

**New trends in the economic
systems management in the
context of modern global
challenges**

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INTRODUCTION

Modern global economic challenges caused by the COVID-19 pandemic and various changes in the structure of the world market of goods and services require the developing of new models of economic systems management based on appropriate strategic management methodology, implementation innovation, use of prospects for various risks caused by the pandemic, implementation mechanisms for ensuring the security of economic systems. Ensuring effective management of economic systems in the current global challenges is impossible without the introduction of a new concept of functioning and sustainable development of economic entities.

To ensure effective management of economic systems in the context of modern global challenges it is necessary to determine the state of the economic process of entities and explore the impact of risks on current activities, justify and developing a system to overcome negative effects on economic activity and obtain a positive economic result. The effectiveness of developed conceptual provisions to ensure effective management of economic systems is determined by the ability of the management system to withstand the destructive effects of the external environment and due to the strengths to direct the resources of economic entities to maintain the economic process, able ensure to save resources and cover current costs economic entities, etc.

The purpose of writing this collective monograph is to substantiate the theoretical and methodological foundations and the formation of new models of management of economic systems, taking into account pandemic changes in the market environment of economic entities.

The object of the author's research was the process of formation and implementation the models of economic systems management of economic entities in destabilizing the market environment, reducing the business activity of actors under the influence of pandemic changes, closing borders of countries, various restrictions by governments.

The subject of the study were socio-economic, organizational and institutional processes of formation and effective implementation of new models of economic systems management of economic entities; formation of mechanisms for preserving the resource potential of economic entities; introduction of scientific achievements and development of innovative potential of economic entities; consideration of the practice of economic systems management using world experience in various sectors of the economy.

Chapter 1

THEORETICAL FOUNDATIONS AND METHODOLOGY OF THE ECONOMIC SYSTEMS MANAGEMENT

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PANDEMIC ECONOMIC CRISIS: ESSENCE, REASONS, COMPARATIVE CHARACTERISTICS, OPPORTUNITIES

Before pandemic the world economy had a pre-crisis situation which was characterized by unprecedented imbalances in the global financial and economic system, the lack of growth in world GDP, which posed a real threat to the world economic order. Almost all global analysts predicted a global economic crisis at the end of 2019. For the first time since time immemorial, bank interest rates in all countries have dropped to unprecedented low levels. Often interest rates were 0% or even negative. The EU's financial system has been so disfigured by the VAT tax that fraud with this tax has reached a scale far exceeding hundreds of billions EUR and in fact got out of control of the authorities. The imperfection of the EU's financial system led to Brexit, statements by

the actually bankrupt Italy, and other countries about their intention to leave the euro zone. The EU was not able to adopt a budget for the next 7 years. The US trade wars with China, the US with Europe, the complete impasse of the Russian economy and much more led to the fact that the global crisis was already on the verge. The global recession was about to begin.

As a result of the pandemic, four major events occurred:

1) huge reduction in GDP in almost all countries;
2) the USA, the EU and many other countries have adopted laws on the so-called anti-crisis infusion of money into the economy on an enormous scale. At the same time, states were allowed to deviate from the standard proportion of public debt relative to GDP. Typically, such a standard was 60%. Now there are no legal prohibitions on increasing public debt under the legalized right of central banks to virtually unlimited emission. That is, all countries can print money, multiply government debt almost unlimited;

3) the population as the main consumer of material goods is frightened and partially deprived of livelihoods, which will gradually decrease consumer demand around the world;

4) at first the global confrontation of modern energy-saving technologies with hydrocarbon production began under the flag of ecology and energy rationality, to which more recently an unprecedented earlier oil confrontation joined the non-oil market, smoothly transitioning to the gas market, which has actually already gone beyond the framework of a purely economic process.

It is important to understand that on the scale of the world economy apart from these processes nothing significant has happened. All other processes and phenomena do not have any significant economic consequences.

A huge monetary emission with a gigantic reduction in global GDP and solvent demand will indeed lead to tectonic changes in the global economic order. In order to clearly understand the essence of these changes it is necessary to understand that in the economy not figures, formulas or calculations, but proportions, like starting conditions and the final result of economic processes are of fundamental importance. **It is the proportions of the world economy that will determine the future world economic order.** It is proportions that will form the objective conditions for the development of the world economy. It is not so important how much a particular product is worth, as in fact, it is important how many other products you can buy for it.

The fall in world GDP in all countries will be enormous. And it's not so important how specifically the percentage will fall. It is important that a drop in GDP will make the economies of developed countries even stronger with respect to the economies of less developed countries. **At the same time, the more GDP will fall (that is, the deeper the economic crisis will be), the more developed countries will become in relation to less developed ones.** Such an effect is inevitable even if the GDP of developed countries decreases by the same percentage as the GDP of developing countries. At the same time, it should be noted that the level of decline in GDP of rich countries will be significantly lower than the level of decline in GDP of undeveloped countries.

Issued cash emissions in almost all countries and an increase in government loans will lead to a significant depreciation of the money supply. But here the above effect will also be observed and rich countries will significantly strengthen their positions in relation to the poor. And besides, the greater the "anti-crisis injections" into the economy the greater will be the advantage of rich countries. This effect is obvious even if the currencies of rich and poor countries were equivalent. And taking into account the unequal currencies of developed and undeveloped countries, this effect due to the banking specifics will be multiplied. First of all, countries whose currencies are global will win. Moreover, it is they who will carry out the issue and it is they who will decide where exactly the injections of saving money will be carried out. The exchange rate differences between currencies and interstate borrowings will strengthen the rich, developed countries much more than the changing proportions in the structure of GDP. Therefore, the most developed countries are actually not very concerned about the fall in GDP, because they have a much more effective tool – this is what they control the printing press. In fact, everything is now in their hands, they are active players, and the rest can only passively react. Such is the lot of poor economies.

A widespread decline in consumer demand will similarly strengthen the economies of developed countries. At the same time, the more solvent demand decreases, the more attractively the solvency of developed economic countries will grow exponentially.

The "Great Oil War" looks very unusually attractive. In the current economic conditions, the role of Russia will obviously fall to a minimum even without an oil conflict. But the oil wars are really capable of simply resetting Russia to the point of no return. Moreover, Russia has no chance to resolve the situation peacefully, that is, in an

economic way. Arabs have it! Arabs, on the one hand, are not interested in strengthening the USA, Europe, China, Japan and England, and obviously understand that the fall in oil prices is working against them. But unlike Russia, they have a way out and not even one. Just Russia is stopping them. Here are a few exits for the Arab world. Create a single monetary union with the Arab countries, from the beginning oil producing countries, and then attach the currencies of the other Arab countries to the single Arab currency. Moreover, unlike the EU, they do not have linguistic and religious diversity. There are other solutions. But here Russia is like a splinter with its war in Syria and inadequate imperial behavior in the Arab world. As an option, the Arabs can generally deliver oil to Europe for almost half a year for free in order to stop all the wells in Russia that it would be impossible to renew, then to completely dominate the world oil market and return all losses incurred earlier. Here a lot will depend on the human factor, that is, on the public administration system.

What to do in order to maximize the use of the correct forecast for your own benefit. To understand this, it is necessary to recognize the two most important factors: 1. Are there any restrictions in the mechanism for establishing a new world economic order? 2. What is the pandemic crisis fundamentally different from the economic crisis of 2008-2009 and other world economic crises?

1. It should be noted that there is one limiting factor. This factor is described by Karl Marx. Thanks to this discovery the United States won the confrontation with the USSR. This is the labor component of surplus value. The fall in GDP and the depreciation of the money supply leads to an even greater depreciation of labor, due to which GDP arises. This process is enhanced today by unprecedented robotization and digitalization of production processes. Depreciation in itself is not as bad for the global economy as imbalances in the labor market. Even before the crisis, the disproportion in the cost of labor in the world economy reached a level where the cost of the same labor in developed and “underdeveloped” countries sometimes differs by a factor of hundreds, and sometimes by a factor of 1000. The paradox is that both workers do exactly the same job, but their work is evaluated and paid differently. The imbalances in wages are increasing, both between countries and within countries. Such imbalances can lead to irreparable consequences that can destroy the new world economic order. In fact, they lead to the collapse of the labor market and the destruction of a just “social elevator”, which in turn can destroy the new world order from

the inside. This restriction is actually very, very serious and does not allow the superpowers to cross a certain line of the decline in world GDP and the depreciation of the money supply. In fact, so far no economy in the world is able to do without human labor as a factor in creating GDP. Even highly-robotic Japan, it is impossible to abandon the workforce and in the near future the labor market will remain the most important market in developed countries. The labor market has been and will be more important than the currency, stock, commodity and any other market. It is well known that there are only two ways to make a person work: motivation or coercion. Homo sapiens already realized that motivation is a much more effective way of forcing a person to work (that is, to create GDP). The paradox is that all the economic power of developed countries is built thanks to mechanisms to stimulate the work of people. The main task of a developed state is to maintain and improve such motivation mechanisms, the creation of the so-called effective “social elevator”. In fact, it was thanks to the creation and stimulation of such mechanisms that these countries became so developed, rich and prosperous and were able to win a historical contest with their opposite – the USSR, whose economy was based mainly on mechanisms of forced labor. Paradoxical as it may seem, developed countries have become hostages to the mechanism they created for involving labor in the process of creating GDP. The world hegemony of rich countries is based on the presence of economic imbalances; leaders are interested in maintaining unfair proportions in order to grow rich at the expense of third world countries. But at the same time, they cannot afford these proportions to reach absurd proportions that will lead to its stop or collapse. This is most sensitively manifested and felt on the most important component of a market economy – the labor market. It is hard to imagine that a new world order can exist if the imbalance in wages in the domestic and foreign markets reaches, for example, ten thousand times. World leaders cannot reduce GDP infinitely; they are limited by the factor of labor value. The negative is that the experience of many countries (including India) suggests that the level of GDP decline can be very large. On the positive side, such imbalances threaten the labor market of developed countries themselves. One gets the impression that the absence of any reasonable, justified and understandable deadlines for quarantine completion indicates that they are testing and looking closely at how much more safety margin there is to reduce GDP, to issue money to maximize benefits.

