spite of the general scholarly recognition that public transportation is the most effective way to deal with urban traffic problems in large cities. For example, from 1996 to 2000, Beijing's investment in public transportation was only 18 percent of the total transportation infrastructure investment. Unfortunately, the investment inside the transit industry is unbalanced, as most investments have gone into rapid and high-capacity public transportation such as inter-city high-speed rail, metro rail, and bus rapid transit, with little left to modernize essential bus services.

**High-speed Railway Investment**

Since mid-2000, China's high-speed railways are being constructed at a "breakneck" pace. By 2011, China's high-speed railway system has become larger than the rest of the world's high-speed rail combined. In 2010, China operated 8,538 km of high-speed and inter-city rail, with another 5,000 km to be constructed by the end of 2011. By the end of 2015, the rail lines in China will reach 120,000 km with more than 16,000 km of high speed rail. The projected implementation rates have

likely slowed somewhat in response to the tragic high-speed rail accident in Wenzhou in July 23, 2011, in which 40 people died. Nevertheless, the rapid development of high-speed rail between cities is likely to continue, which will bring increasing passenger flows to the urban public transportation system.

**Urban Metro Rail System**

Urban metro rail systems have been developed rapidly in many Chinese cities in recent years. From 2001 to 2010, investment in rail transit has been averaging about US$1 billion a year in Beijing and US$1.7 billion a year in Shanghai. In the next 5 years, the government of Beijing plans to invest another US$50 billion on rail transit construction. Currently, six cities (Beijing, Shanghai, Tianjin, Guangzhou, Shenzhen, and Nanjing) have metro rail. Combined, these cities operate 48 lines with a total length of 1,395 km. By December 2010, the central government has approved the metro rail construction in 28 cities including those six early adopters, and many more cities are planning to have metro rail lines. Based on a preliminary survey, there will be more than 158 new rail lines in total with a length of more than 6,100 km in 10 Chinese cities (Beijing, Shanghai, Tianjin, Guangzhou, Shenzhen, Nanjing, Wuhan, Zhengzhou, Hefei, and Guiyang) by 2020. The total investment in the aforementioned 10 cities will exceed US$140 billion by 2020.

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**Bus Rapid Transit and Bus Investment**

The first bus rapid transit (BRT) line in China was put into operation in Beijing in 2005. Following that, other cities such as Guangzhou, Hangzhou, and Jinan, have developed more BRT lines as important parts of their transit systems. For example, the largest BRT system in China, the Guangzhou BRT system, has 42 lines and carries 130,000 passengers per day. It provides seamless connections with the metro rail system with the construction costs one-tenth of that of metro rail. There are currently more than 17 cities that have BRT or are currently in the process of constructing or planning BRT systems. More cities are

expected to follow suit. Local and feeder bus services are on the bottom of the priority list in most Chinese cities and have not changed much over the years. Most investments are put into the metro rail, light rail, and BRT systems. As a result, the majority of bus systems has become slower, less reliable, and less convenient, and must compete for scarce road capacity with private automobile traffic.

**Public Transportation Planning: Issues and Problems**

In addition to unbalanced investment in different modes within the public transportation sector, there are also issues and problems with the transit planning practice. Chief among these problems includes lack of coordination between transit and land use development, poor transit service planning, and deficient use of technology.

**Conclusion**

Transportation is a leading quantity to make the development of social productivity and the improvement of science and technology. In the master plan and long run plan of national economic and social development, transportation plan should be considered not only in the transportation mode itself but also in the context of transportation orientation development. Transportations of China once had a prosperous time, but it still has season, time-limiting, and regional imbalance as major characteristics. Golden weeks transport, spring festival and transport of migrant's labors are the tough nuts to crack. Coal transportation from West-to-east and North-to South being the foremost transport of freight traffic; solutions towards the problems of transport development aggregate, structure, quality, and efficiency must be found. The current status of China's transportation shows that it necessary to implement the outline of the Thirteen Five-Year Plan which adhere to a comprehensive transportation system that connects domestic and international transportation routes, develop modern and efficient urban intercity transportation, develop comprehensive international hubs, make a headway in the low carbon, smart and safe transportation. The driving force behind the urban transportation and environment problems in China, the urbanization, motorization, and urban sprawl resulting from economic growth will not abate in the near future. This creates tremendous challenges for cities to maintain economic growth, improve environmental quality, and reduce energy consumption, and to

provide efficient and equitable services to urban residents.