2. It is important to understand how the pandemic crisis 2020

fundamentally differs from the economic crisis of 2008-2009. The previous crisis was caused by the prolonged irrational behavior of a large number of people who took consumer loans. Irrational behavior of people has led to a massive inability to return consumer loans to banks. The most common collateral in consumer lending was real estate. Massive non-repayment of consumer loans led to the confiscation of this property and a sharp increase in the supply of secondary real estate through the sale of collateral, and, as a result, to a significant drop in property prices. At the same time, there was a drop in demand for consumer loans. Massive defaults on consumer loans and a drop in demand for new loans significantly reduced the solvency of American banks, and many even went bankrupt. The decrease in the solvency of American banks (and the resulting decrease in their ratings in world rating agencies) severely limited world trade due to the fact that American banks are the main guarantors of letters of credit when concluding international agreements. Falling real estate prices hit construction and many related sectors of the economy, and the negative effect was amplified by the animated effect in the banking system. The fall in world trade has worsened the financial situation of small countries with small domestic market opportunities, whose economies are as dependent on exports and world trade as possible. All this superimposed on the phenomenon of the Greek debt crisis, which, in fact, was incomparably smaller compared to the credit crisis of the US banking system, but due to certain specifics, the Greek financial crisis created a panic effect that overlapped the American crisis has already erupted, growing into a global one. The panicky nature of the Greek crisis was that, unlike the United States, it was not caused by irrational behavior of citizens in the consumer market, but by irrational behavior of the state, more precisely, politicians representing the state and authorized by it. In Greece, after a long and fairly successful reign of the Pasok party led by the Papandreou family, the populist New Democracy party led by Kostas Karamanlis came to power. To increase its popularity among the population to the joy of the Greeks, it was decided to hold the 2004 Olympic Games in Greece, for these and other purposes, simply fabulous volumes of foreign loans were attracted, which were irrationally spent on sports infrastructure objects that did not give profit in the future. The Olympics ended, but the debts remained. New loans were later attracted to pay off external loans and the debt group grew in accordance with the laws of the classical financial pyramid, which collapsed in 2008. The reason for the Greek crisis was

the irrational economic policy of the state, while in the United States and other developed countries the crisis was caused by the massive irrational behavior of consumer citizens. The Greek crisis caused panic because on the one hand it coincided and resonated with the global consumer crisis, and on the other hand it was a crisis of the state, not of its citizens. You can take a deposit from citizens in order to fully or partially repay a bank loan, and what to do with the state, especially with the state belonging to the euro zone and especially with debt in excess of GDP. But be that as it may, **THE REASON FOR ANY ECONOMIC CRISIS IS INSUITABLE BEHAVIOR.** The reason for the financial crisis of the year is not low incomes but irrational expenses, therefore, the financial crisis is a mechanism for redistributing financial and other material resources from those business structures, people or states that behaved less rational in favor of those who have more rational economic behavior ... This is the essence and the same is the big positive side of any economic crisis (including financial or even pandemic). **ANY ECONOMIC CRISIS IS NEW OPPORTUNITIES.** If the disease can occur both with the participation of a person and without him, but the **ECONOMIC CRISIS IS CREATED EXCLUSIVELY BY PEOPLE.** *A pandemic economic crisis is different in that it is created by both the irrational behavior of people and the state. Figuratively speaking, this is a mutation or combination of the Greek and American financial crisis, combined with the desire of rich countries to establish a new world order and all this happens in the conditions of the third world oil war.* It is clear that such a thermonuclear mixture can radically change the world economic order. But for those who are able to develop and implement a rational economic strategy of behavior, the crisis is able to provide new, unprecedented opportunities (even for countries that, at first glance, are unpromising and hopeless).

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**ASSESSMENT OF THE
PRODUCTION COMPANY'S
CONDITION ON THE BASIS
OF FINANCIAL ANALYSIS**

Introduction

The word condition means “general state of something” (<https://sjp.pwn.pl/ise/kondycja.html>), and in the context of the present article it is the state or situation of an enterprise. Company's financial condition indicates its predispositions to stay on the market. All decisions made by managers regarding short and long periods of time depend on and affect its financial condition. The financial condition determines the company's assets as well as sources of their coverage. It is a static aspect of the subject of analysis (Bednarski, 2007, p. 11), determined for a specific period of time. The continuity of decision making is a response to changes. Financial results are a dynamic approach, which is affected by sales revenues, own costs, taxes, subsidies, etc. Profits or losses may have a positive or negative impact on the company's financial condition. This forms a close relationship between the static and dynamic approach of the subject of analysis.

The study of facts and economic events by dividing them and examining the relationship between individual elements is of great importance for companies as well as many institutions, entities or individuals.

Running business involves a continuous decision-making process. These decisions not only affect current operations but also the future. The goal of every enterprise is to maximize profits; therefore, the rationality and effectiveness of enterprise management are considered the main issues. Analysis is not only a source of information about the financial situation, it is also one of the main tools used to eliminate decision errors. Analysis of the results allows to verify whether previous decisions were correct and what were their consequences. It also gives an opportunity to respond to future situations. When assessing the company's condition, it is important to select tools, to compare and

correctly interpret the obtained results.

The financial analysis of the company “Dębica Joint Stock Company” in the years 2015-2017 aims to show that financial analysis allows to detect areas of management that require a change in management due to the high costs of their operation.

The essence subject and importance of financial analysis

A primary goal of any business is making profit. Sometimes the costs incurred exceed the revenues obtained and a company brings losses. In this case, a financial analysis is an irreplaceable tool for correcting decisions. According to Boleslaw Werste, a financial analysis is a scientific method in which an examined entity is divided into parts and each part is discussed separately (Kurtys, 1996, p. 10). It allows to examine relationships between individual components of controlled data and between components and the whole entity, and to consider what factors cause the identified changes. Analysis is a process that assesses the existing course of action and allows to improve or change the approach to the issues under consideration, and in particular it gives the opportunity to check the effectiveness of operations expressed in financial condition. The goal of financial analysis comes down to assessing the rationality of the financial management of a company in the past, diagnosing the current state and determining the further course of action.

The study and assessment of issues defined in the entire economy is the domain of macroeconomic analysis. Microeconomic analysis focuses on entities in the economy, that is: enterprises, households, groups of people. It also applies to specific areas of economic activity, e.g. production, inventory management, work efficiency or asset turnover. The subject of financial analysis is the company’s assets, financial results and general financial situation, i.e. elements of the company’s operations expressed in a monetary measure. The subject of technical and economic analysis are economic figures, whether factual or personal, and specific sections of economic activity are subject to examination. The economic analysis, from a time point of view, can be divided into the one concerning the past period, namely retrospective (ex-post) and one referring to the future period, i.e. anticipative (ex-ante) as well as operative. Retrospective analysis is focused on past economic events and allows to explain the changes that have taken place in an enterprise. Thanks to this it is possible to prevent undesirable consequences of decisions and to reduce adverse tendencies. Ex-ante

analysis allows to determine the results of anticipated processes, taking into account factors that have already occurred as well as those that may appear. This analysis is used most often in a planning process. Ex-post and ex-ante analyzes can be carried out at all levels of management in a company. Operative analysis is aimed at preparing analytical data on economic processes in relatively short timeframes. This analysis can be directly applied for standardization of deviations from the assumed parameters in those segments of an enterprise in which the sequence of processes is crucial from the perspective of the key effects of this company's operations.

Financial analysis of “Dębica Joint Stock Company” in the years 2015-2017

The tire company “Dębica Joint Stock Company”, whose head office is located in Dębica at 1 Maja Street 1, belongs to the American concern “The Goodyear Tire & Rubber Company”. The concern has been a strategic investor in the company since 1995. “Dębica Joint Stock Company” is the largest in Europe and one of the largest Goodyear factories in the world, and thus a leading manufacturer of tires for passenger cars, vans and trucks on the Polish market.

The company manufactures tires of brands such as Dębica, Goodyear, Dunlop, Fulda and Sava (https://www.debica.com.pl/o_firmie). The company operates in the Special Economic Zone “Euro-Park Mielec”.

The analysis of the dynamics and structure of the financial statements of the company “Dębica Joint Stock Company” was based on the balance sheet, profit and loss account and cash flow statement for 2015-2017.

The analysis of the asset's dynamics in the tire company “Dębica Joint Stock Company” based on the three reporting periods shows that there was an increase in total assets by 1.39% in 2016 and then by 13.56% in 2017. The increase in current assets was higher than fixed assets. Current assets increased in subsequent years by 5.91% and 30.54%. However, for fixed assets in 2016 there was a decrease of 1.89% and in 2017 an increase of 0.25%. In the analyzed years, the company's liabilities increased. Equity changed positively by 2.53% in 2016 and by 8.50% in 2017. Foreign capital decreased by 1.25% in 2016 and increased the following year by 25,70%.

This dynamic of fixed assets was affected by a decrease of value of intangible and legal assets as well as fixed assets with a simultaneous

increase in long-term prepayments. The dynamic increase in inventories in 2016 by 1.5% and in 2017 by 41.06% contributed to the increase in current assets. Short-term receivables in 2016 decreased by 9.06%, and then in 2017 increased by 38.04%. There was an increase in short-term investments in the years under review, first by 19.75% and then by 23.45%. Supplementary capital and other reserve capitals had the largest share in the balance sheet total among equity.

Among equity capital, the largest changes occurred in profit and other reserve capital. Changes in liabilities were related to the decrease in provisions for liabilities in 2016 and their increase in the following year and to the increase in long-term liabilities in 2016 by 39.20% and 35.77% in 2017 year. In 2016, short-term liabilities increased by 1.14% and in 2017 by 28.52%.

In 2015, fixed assets constituted 57.95% of the balance sheet total, of which the largest, 57.79%, were tangible fixed assets, and the rest were long-term investments and long-term prepayments, including 0.15% deferred tax assets (in connection with running a business in the Euro-Park Mielec Special Economic Zone, Dębica has been using the discount since 2013 in corporate income tax). The study of the structure of fixed assets in 2015-2017 indicates their gradual decline. In 2016, the share was 56.07%, while in 2017 it decreased to 49.50%. In turn, the share of current assets had an upward trend, from 42.05% in 2015, by 43.93% in 2016 and 50.50% in 2017. The full structure and dynamics of assets are presented in Table 1.1, it shows the changes that took place in all individual elements of current assets. The share of equity in sources of financing assets decreased. In 2015, equity constituted 69.82% of the balance sheet total, in 2016 70.61%, and in 2017 67.46%. Liabilities and provisions in 2015 accounted for 0.18% of total liabilities, in 2016 29.39% and 32.54% in 2017. Short-term liabilities had the largest share. This resulted in an increase in long-term and short-term liabilities. Table 1.2 shows the dynamics and structure of liabilities.

Analysis of the structure and dynamics of the profit and loss rate

The profit and loss rate was analyzed with the use of inflation adjustments. Inflation was -0.6% in 2016 and 2.0% in 2017. The data in Table 1.3 shows that 2016 brought a 37.10% decrease in net profit, while in 2017 there was an increase by 132.28%. The analysis of the structure indicates a fairly large share of the cost of products sold in 2015 90.09% and in subsequent years 91.93% and 90.89%. Other operating costs constitute less than 1%.

Table 1.1

Analytical approach to part of the balance sheet of “Dębica Joint Stock Company” – assets

Balance sheet (in PLN thousand)	2015	2016	2017	Indicators of the pace of change 2016/15	Indicators of the pace of change 2017/16
Fixed assets	829765	814042	816061	-1.89%	0.25%
Intangible assets, including goodwill	21	9	0	-57.14%	-100.00%
Property, plant and equipment	827507	811646	809035	-1.92%	-0.32%
Long term investments	144	144	144	0.00%	0.00%
Long term financial assets	144	144	144	0.00%	0.00%
In other entities	144	144	144	0.00%	0.00%
Long-term prepayments	2 093	2 243	6 882	7.17%	206.82%
Assets due to deferred income tax	2 093	2 097	6 844	0.19%	226.37%
Other prepayments	0	146	38	14 600%	-73.97%
Current assets	602 183	637 778	832 571	5.91%	30.54%
Inventory	74834	75958	107145	1.50%	41.06%
Short-term receivables	241975	220043	303744	-9.06%	38.04%
From related entities	207331	198957	277513	-4.04%	39.48%
From other entities	34 644	21 086	26 231	-39.14%	24.40%

Table 1.1 (continued)

Short-term investments	284425	340601	420481	19.75%	23.45%
Short-term financial assets	284425	340601	420481	19.75%	23.45%
in related entities	255000	255000	350000	0.00%	37.25%
in other entities	0	0	0		
cash and other cash assets	29 425	85 601	70 481	190.9%	-17.66%
Short-term prepayments	949	1 176	1 201	23.92%	2.13%
Total assets	1431948	1451820	1648632	1.39%	13.56%

Source: own study based on the balance sheet of the tire company "Dębica Joint Stock Company"

Table 1.2

Analytical approach to part of the balance sheet of "Dębica Joint Stock Company" – liabilities

Balance sheet (in PLN thousand)	2015	2016	2017	Indicators of the pace of change 2016/15	Indicators of the pace of change 2017/16
Equity	999803	1025080	1112218	2.53%	8.50%
Share capital	110422	110422	110422	0.00%	0.00%
Supplementary capital	324459	324779	326144	0.10%	0.42%
Revaluation reserve	68 099	67 779	66 414	-0.47%	-2.01%
Other reserve capitals	417910	457347	489664	9.44%	7.07%
Net profit (loss)	78 913	64 753	119574	-17.94%	84.66%
Liabilities and provisions for liabilities	432145	426740	536414	-1.25%	25.70%

Table 1.2 (continued)

Provisions for liabilities	62 519	52 261	54 970	-16.41%	5.18%
Provisions for deferred income tax	29 328	15 070	17 251	-48.62%	14.47%
Provisions for retirement and similar benefits	31 744	31 282	34 374	-1.46%	9.88%
long-term	10 235	10 856	9 983	6.07%	-8.04%
short-term	21 509	20 426	24 391	-5.04%	19.41%
Other reserves	1 447	5 909	3 345	308.36%	-43.39%
long-term	100	67	140	-33.00%	108.96%
short-term	1 347	5 842	3 205	333.70%	-45.14%
Long-term liabilities	1 643	2 287	3 105	39.20%	35.77%
to other entities	1 643	2 287	3 105	39.20%	35.77%
Current liabilities	367983	372192	478339	1.14%	28.52%
to related entities	73 266	77 101	119840	5.23%	55.43%
to other entities	294165	294760	357944	0.20%	21.44%
Special funds	552	331	555	-40.04%	67.67%
Liabilities total	1431948	1451820	1648632	1.39%	13.56%

Source: own study based on the balance sheet of the tire company "Dębica Joint Stock Company"

Financial costs are similar, except that their level does not exceed 0.5% in the studied years. Gross sales profit had the largest share in sales revenues and it changed, it decreased by 22.08% in 2016 and then increased by 29.50% in 2017, but reached a lower level than in 2015. Other partial results show a similar trend, in 2017 sales profit, operating profit, business profit and gross profit had a very similar level. Figure 1.1 presents the dynamics of financial results, which allows for a more detailed analysis of the profit and loss rate.

In 2016, sales revenues fell more than costs decreased, which contributed to a 22.08% decline in gross profit on sales.

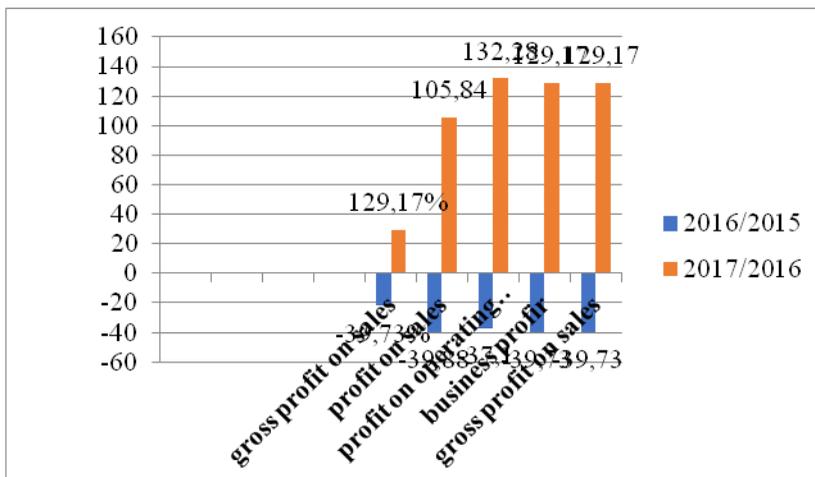


Figure 1.1 Dynamics of financial results of the tire company “Dębica Joint Stock Company”

Source: own study based on the profit and loss rate of “Dębica Joint Stock”

In 2017, there was an increase in sales revenues by 14.67%, while costs increased slightly slower, by 13.37% compared to the previous year, which resulted in an increase in gross profit on sales by 29.50%. In 2016 profit on sales – a decrease by 39.88% compared to 2015 – was influenced by an increase in sales costs by 127%, which in the following year decreased along with general and administrative expenses and contributed to the increase in profit on sales by 105.84% compared to 2016. Other operating revenues first increased by as much as 471.19%, then they showed lower dynamics (171.85% as compared to 2016). Other operating costs decreased in 2016 by 45.22% and in the following year by 31.71%. This state of other operating income and expenses resulted in a decrease in operating profit by 37.10% in 2016 and an increase by 132.28% in 2017. Financial revenues increased more slowly than financial costs, which reduced the profit on business activities in 2016. In the following year, a faster decrease in financial revenues from costs had a negative impact on business profit. There were no extraordinary events, so the gross profit equaled the profit from business activity. The final net result decreased by 17.45% compared to 2015 and then increased in 2017 by 81.04%. Table 1.3 presents structure and dynamics profit and loss rate.

Table 1.3

Structure and adjusted dynamics of the “Dębica Joint Stock Company” profit and loss rate

PROFIT AND LOSS (in PLN thousand)	2015	2016	2017	Adjusted rate of change pace 2016/15	Adjusted rate of change pace 2017/16
Net revenues from the sale of products, goods, materials and services	1765584	1678676	196 453	-4.35%	14.67%
Net revenues from the sale of products and services	1698490	1570567	1832854	-6.97%	14.41%
Net revenues from the sale of goods and materials	67094	108109	130599	62.10%	18.43%
Cost of products, goods and materials sold	1590702	1543232	1784550	-2.40%	13.37%
Manufacturing costs of products sold	1523136	1440043	1662958	-4.88%	13.22%
The value of sold goods and materials	67566	103189	121592	53.65%	15.52%
Gross profit (loss) on sales	174882	135444	178903	-22.08%	29.50%
Sales costs	8 680	19 585	14 020	127.00%	-29.82%
General management costs	66 982	56 565	40 391	-15.04%	-29.99%
Profit (loss) on sales	99 220	59 294	124 492	-39.88%	105.84%

Table 1.3 (continued)

Other operating revenues	273	1 550	4 298	471.19%	171.85%
Profit on sale of non-financed fixed assets	0	1 291	753		-42.82%
Other operating revenues	273	259	3 545	-4.56%	1 241.8%
Other operating costs	16 871	9 186	6 399	-45.22%	-31.71%
Revaluation of non-financial assets	976	1 056	1 466	8.85%	36.10%
Other operating costs	15 507	8 130	4 933	-47.26%	-40.51%
Profit (loss) from operations	82 622	51 658	122 391	-37.10%	132.28%
Financial revenues	6 984	7 010	4 475	0.98%	-37.41%
Interest, including:	6 760	7 010	4 285	4.32%	-40.07%
Other	224	0	190	-100.0%	
Financial costs	2 787	6 660	5 297	140.41%	-22.02%
Interest, including:	2 787	2 550	2 396	-7.95%	-7.88%
Other	0	4 110	2 901		-30.80%
Profit (loss) on business activities	86 819	52 008	121 569	-39.73%	129.17%
Gross profit (loss)	86 819	52 008	121 569	-39.73%	129.17%
Income tax	7 906	-12 745	1 995	-262.1%	-115.3%
Net profit (loss)	78 913	64 753	119 574	-17.45%	81.04%

Source: own study based on the profit and loss rate of the tire company “Dębica Joint Stock Company”

Summary

The data in the above work was chosen in order to confirm the thesis that financial analysis helps in detecting areas in a business entity that are worse managed.