It is certain that a well-developed public transportation system can be the most sustainable means to address the urban transportation problems in China, particularly in the largest cities. The rapid expansion of city size makes non motorized travel modes infeasible as a main means of long-distance commuting. Therefore, public transportation becomes the most viable mode to transport large volumes of commuters and other travelers across long distances. Given the mono centric form of Chinese cities, development density, concentration of employment in urban centers, and the continued urbanization process, there is a great opportunity for transit service development in China. However, more investments should be put into expanding and improving low-cost public transportation systems, and more emphasis should be put into improving integrated service planning, land use planning, and use of advanced transit technologies. As for low-cost public transportation systems, there is little doubt that high capacity rail transit is essential for moving large numbers of passengers through the congested, high-density corridors that increasingly characterize China's rapidly growing cities. However, given the nature and expense of high-speed and the metro rail system, it is impossible to have an extensive public transportation system that is composed entirely of rail systems. Other forms of transit systems should be given equally important attention. Furthermore, to make the public transportation systems more competitive, using pricing mechanisms to make owning and driving private vehicles more expensive can effectively deter the purchase and use of automobiles. It could be argued that accompanying the pricing mechanism, having an extensive, accessible, convenient, fast, and modern public transportation network is almost the prerequisite, and is the only way to effectively address the urban transportation problems and air quality issues and create sustainable cities in China in the long run.

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# CONCLUSION

In the context of global changes one of the most important factors for the successful functioning of economic systems is the formation and developing of a strategy for the sustainable socio-economic development of economic entities. The transition to a model of sustainable socio-economic development largely depends on the existing potential of expanded reproduction of the resource base, socio-economic recovery on a new institutional and technological basis. The experience of advanced countries and the consequences of structural and systemic restructuring of most segments of the economy indicate that real shifts in the direction of creating the prerequisites for the sustainable development of economic systems are possible only if building up not only production, but also natural resource, demographic, scientific, technical, recreational, information and socio-cultural potential. That is, we are talking about all the components of socio-economic potential, as well as the human factor and institutional changes in the system of economic relations when choosing priorities for the transition of national and regional economic complexes to a model of sustainable development.

The results of the author's research in a collective monograph are devoted to solving the problems of formation and implementation of strategies for the sustainable socio-economic development of economic entities and the mechanisms for their realization in the global dimension based on the implementation of modern innovations and managerial decisions.

An important component of the collective monograph is the developing of basic principles, approaches and strategic directions for rationalizing all components of use the resource potential of economic entities in the context of increasing the efficiency of using the socio-economic potential of sustainable development based on an assessment of self-sufficiency the economy.

The presented results of the research in a collective monograph reflect the theoretical and practical aspects of the implementation of mechanisms for the realization of strategies for sustainable socio-economic development of economic entities in different sectors of the economy.

It has been established that ensuring the effectiveness of the formation and realization of strategies for the sustainable socio-economic development of economic entities in the context of global changes is based on improving the process of management the innovative development of an enterprise.

Sustainable development of a socio-economic system is its ability to reduce the negative influence of external and internal environmental factors on the processes occurring in it, using structural and qualitative changes of the system as opportunities to realize additional competitive advantages, while keeping the progressive nature of development and maximizing the full realization of the system reserves, expressed in the internal potential.