Preliminary analysis of the financial statements revealed that their structure and dynamics in 2015-2017 showed correct trends, including an increase in total assets. The structure of assets decreased from over 57% to 49.50%, while the share of current assets increased. The greater share of current assets over non-current assets in the balance sheet total means greater flexibility when it is necessary to change the type of production. Most of the sources of financing assets in the company “Dębica Joint Stock Company” were equity, the share of which ranged from 67.5% to 70.6%. In each of the examined years, the company made a profit that decreased in 2016 and in 2017 almost doubled its value compared to the year 2016. In 2016, sales revenues fell more than costs decreased, which contributed to a decrease in gross profit on sales by 22.08%. In 2017, there was an increase in sales revenues by 14.67%, and slower rising costs enabled an increase in gross profit on sales by 29.50%. In 2016, the decrease in profit on sales was influenced by an increase in sales costs by 127%, which in the following year decreased along with general management expenses and contributed to an increase in sales profit by 105.84% compared to 2016. Other operating revenues increased in the examined years, while other operating costs decreased. Such operating revenues and expenses resulted in a decrease in operating profit. In 2016, financial revenues increased more slowly than financial costs, which gave a negative impact on business profit. The final net result decreased in 2016 and then increased in 2017. The “cash-flow” analysis showed that the company had one of the best scenarios, as the revenues from its main activity allowed to finance investments in assets and repayment of loans to banks. The company coped well with management of inventory, receivables and liabilities in the examined years. The cash rotation cycle showed a negative balance, i.e. confirmed good financial condition. Profitability and liquidity indicators showed a strong market position and no solvency problems. All assets are profitable, which means they are managed efficiently. The quick and current liquidity ratio fluctuated at an almost standard level. Debt ratios also do not indicate that the condition of the tire company “Dębica” was good. The company mostly finances its assets with equity, and is not dependent on foreign capital to a significant degree.

The calculations, their analysis and interpretation allowed to state that the tire company “Dębica Joint Stock Company” was in a good financial condition and had a stable market position in the examined period.

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DEVELOPMENT OF THE NATIONAL ECONOMIC SYSTEM: ARCHITECTURE AND INCLUSIVE ISSUES

The development of the world economy at the beginning of the XXI century was marked by fundamental socio-economic transformations. The unpredictability and depth of global change, the growing influence of international organizations on the economic activities of nation states, the presence of crises in the financial sector and the economy have become a challenge to economics, real politics and economic practice. In this regard, there is a need for scientific understanding of modern world economic change and justification for the creation of an effective national economic system that would take into account the peculiarities of socio-economic, national and geopolitical development of Ukraine.

Currently, economics, designed to explain reality and offer the most effective options for transformation, demonstrates inconsistencies, incompleteness and inadequacy of basic economic concepts and models, has a number of problems in justifying and predicting the long-term trajectory of economic development. This is primarily due to the lack of a complete theory of economic development, especially its market stage, which would incorporate modern methodology, adequate theoretical generalizations and goals that would be the basis for improving the economic system of society and effective decision-making.

In this sense, it becomes clear the growing attention of scientists to the problem of conceptual awareness and systematic study of the evolution of the economic system and the formation on this basis of a new concept of national economy. The question of the necessity and essence of the study of the evolution of the economic system is the subject of numerous scientific discussions. The presence of contradictory assessments and forecasts on the directions, goals, dynamics of economic growth of the national economy requires recourse to the intellectual heritage of world and domestic economic thought, a deep rethinking of the scientific foundations of economic development, its dependence on the historical track of previous evolution.

This task becomes especially relevant when the critique of dominant economic theories, especially neoclassical economic theory, which for many years played the role of theoretical foundation in the study of national and globalized economic processes. The question of updating the methodological tools for understanding the radical changes in the national and global economy, the formation of new scientific approaches and principles for their understanding, the combination of economic theory with business practice is becoming more acute.

Today, Ukraine is developing the parameters of the socio-economic and geopolitical model of development in the third millennium. The main national interest of our country can be realized through a well-structured model of economic development, which is the basis for the functioning of the national economic system. An effective model of economic development has not yet been formed and, accordingly, not implemented, which would fully reflect its national interests and become a macroeconomic theoretical basis for an effective state economic policy. Therefore, the Ukrainian economic model is not complete today. In fact, according to some researchers, it is an eclectically combined elements of different models: state socialism (inherited from the Soviet

era); state-monopoly capitalism (with its clan-oligarchic nature of development); and people's capitalism (developing in the country in a deformed, segmental form).

Models of economic development of individual countries are formed within a certain economic system, which is a set of all economic processes occurring in society on the basis of certain institutional, property and financial relations and organizational forms. In the last one and a half to two centuries, as already mentioned, there were different types of economic systems in the world: a market economy based on free competition (classical capitalism), a mixed economy (modern capitalism) and two non-market systems – traditional (natural) and administrative command. In each system, national models of economic organization are built, which correspond to the existing economic, resource and cultural potential of the country, its traditions, spirituality and mentality.

Models of economic development of the national economic system within the system of modern capitalism have been the subject of analysis by domestic scientists. Thus, S. Mocherny identifies the following basic models: 1) market economy with its modifications and historical forms; 2) a mixed economy, which is the most perfect model of modern capitalism; 3) post-industrial society; 4) the national economy; 5) capitalist economy; 6) the national economy. The author considers the most optimal model for Ukraine to be the model of national economy, which provides for the use of all types of property (dominated by labor collective property), comprehensive social protection and national democratic economic planning.

Ukrainian economist A. Filipenko, analyzing the evolution of models of economic development in relation to countries liberated from colonial dependence, the so-called young independent states or developing countries, notes that modern science identifies the following basic models of economic development: the model of linear stages; model of structural transformations; neoclassical free market model; theory of external dependence; theory of dual development; the concept of endogenous growth; innovative theory of economic development; model of sustainable development. The most acceptable for Ukraine the author considers “an integrated model (characterized by common features of development strategies inherent in highly developed countries; developing countries and third world countries) economic development, which allows to fully realize national interests in the world economy” [1, p. 596]. Domestic political scientist M. Mykhalchenko identifies four

possible models (scenarios) for the future development of the national economic system, each of which has an economic basis. These are the following scenario models: 1) "retroildilic", which is based on a directive-planned, uncompetitive economy; 2) "monoethnic", which is based on the idea of creating a "closed population", a racially pure ethnic group and a "closed national economy"; 3) "liberal", which is based on the liberal values of a market economy; 4) "convergence", which involves a combination of the best achievements of the market economy mechanism with non-market forms of profit redistribution, the creation of a socially oriented economy by market methods, and which the author considers most viable for the Ukrainian environment [2, p. 37].

The analysis of the models of economic development of economic systems that exist within the modern market system and those that domestic researchers consider acceptable for our country, leads to a number of generalizations and conclusions. In our opinion, almost all researchers: try to study Western models of economic development and in one way or another adapt some of them to Ukrainian realities; they substantiate the need for Ukraine to have a mixed model of economic development focused on the interests of the state, financial and monopolistic groups, and small and medium-sized businesses; insist on the implementation in Ukraine of such an economic model, which would provide a combination of state regulation with a market competitive economy; determining what should be the share of the state in the economy. At the same time, they rely mainly on the experience of Russia, as evidenced by the number of references to Russian sources used for analysis, and note the need for an optimal model of economic development for Ukraine, but do not carry out thorough and comprehensive development of such a model adapted to modern economic problems country systems.

Thus, O. Soskin recognizes the main reasons for the erroneous reform in the Ukrainian version: 1) the lack of properly formed national economic interests, the implementation of which should be aimed at the model of the economy implemented in the country; 2) incorrectly defined theoretical basis of the economic model of development in the form of liberal-cosmopolitan concepts of purely monetarist orientation and automatic observance of advice and uncritical perception of the experience of their bearers; 3) selection and application of an unsuccessful mechanism for implementing the overall reform strategy, the tools of which were mass voucher privatization of the lion's share of

state property, introduction of spontaneous pricing, simultaneous opening of the economy to private exports and imports, changes in legislation, social and economic institutions corruption environment, formation of clan-corporate groups and their merging with the state-bureaucratic nomenclature [3, p. 276].

Scientists have proposed different approaches, methodologies for the practical use of the advantages of Western models in the direction of analyzing the development of economic systems (globalization, internationalization). We share A. Filipenko's point of view on the application of the "integrated model" of economic development in modern society.

In recent years, the number of publications on the systemic crisis of capitalism and the need to move to a new model of management has increased sharply. The report of the World Economic Forum identifies three categories of economic risks, with the recognition and prevention of which the current economic system can not cope:

- 1) macroeconomic risks associated with the unrestrained growth of financial markets;
- 2) corruption, organized crime and illegal trade;
- 3) depletion of natural resources.

The systemic crisis, social in nature, is manifested in the growth of chronic unemployment, social inequality and dependency, environmental threats, the crisis of spiritual values, mutual trust and culture. The current stage of global development is characterized by the deepening global structural crisis. Many researchers focus on the social consequences of the global crisis and its financial aspects.

Now under the influence of leading economists, including J. Stiglitz, P. Krugman, J. Akerlof, R. Schiller and many others, a "new economic paradigm" is being actively developed – a scientific concept that actualizes the ideas of J. M. Keynes, I. Fischer and X. Minsk on financial bubbles and crises. It is designed to explain the conditions of such extreme phenomena and to form a scientific basis for practical recommendations in terms of minimizing the negative consequences for the economy. The methodology for solving such problems is the theory of complex systems, because the behavior of financial markets, where "everything depends on everything", generally corresponds to the behavior of objects of similar complexity.

The inconsistency of formal and informal institutions, their inconsistency, extractive nature lead to changes in the economic system, which inevitably causes a decline in confidence and its crisis. The

growth of contradictions and the inhibition of economic development due to the socio-economic crisis reduce the possibility of transforming formal and informal institutions, thus creating a trap of inconsistency in the quality of economic development.

Crises as a natural process of development of the economic system have a complex nature, which manifests itself as shocks of the socio-economic sphere of society. Counteracting the destructive processes in the economic system is associated with the analysis of crises as derivatives of cognitive-behavioral actions that fit into the frames of economic and legal institutions. The current crisis of the national economic system has its own specific features: the transition to a new frame of reference, the economic basis of which is private property and its respective forms of management (radical neoliberal transformations have caused irreversibility), unprecedented depth of economic decline (loss of competitiveness, crisis) structural deformation of the economic system (inconsistency of the sectoral structure of the economy), the structure of the national economy and external relations (anti-environmental orientation), the transition of some forms of Soviet economy to the shadow economy of today (forms a corrupt authoritarian-bureaucratic system), deepening social inequality management model, a person is not considered as the highest social value – the model of survival).

In order to prevent existing threats, in the author's opinion, the strategic line and the corresponding program of development of the national economic system should be coordinated with the system of government and society, formulated goals and scientific substantiation of methodology, methods and mechanisms for achieving these goals.

Despite the growing number of studies of the characteristics of the national model of economic development, a single holistic concept has not been created in the context of determining the vector of development of the national economic system.

Alternative types of development are a prerequisite for the positive prevention of uncertainty inherent in the functioning and evolution of any complex organic formations – economic systems. The concept of alternatives is revealed through endogenous and exogenous uncertainty, choice, risks and innovations. Alternative development of the national economic system is an external prerequisite for the formation of national strategy, is relevant to the development of methods, tools and management practices and means alternative ways to achieve target (desired) levels of socio-economic development.

The continuous evolution of the economic system, in particular its socio-economic component, necessitates the constant development of a set of tasks, priorities and instruments of economic policy of the state. The effectiveness (efficiency) of this policy affects the state of competitive advantage in today's globalization challenges.

We emphasize that a characteristic feature of the current stage of global development should be a decrease in the effectiveness of public policy due to the difficulty of forecasting economic development and the deformation of the main reactions of the national economic system to regulatory influences. According to A. Galchynsky, the modern system "is characterized by the realization of the potential for change through the mechanisms of bifurcation and chaos" [4, p. 8]. The scientist states that "... the future ceases to be predictable: it is no longer based on the foundations of the present... terminate the inherent principles of causal determinism, rational development, social balance, which form the foundation of economic methodology". Thus, the economy "acquires signs of development of complex disordered dissipative (scattered) synergetic systems". V. Bodrov emphasizes that the "global crisis has demonstrated the failure of traditional anti-crisis tools, which are based on the absolutization of functional analysis, focusing on the study of functional relationships and dependencies" [5, p. 72].

In general, the genesis of the modern model of the global economy and its components is directly related to the trend of liberal organization, which is inherent in the transformations in the post-Soviet space, and the "renaissance" of neoliberalism, which existed on the basis of a long crisis-free period at the turn of XX and XXI centuries, suffered significant losses due to the crisis of 2008-2009 in the world economy. In particular, the Polish researcher Gr. Kolodko states the changes as a consequence of "the crisis of the neoliberal model, which rejected the regulatory practice of the state and denied institutional interventionism" [6, p. 9].

According to J. Zhalilo, the loss of effectiveness of the tested instruments of public policy is a logical continuation of the evolution of technological processes and organizational relations in the economy over the past decades. Since this process occurs due to the development of objective evolutionary processes, the scientist proposes to use the term "implicit" (defined by explanatory dictionaries as "that which is not stated openly, but can be understood by understanding what is said or occurs, revealed through connections with other objects"; used primarily in the field of psychology) liberalization in the modern

economy, which results in a “radical change in the characteristics of the economic field” [7, p. 41-42]. The latter, according to the definition of A. Galchinsky, “acquires the characteristics of a dissipative heterogeneous environment, contains various structural formations that interact on the principles of self-organization of complex systems”. But it should be noted the paradox of the situation under study: under conditions of implicit liberalization, the effectiveness of traditional policy instruments, which are focused on the liberal model of the economy, is lost. Macrosocio-economic equilibrium is currently formed in terms of priority of horizontal relations, the dominance of patterns of self-organization of individual segments of the economic system, and finally, according to A. Galchinsky – “erosion of the principle of economic determinism”.

That is, the phenomena of implicit liberalization are becoming more and more widely discussed and widespread in economic practice and dictate the need for balanced significant changes in the tools, mechanism and priorities of economic policy, in particular, promoting self-organization of the economic system through advanced development.

Modern researchers are unanimous in concluding that one of the main problems in Ukraine in improving its global competitiveness is the inadequate level of institutional efficiency of the national economic system. In particular, according to the modern Ukrainian researcher N. Grazhevska [8, p. 15], post-Soviet institutional changes are characterized by extreme complexity and inconsistency. We believe that the "institutional inadequacy" of the state determines the appropriate institutional environment for the functioning and development of the economic system is not suitable for effective modernization of the national economy.

Thus, given the above, the question arises about the development of a modernized national model with a differentiated strategy for the functioning of the national economic system. We consider it expedient to base it on the principle of inclusive growth (ie the choice of alternatives for the development of the economic system on the basis of national goals of overcoming inequality and improving the quality of human life).

Modernization has become one of the main trends in the modern development of economic systems, but has not created a positive potential for renewal and overcoming the crisis of the national economic system. Some researchers consider it necessary to focus not on

modernization but on reconstruction. Thus, A. Hrytsenko emphasizes that “the depth of modernization, which is determined by the transition from external forms to load-bearing structures of internal content, is the limit of the transformation of modernization into reconstruction” [9, p. 7]. That is, the reconstructive development of the economic system is a development that can be achieved by restructuring the basic structures of the economic system, changing its structure. Since the content of reconstructive economic development includes the social orientation of change, it is achieved both in terms of economic growth and at the stage of recession.

A. Hrytsenko emphasizes in his research the need to take into account the laws of architecture (fundamental structure of integral systems) as one of the important features of the paradigm of reconstructive development of the modern economic system. In real economic practice, it is necessary to take into account the internal characteristics and nature of integrity, but this only modifies, adjusts the proportions, not cancels them. Since the structure of the system (whole) is deformed, away from equilibrium proportions, it is advisable to pursue a policy aimed at overcoming imbalances and approaching equilibrium proportions (with correction of deviations of not more than 15% of the available averages), which is the principle of gradual equilibrium economic system.

Thus, the problems of modernization of the modern economy, the “architecture” of the economic system (according to A. Hrytsenko), the issues of inclusive development are extremely relevant for determining the vector of development of the national economic system. In the broadest sense, the concept of inclusive development means the development of national economies in world economic relations, which makes it possible to include and reveal the internal potential of all elements, all actors of the socio-economic system of the country and ensure its balance. We believe that systemic inclusiveness is needed by the national economic system. This will provide opportunities to identify natural, social and cultural benefits of the system ensure sustainable development and improve the welfare and quality of life of citizens in society by radically restructuring the economy and developing its internal potential in reflective interaction of the economic system with the environment.

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**TOOLS AND BEST
PRACTICES IN THE
STRATEGY TO
ENHANCE
INVESTMENT
ACTIVITY IN
POLAND**

Investments are the main factor among the indicators of economic growth and integration of the world economic systems of various countries into the consolidated international economic space. Determination of an investment structure that would create reliable conditions for economic stability and ensure Poland's position as an influential economic and political partner in the global community is the main priority of the State as a whole, as well as its constituent regions in the modern conditions.

The Republic of Poland is one of the most favorable countries for the investment of foreign equity. It is significant that the Polish economic system was recognized as safe for organization and conduct of business by the definitive opinion of international experts; all necessary conditions for investment, including modern infrastructure support, were created on its territory. The following key positive factors affecting the investment attractiveness of the country are identified and analyzed in the Monograph: location in the center of Europe, political stability based on the EU and NATO membership, considerable domestic market, sustainable economic development, one of the most receptive consumer markets, skilled labor force, relatively low labor costs, reception of grants from the EU budget, continuous improvement of business conditions, as well as cost-efficient industries for capital investment.

However, a number of problems and pending issues requiring serious attention of the scientists and practitioners still exist.

Panoramic analysis of the scientific literature has revealed that the term “investment climate” is used to combine such categories as “investment attractiveness” and “investment activity”.

Synonymization of “investment attractiveness” and “investment climate” concepts is fairly common. Most probably, it is due to the relatively recent active use of the “investment activity” term [1-9], which is indicative of the attained involvement of available investment resources on the capital market [1-5, 7-8]. The fact that recording of the inflow of investment capital into a certain economic territory is an additional positive “signal” of availability of the investment culture, which can positively affect the final decision of potential investors on investing funds, should be noted.

Based on a comprehensive analysis of scientific sources, we have come to the conclusion that implementation of efficient IA on the economic territory of the country, as well as successful development of the investment market in the modern externalities, are impossible without State intervention. The degree forms and methods of such intervention should be incorporated in the investment policy of the State and in its liability (dynamic flexibility – author’s note) to the requirements of the appropriate response to external changes of various nature. Being implemented at micro- and meso-levels, it will not only enable to take into consideration differences in territorial, labor, production and other nature, but to maximize the efficiency of IA on the national scale as well.

The presented on Figure 2.1 diagram emphasizes the importance and significance of the managerial component in the efficient development of investment activities in the country.

Constant monitoring of changes in the investment climate is one of the key tasks in ensuring liability of IA managerial system.

The fact that the investment climate is characterized by dynamism and constant variability should be emphasized. In the view of these reasons, investment climate should be monitored the on a permanent basis.

Three possible options for monitoring the investment climate are available in the world practice (Figure 2.2).

Differentiation of Poland regions (voivodeships – author’s note) in terms of area, resources provision and potential, as well as development level, determine application of the third investment climate monitoring option.