The goal of management the sustainable development of an enterprise as a socio-economic system should be to ensure a state of internal equilibrium and balance of interchange with the external environment, which will contribute to the optimal adaptation of the system (enterprise) to the external environment and create conditions for continuous development.

The results of the research indicate that an important aspect of the transition of the economy to the principles of sustainable development is the formation of organizational-economic mechanism for management of sustainable development processes as part of the overall system of development management in general.

Formation and further realization of the approach to the management of socio-economic systems are largely dictated by the use of traditional and conventional economic development factors, which have lost not only their importance, but also efficiency, and the necessary force of action.

Traditional management methods are not effective enough in a dynamic external environment. Sustainable socio-economic development implies the alignment of the short-term goals and interests of different groups and individual entities with the long-term strategic goals determined by the requirements of internal development.

Ensuring sustainable socio-economic development requires investment in the creation of new technologies, first of all, the emergence of social innovations, changing priorities and goals of civilization development. In the context of globalization, dynamism of external and internal processes, there is a need for a fundamental understanding of management theory in the conditions of transition to the principles of sustainable socio-economic development and the formation of ecological systems, as well as the development of theoretical-methodological provisions and methods of management in modern conditions.

The mechanism of sustainable socio-economic development is a set of organizations, institutions, forms and methods for harmonizing interests at different hierarchical levels, ensuring balanced and proportional development of subsystems within sustainable development and

preserving the integrity of the socio-economic system. The specificity of function the mechanism for management of sustainable socio-economic development is that the actions of the management entity are always determined by both the laws of social development and the laws of nature. Methodology management of sustainable socio-economic development should be a comprehensive, coordinated approach to the assessment, regulation and planning of measures to ensuring sustainable socio-economic development in modern conditions under the influence of external and internal factors.

The high variability and dynamism of the market environment necessitate the introduction of measures at the enterprises aimed at maintaining the stability, adaptability and flexibility of functioning. However, the need to maintain a high level of competitiveness of national enterprises in the world market necessitates their sustainable development, which can be defined as balanced quantitative, structural and qualitative changes that meet the goals of the enterprise and take into account the constraints imposed by the external environment and potential of the enterprise. Sustainable development is possible only through the formation of an appropriate management mechanism, which should be understood as an integrated system of organically linked economic, organizational, social, financial and other forms and methods of management, ways, tools and levers of influence on the processes of functioning, which meet the parameters of the internal and external environment, restrictions and conditions of economic activity. The creation of such a mechanism should be based on the principles and methods of developing and realization of management decisions, certain objects and entities of development management, the well-defined management functions, selected structural elements of the mechanism and the considered features of their use.

A prerequisite for ensuring the progressive development of the enterprise is the choice of a rational strategy, which should ensure the improvement of the conditions of operation of the enterprise, ensure the full use of available resources and opportunities and, as we approach the boundary of the field of sustainable functioning, ensure the transition to a new qualitative state, thereby ensuring the correlation of evolutionary and revolutionary model development.

The process of innovation implementation and the realization planned of the enterprise transformation processes must be pre-planned and managed, which is possible in order to create an optimal change program. Its development should be based on the parameters of changes in the

work, certain variants of realization of the developed program and approaches to carrying out transformations, the proposed method of allocating resources for the program of development and taking into account the presented system of limitations.

Effective realization of the chosen strategy, conducting transformational changes, reduction of structural tension and overcoming of personnel resistance to innovations are possible only on condition of involvement of employees of the enterprise in participation in current management and establishment of strategic alternatives of development, expansion of processes of self-organization.

On the whole, the authors of the collective monograph have come to believe that in the current conditions, innovation and knowledge should become the main factor of economic growth. Ensure of sustainable socio-economic development will help to formulate an appropriate scientific-innovation policy in line with the strategy of sustainable socio-economic development of economic entities, which will ensure competitiveness in the conditions of globalization.

# Strategies for sustainable socio-economic development and mechanisms their implementation in the global dimension

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