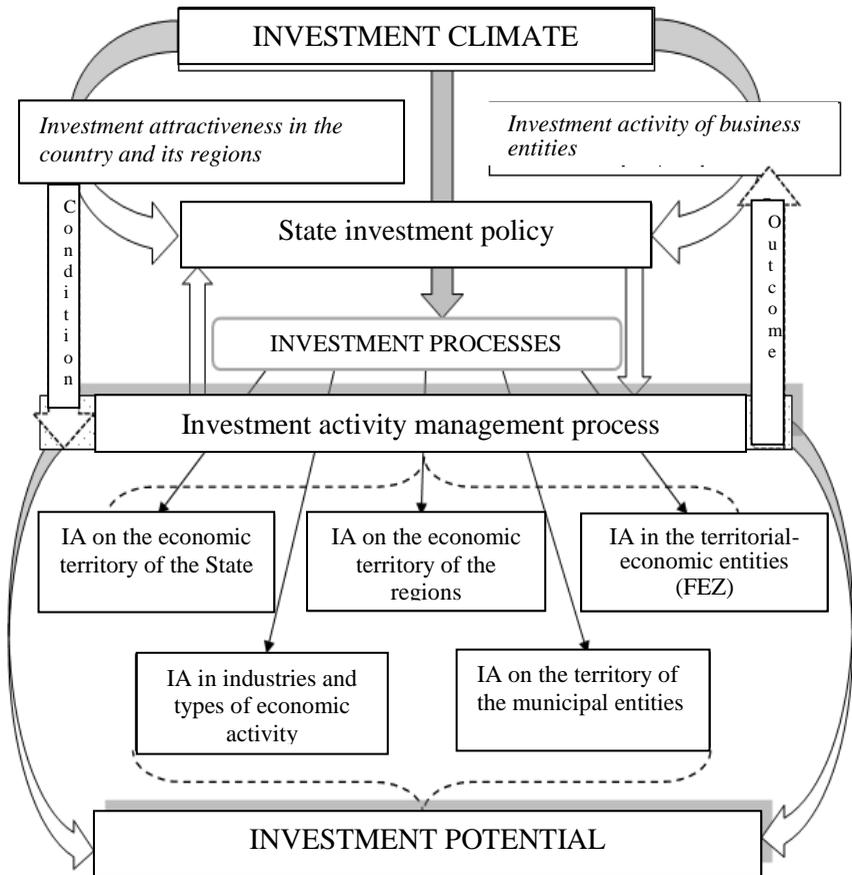


Figure 2.1 Structural and Dynamic Diagram of IA Development Management in Poland

Monitoring of macroeconomic data in Poland allows to deduce an inference on availability of all prerequisites for activation of the investment activity within its economic territory.

Thus, according to forecasts, GDP growth is expected at the level of 3.9% in 2017, and at 4.1% in 2018, which is the best growth indicator in Europe. This allowed to abandon the IMF loan in the amount of Euros 9.2 billion. Budgetary Compliance in the reporting year was recorded with a record surplus of USD 1.36 billion or PLN 4.9 billion [1].

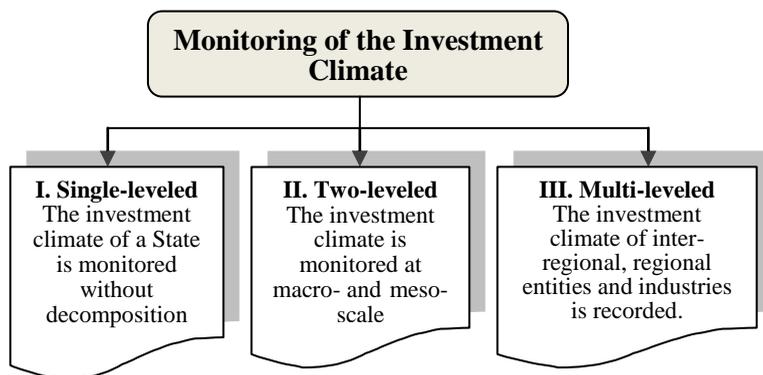


Figure 2.2 Variety of the Investment Climate Monitoring Methods

More importantly, the pro-active approach of the Polish Government, which allowed not only to maintain its position in the European market, but to increase it after the country's accession to the EU as well, validates the chosen vector for the further socio-economic development. In particular, it is about domestic agriculture, which employs about 1/5 of the working population. European integration in addition to Brussels financial aid in the amount of Euros 1.5 billion allowed Poland to declare itself as a leader in production of high-quality organic food products. Apart from that, the investment confidence rating is increased by Poland's positioning as a country with highly qualified personnel potential, high level of production facilities security and favorable location.

Proactive governmental efforts focused on protection of the national producers' interests and thorough examination of the national interests in the draft laws proposed by the European Parliament have not only resulted in the positive dynamics of socio-economic development, but in the influx of foreign investments as well.

In the context of the described above, application of a complex of tools for strategic management of competitive advantages of Poland and its regions based on the concept of dynamic capabilities of the resource approach is considered appropriate. Both the resource approach and the concept of dynamic capabilities, by focusing on the importance of decisions on formation resource combinations for the purposes of obtaining economic effect (mainly the entrepreneurial aspect of the strategy is manifested in these decisions), simultaneously devote much attention to internal organizational and functional managerial

mechanisms, which allows to achieve efficiency for the long term. Along with that, the concept of dynamic capabilities, which considers the essence of both sources and mechanisms of creation as well as retention of competitive advantages, is more progressive in terms of development of organizational and managerial skills as well as skills in assimilation of new business potential.

The dynamic version of the resource approach undeniably prevails in managing Poland's competitive advantages and enhancing investment activity on its economic territory. The potential of dynamic capability concept is particularly important, since it allows to add economic benefits and organizational nature of competitive advantage plus time factors and managerial factor of managers to the characteristics of the resource approach.

In view of this, Poland's investment activity depends on long-term and sustainable competitive advantages. In this context, the "period of competitive advantages" means maximization of the interval for maintaining and improving the overall evaluations (rating) of the favorable investment climate in the country. "Sustainability of competitive advantages", in turn, is determined by the following three key factors: consistency of the sources of such advantages, quantity and quality of the sources of competitive advantages, as well as feasibility of multiplying new sources of such advantages.

According to the degree of sustainability, the following types of competitive advantages are distinguished most commonly:

- low sustainability level. Such advantages are characteristic of other States as well, and when the tools of IA incentive mechanism are applied, can affect the change of geographical localization of investment activity;

- medium sustainability level. This type includes advantages held for a longer period. In particular, it is the question of production of unique goods (works, services), possession of progressive technologies, reputation and prospects of investment facilities, special resource capabilities, etc.;

- high sustainability level. This type of competitive advantages requires a combination of a significant amount of capital investment with high quality IA management. This group includes Poland's brand and association of "made in Poland" mark with undeniable quality of goods produced in the country, new discoveries, new technologies, etc.

The process of formation and support of Poland's competitive advantages at medium and high sustainability level covers the entire economic managerial mechanism. The basic principles for creation and

enhancing the complex of national competitive advantages are the following:

- motivation of innovation and investment entrepreneurship in all spheres of economic activity by the State Government;
- improvement and expansion of the number of sources of competitive advantages contributing to strengthening Poland's position on the world market;
- implementation of systematic, integrated and balanced approaches to formation of Poland's image as a unique country with diverse competitive advantages.

Taking into consideration the requirements of the system approach, methodological tools for evaluation the efficiency of investment activity of the investors based on the concept of balanced indicators system seems appropriate.

Sustainable investment development support system includes a fairly wide range of tools that can be used by both national and regional authorities. Special mention should be made to such a tool as benchmarking, which has proven itself in world managerial practice.

Benchmarking is a comparative analysis with the best world practices for the purposes of identifying strengths and weaknesses, as well as constructing a strategy for the further development.

Benchmarking successfully proved itself as a business practice in the 1980s, gradually gaining importance in the methodological toolset of the major companies in many world countries. In studies of the post-crisis period (after the global financial crisis of 2008 – author's note) benchmarking was first recognized as one of the most popular management tools (Rigby & Bilodeau, 2009).

In our opinion, it is the benchmarking analysis or analysis of the best practices of management of the development of investment activity that will enable to form an efficient investment strategy for Poland for the coming period.

Malaysia is one of the best benchmarks of investment development management. Malaysia is a small but rather successful country. Economic growth has been observed over the past 9 years, when Najib Tun Razak, the author of fundamental changes in the strategy for economic development, entered Prime Minister's office.

Due to the decisive actions of the Malaysian government, the country has managed to reduce external dependence on oil from 40% to 14% over the past six years, as well as reduce budget deficit from 6.4% to 3.1%. The country's GDP growth amounted to 50%, and investment

increment of growth amounted to 12%, with private sector prevailing over the public in the overall structure. Over the past year, 1.8 million jobs have been created in the country with 30 million in the total population in Malaysia. Of the total number of jobs created, 1.5 million or 83% are in 12 priority sectors of the national economy.

According to ASEAN (Association of South East Asian Nations – author’s note) Malaysia is recognized as the only country, apart from Singapore, which has retained investment rating of its liabilities. Many international institutions have recognized positive changes in the country, which is confirmed by nominations in international awards for innovations in public administration.

Reform of the managerial system is implemented according to the BFR (big fast results) methodology, which includes 8 interrelated “stages”.

Thus, the amount of GNI (gross national income) rather than GDP was chosen as the main efficiency criterion. From this perspective, ranking or prioritization of sectors of the national economy was performed. As a result, the Malaysian government has identified 12 leading sectors of the economy capable of making the maximum contribution to the GNI growth.

The next stage involved laboratory testing (research in analytical groups – author’s note) based on the bottom-up principle. The essence of the process was in the development of strategies by twelve focus groups (in the context of each of the 12 priority sectors of the economy – author’s note). Groups of 30-40 experts formed a priority actions program, expressed and tested hypotheses, simulated results, etc. for 6 weeks through brainstorming.

Stemming from active stage of strategic analysis and planning, a program management plan for the next 10 years was developed. Furthermore, a state supervision system over implementation of the strategy was developed as well.

The next stage involved consideration of the strategy with the parties concerned. Arrangements provided for in the strategy were presented to the general public.

Next, the Roadmap of the Malaysian National Transformation Program was compiled and published on the PEMANDU website (<https://www.pemandu.org/>). It clearly indicated organizations responsible for a particular project, amount of budget allocated and the project execution period.

The next stage is called Key Performance Indicators. KPIs were

developed and confirmed as early as the laboratory stage and indicated efficiency of a particular manager based on execution period and degree of completion of the tasks prescribed by the strategy.

Next comes Implementation stage, which involves a variety of components. Thus, one of these components is the ministerial scorecard. The fact is that the Cabinet of Ministers of the country receives evaluation cards from the Prime Minister, which are published on the PEMANDU website, every six months. This contributes to concurrence of government actions with simultaneous monitoring of each leader's managerial efficiency.

The methodology is followed by Invitation of External Experts stage with the aim of conducting an independent and objective evaluation of the governmental actions in implementation of the national development strategy. An annual tender has been conducted and auditors from the Big Four countries have been invited since 2009. The complete audit of implementation of the national transformation strategy includes analysis of data on road construction, commissioned infrastructure facilities, etc. What is more, independent audit expertise is important for evaluation of the national competitiveness of Malaysia in the context of global competition.

And finally, the last stage of the methodology under research is presentation of the annual report [1].

A detailed analysis of the described best practice of investment development in Malaysia allows to identify efficient mechanisms for implementation of investment projects on the economic territory of Poland and improvement in the investment environment of the country as a whole. Thus, high priority and necessary measures to attract investment resources to the country's economy are the following:

- formation of an efficient strategy for managing the IA development;
- implementation of an efficient promotional campaign for Poland's uniqueness as an efficient investments recipient;
- collection of complete information (monitoring – author's note) on the socio-economic environment of the country and its regions;
- motivation of local authorities' incentive in improvement investment attractiveness of the regions;
- screening (selection – author's note) of socially responsible investment projects;
- promotion of public investment or crowdfunding of investment activities;

- involvement of experts (including international – author’s note) to solve non-diversified and specific IA problems;
- maximization in promoting development of international cooperation to introduce positive foreign experience into practice.

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**THEORETICAL
INTRODUCTION TO
ISSUES OF
FINANCIAL
ANALYSIS**

Introduction

In literature on economics, financial analysis is not always recognized as a microeconomic science and a lot of scientists treat financial analysis as an integral part of accounting. As a rule, it is assumed that it is an integral part of the economic analysis of a company. The economic analysis of a company includes phenomena occurring in this company, measurement of relationships and dependences between the phenomena studied as well as their assessment (Gabrusewicz, 2014, p. 16). Accounting is characterized by a strictly defined research subject as well as a research method, and these two features distinguish it from financial analysis.

The company's financial analysis is necessary to assess its financial situation and to make proper future business decisions. Financial analysis is one of the basic tools to optimize company's results.

The results obtained thanks to the analysis help the company's management in a decision-making process in the field of finance and control of processes occurring in a company and in comparing them with the adopted assumptions.

The article presents the sources of financial analysis, thanks to which a company has a chance to make better decisions and thus to develop more effectively. It also discusses the types and methods of financial analysis, its goals, function and role in the company management.

Essence, scope and types of financial analysis

Financial analysis deals with static assets and capital at a given balance sheet moment, i.e. equipping companies with fixed assets and working capital as well as sources of financing this property with division into equity and borrowed capital. This is characterized by the financial situation, i.e.

- paying and credit capacity,
- efficient investment of funds, including management of achieved financial surpluses.

Financial analysis also deals with results, which are a dynamic subject of the study and determine the effects of operations. The results are determined in relation to a certain financial period. The analysis covers net financial result of all activities, partial results obtained in particular types of activities as well as the factors shaping the financial result of a company (Grzenkowicz, 2007, p. 16).

A broad range of financial analysis is highlighted in the literature, including:

- economic analysis of a company;
- company's environment analysis.

The main task of financial analysis is to study the past. Analyzing what happened in the recent past is very helpful for a company to draw quick conclusions that will be useful in the current management. Analyzing what happened in the past is aimed at explaining the company's successes in terms of size, assets, market position and showing the impact of these achievements on the further development of this company.

The company's revenues, costs of obtaining them and achieved profits are expressed in a financial form, therefore the analysis of the economic efficiency of company's operations should be conducted through its prism.

The assessment of the company's financial standing is made from various points of view and on a different scale and is the most important element of its competitive position, credibility and economic strength on the market, which has a significant impact on trust of contractors and the opinions created about this company. Therefore, making a financial analysis and its results cannot be just an internal matter of a company. The analysis should also be carried out from the point of view and with the use of criteria and methods that would be adopted by the partners in assessing the financial position of a company.

Financial analysis according to the following criteria:

Adopted methods:

Functional analysis is one of the most important types of financial analysis. It is based on the analysis of segmental phenomena occurring in a company, often without proper connection with other phenomena. Of course, in addition to advantages, functional analysis also has disadvantages, including:

- subjectivity of assessments;
- lack of proper selection of information, thus important and irrelevant information is mixed;
- lack of hierarchy, fragmentation of research without sufficient consideration of interrelationships and dependencies of the studied economic phenomenon.

Comprehensive analysis covers all phenomena occurring in a company at a given time in various relationships and conditions. In this analysis it is possible to separate important phenomena from insignificant ones and causes from effects due to the fact that this analysis organizes all phenomena according to the hierarchy of importance. Comprehensive analysis is one of the more difficult and time-consuming analyzes and requires a comprehensive view of a company. As a result, comprehensive analysis is more accurate compared to functional analysis. It is a tool to learn and evaluate economic phenomena occurring in a company.

Decision analysis is focused on providing information that makes it easier for a company to make specific decisions. This analysis examines phenomena both in the cause-effect and chronological order. Thanks to this analysis, a company finds the answer to the question what decision should be made to have a positive impact on the business and results of the company in the future. The scope of the analysis depends on nature of the studied problem:

The scope of analytical research:

The overall analysis applies to all phenomena occurring in a company.

Depending on the purpose, this analysis can be carried out at a general or specific level.

Section analysis deals with a selected area of a business activity, which is why it is often called problem analysis.

Research specificity:

General analysis covers all business activities of a company and is based on a narrow group of appropriately selected synthetic indicators. General analysis is useful mainly for general assessment of economic activity, as it lacks research on interrelationships among economic phenomena. Its value in making economic decisions is small (Sierpińska, Jachta, 2007, p. 17).

Detailed analysis involves a detailed and wide range of information and indicators to study the problem. Detailed analysis is a very labor-intensive analysis, but it is necessary to improve the areas of business

activity and financial condition of a company.

Forms of research:

Ratio analysis provides information on the company's financial situation and results of its operations on the basis of a set of logically related indicators. The value of the indicators, their changes as well as the relationships between them make it impossible to assess the company's activities and constitute the basis for drawing conclusions regarding the future (Gabrusewicz, 2014, p. 35).

Billing analysis studies the relationships that occur between economic phenomena. It is helpful in assessment and identification of factors that shape the studied phenomenon and their impact on the result of the business activity. This analysis is very labor-consuming and requires very high knowledge of the problems associated with business.

Time covered by the analysis:

Retrospective analysis includes an assessment of the results of activities taken in the past. However, it cannot be focused only on exploring the past without trying to participate in the future of enterprises. The concentration of all decisions at the enterprise level shifts the focus from the retrospective assessment of an enterprise to the prospective assessment. However, retrospective analysis will continue to be the basis for verifying the correctness of past decisions and starting point for current and future intentions (Sierpińska, Jachta, 2007, p. 17).

Current analysis concerns collecting information on the implementation of tasks at a given time, comparing current results with assumptions, determining deviations so that organizational departments can react in time. Current analysis is very useful in business management due to the quick provision of information.

Prospective financial analysis is used to shape the company's strategy. It has a decisional character, thanks to which it is very helpful in making many decisions. Thanks to the methods used for the prospective method, it allows to evaluate various projects and choose the best one. Prospective analysis includes not only internal analysis but also external conditions. This analysis facilitates the creation of an appropriate strategy for the development of a company, based on the assessment of opportunities and threats from the environment as well as strengths and weaknesses of this company.

Purpose of analysis:

External analysis is intended for external entities including banks, shareholders, customers, potential employees, etc. This analysis can be the basis for cooperation with new contractors.

Internal analysis is used to meet the needs of busiensses. It is used to assess the company's operations and helps in making decisions. Internal analysis is generally more detailed than external analysis.

Sources of financial analysis

The balance sheet is the basic element of the company's financial statement, it presents the state of assets and sources of their financing at the time of its preparation. The components of the balance sheet are presented in Table 2.1. This is a presentation of a company at its static moment (Sierpińska, Jachta, 2007, p. 50). According to the Accounting Act, assets are ranked according to increasing liquidity in the balance sheet, and liabilities according to increasing chargeability (Gołębiowski, Tłaczała, 2005). The balance sheet is an accounting document and also one of the elements of the financial statement prepared at the end of every financial year. The closing balance of a financial year is an opening balance of a new year. The balance should be absolutely balanced, i.e. assets and liabilities should show the same value. To increase its analytical value, the balance sheet includes assets and liabilities from the current financial year as well as from the previous financial year. An analysis of the possessed assets which are on the balance sheet plays an important role in assessing the company's resources and its development. The highest cognitive value in terms of changes in the size of assets is attributed to the growth dynamics rate (Leszczyński, A. Skowronek-Mielczarek, 2004, p. 81). If the growth dynamics rate is positive, it means that the company developed in the time covered in the balance sheet. The structure of assets, thanks to which it is possible to study relationships in the property structure, is an important complement in the analysis of any company. The balance sheet is assessed after calculating the structure and dynamics of assets. Thanks to this, the person who analyses the financial statements and assesses a given company on the basis of information it presents in the balance sheet, has current and historical data – on its basis it is possible can assess the tendency of changes taking place in an entity (Ambroziak, 2010, p. 45). Assessment of the balance sheet is made by an analyst. The quality of this assessment depends on their economic knowledge and skills. The basic principle that should guide this assessment is striving to find the largest possible number of relationships and dependencies between changes in individual items of reports and interpretations against the background of the current situation of both the industry and the entire economy (Dudycz, 1998, p. 28). When analyzing individual

items of the balance sheet, attention should be paid to the share of items in the structure of the balance sheet total and to dynamics. The company's balance sheet gives a picture of the company's assets and capital situation. To assess this situation, it is necessary to determine the relationships that exist between individual company assets and sources of their financing. Knowledge of the dependencies that occur among these elements is useful for an entrepreneur for the purpose of company management, but it can also be useful for other business entities from their environment.

Table 2.1

Components of the balance sheet

ASSETS	LIABILITIES
<p>A. Fixed assets</p> <p>I. Intangible assets</p> <p>II. Property, plant and equipment including: fixed assets, fixed assets under construction</p> <p>III. Long-term receivables</p> <p>IV. Long-term investments, including: real estate/assets, long-term financial assets</p> <p>V. Long-term accruals</p> <p>B. Current assets</p> <p>I. Stocks</p> <p>II. Short-term receivables, including: for supplies and services, including: - up to 12 months, - over 12 months.</p> <p>III. Short-term investments, including: short-term financial assets, including: - cash in hand and on bank accounts</p> <p>IV. Short-term accruals</p> <p>C. Called up share capital.</p> <p>D. Own shares.</p>	<p>A. Own capital (fund)</p> <p>I. Basic capital (fund)</p> <p>II. Supplementary capital (fund), including: excess sales value (values issue) over the nominal value of shares (shares).</p> <p>III. Revaluation capital (fund), including: - due to fair value updating.</p> <p>IV. Other reserve capitals (funds).</p> <p>V. Profit (loss) from previous years.</p> <p>VI. Net profit (loss).</p> <p>VII. Charges to net profit during the financial year</p> <p>B. Liabilities and provisions for liabilities</p> <p>I. Provisions for liabilities, including: - provision for retirement and similar benefits</p> <p>II. Long-term liabilities, including: - credits and loans.</p> <p>III. Short-term liabilities, including:</p> <p>a) credits and loans</p> <p>b) for supplies and services, including: - up to 12 months, - over 12 months,</p> <p>c) special funds.</p> <p>IV. Accruals</p>
ASSETS TOTAL	LIABILITIES TOTAL

Source: own study based on M. Sierpińska, T. Jachta, Enterprise evaluation according to world standards, PWN (Polish Scientific Publishers), Warsaw 2007.

The company's balance sheet analysis consists of two stages:

- initial balance sheet analysis;
- indicator balance sheet analysis.

Financial analysis methods

Many research methods are used in financial analysis. Their selection depends on (Gabruszewicz, 2014, p. 43):

- adopted goal of analysis;
- stage of analysis;
- subjective and time range of analysis.

The methods of financial analysis according to the adopted criterion.

Due to the methodology, the methods of analysis are divided into:

- general methods,
- specific methods,
- induction methods,
- deduction methods,

General methods are based on the principles of logic, on the correct thinking, combining facts and effects, and on the correct inference. The task of these methods is to analyze phenomena that are interdependent and make accurate inferences about their formation. These methods are most often adopted from various scientific fields, e.g. statistics.

Specific methods are typical methods that can be applied to financial analysis. They are based on studying the changes in phenomena and explaining their effects and causes. Specific methods also allow to analyse the relationships that occur between the studied phenomena.

Due to the order of research, the methods of analysis are divided into:

Induction method – in induction methods the research begins with specific phenomena and gradually moves to generalizations and conclusions as a synthesis of the analytical process. This is a top-down method, it goes from factors to results and from causes to effects, which is why it is often called the merging method. Financial analysis carried out by means of the induction method begins its research from all areas of company's operations and factors involved in these operations and only at the end is it determined what impact the management of these factors had on the financial result. This method has many advantages, but unfortunately it also has disadvantages such as the fact that it is time-consuming.

Deduction method works in the opposite direction as the induction method, i.e. it conducts research from general to detailed aspects, from

results to factors and from effects to causes. This method begins with the general determination of the research problem and gradually goes into details, which allows to explain the causes and effects that occur in general phenomena. With this method, the financial result is analysed as first and only then the factors that influenced this result are studied. The deduction method is one of the more difficult methods used in practice.

Due to the stage of analysis, the methods are divided into:

- initial stage (qualitative, comparisons),
- in-depth (causal) stage.

The initial stage of empirical research aims to identify the phenomenon in question, recognize its essence, measure its size and possibly intensity. Therefore, in the initial stage, qualitative analysis and comparison methods are widely used (Gabrusewicz, 2014, p. 47).

The method of comparison, the in-depth stage, compares at least two quantities, one of which is the subject of comparison and the other its basis of comparison. The differences between the analyzed phenomenon and the phenomenon being the basis for comparison are called deviations.

Due to the form of description, the methods are divided into: qualitative and quantitative.

Qualitative analysis methods do not give a numerical representation of the studied phenomenon or relationships and dependencies that occur among them. The results of this method are presented in a descriptive form. In the qualitative method, an analytical scheme is chosen to study phenomena. Such a model contains only significant elements of the phenomenon under consideration that present simplifications of the complex reality of the economy, therefore the results of this method are not always clearly defined. Therefore, the results are not sufficient to fully recognize the analysed phenomena. However, it is recommended to use them in two cases:

- when collecting and processing numerical data is not possible or too costly,
- when qualitative analysis is treated as a preliminary method, after which in-depth quantitative analysis methods will be used (Gabrusewicz, 2014, p. 47).

Quantitative methods can be divided into two groups:

- deterministic methods which include: chain substitution method, differentiation method, partial difference method, functional method and logarithmic method. The deterministic method determines in advance the form of dependence as well as the type and number determining this

quantity. The purpose of this method is to examine how much of the deviation in the analysed phenomenon results from the action of individual factors.

- stochastic methods are more precise than deterministic methods because they take into account not only the basic factors that had an impact on the analysed phenomenon but also the influence of secondary and random factors. Stochastic methods allow for a broader understanding of the relationships that occur between economic phenomena. The most important stochastic methods include: statistical methods, econometric methods, taxonomic methods and discriminatory methods.

Summary

The article discusses theoretical issues in the field of financial analysis, which is an indispensable tool for measuring and assessing a company's financial result. It also helps to present its property and capital situation.

The study of the literature on the subject helped to learn about the issues in the field of economic analysis. It also allowed to learn about the role of economic analysis in the enterprise management process, as well as assessment methods and measuring the financial condition of a company. The knowledge of the above theoretical issues will practically help companies in assessing financial standing.

Effective management is an important factor. Owing to financial analysis, a business entity obtains a lot of valuable information about the financial condition, structure of economic processes and causal relations between them.

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**THE IMPACT OF
SOCIO-
TECHNOLOGICAL
CHANGES ON
SERVICE**

A major feature of the developed economy is the economically strong service sector. This phenomenon of today's modern economy – the economy of services, is present due to globalization, which supports the processes of de-industrialisation and moves production to the less developed countries. The level of societal advancement supports the development of public services, and specialization results in strengthening of manufacturing services. As a result of these processes, there is a growth in production and employment in services, which accounts for 75% of total employment in Europe's advanced economies (Belgium, Denmark, the Netherlands, Norway, Sweden) (OECD 2015; WBG 2016). The transformative power of service innovation emphasizes the legitimacy of intermediate demand for services. Changes in the lifestyle of today's modern man cause new requirements for demand for market services. These processes are dynamized by the effects of socio-technological changes. Adaptation to changes is thus a challenge for the production of services. It is therefore justified to address the impact of socio-technological changes on demand for services. The aim of the study is to verify the relationship between changes of society and technology and the demand for services.

The demand for services reflects the interdependence between the

amount of services required and their price. The current evolutionary demand theory drives interest in assessing the impact of other factors that change the demand. It also inspires behavioural economics and changes in consumer behaviour (Valente, 2012). In addition to price and consumer behaviour, the authors also indicate the possibility of substitution by other goods, consumer incomes, economic and political situation influenced by socio-technological changes as relevant factors (Hachula, Schmeidel, 2016).

A comprehensive approach to the expression of the relationship between socio-technological change and the demand for services is a rather complex problem. Partial examinations of the above mentioned problems are known and stated in Table 2.2 and 2.3. In order to meet the intent of a comprehensive approach, the study links the theory of transaction costs and the level of the institutional environment of economies, to reflect the level of adaptation to changes in the economy. It uses the Index of Economic Freedom and Networked Readiness Index. As well as, the work provides a systematization of knowledge about the impact of changes in society and technology with the impact on the demand for services.

Societal changes

The world economy is undergoing turbulent changes that are triggered by many circumstances, many of which are global, others on the other hand have a more local character (Balóh, Hamara and Sopkov6, 2015). The most commonly reported societal changes are population ageing, migration, globalization and global warming (EC, 2010). Changes in society are the subject of exploration of several social sciences, such as sociology, psychology, economics, political science, or anthropology. These changes affect all areas of the society worldwide. At the societal level, they affect social institutions, politics, economics, education, technology, the legal system, family, religion and many others. At the individual level, they form values, attitudes, opinions, and behaviours. Changes affect and alter our way of life (UNCW, 2016). According to Sopyci (2007), societal changes are taking place in five areas (population, family, education, economics, and change in power relations). However, the authors and relevant studies are expanding this group in the context of a more rigorous specification. Table 2.2 below summarizes the theoretical approaches available to authors for societal changes. At the same time, it refers to departments of services, where

demand is changing most markedly due to the effects of societal changes.

Table 2.2

Areas and Indication of societal changes, consequences for service demand within these branches

Area	Indication	Authors	Exposed impacts on demand for services (SERVICE BRANCHES*)
POPULATION	<ul style="list-style-type: none"> • Ageing of the population; • Migration; • Differences in living standards; • Quantitative population growth; • Extending of average life span; • Security; 	<p>Sopyci, 2007;Рбленнк, 2012; Рбленнк, 2014; Рцлкбровб, 2016; Starek, 2016; Euromonitor Research,2015;European Commission, 2014b; Kusб, 2015; Hawkins, Best-Coney, 1993; Ther, 2016; Christophorou, 2016; Michalovб, et al. 2013; Arltovб et al., 2016; DESA, 2010; Van der Linden 2015;</p>	<ul style="list-style-type: none"> • Q – increased demand for health and social care • Q – increased demand for nursing services; • G – qualitative and quantitative changes in retail with specialized food, clothing, medical aids; • R – qualitative and quantitative changes in art, entertainment and recreation; • O, E, N – changes in demand for public services and security;

Table 2.2 (continued)

FAMILY	<ul style="list-style-type: none"> • Singles population; • Changes in family and partnership institutionalization; • Women's employment; • Doubling incomes; • Variety of lifestyle; 	<p>Sopyci, 2007; Starek, 2016; Vysekalovб, 2004; Michalovб, Венеловб, Љќастнб 2013; Ther, 2016;</p>	<ul style="list-style-type: none"> • I – qualitative changes in demand for singles population; • M – increased demand for legal services; • P – qualitative and quantitative changes in the services linked to education, and in particular pre-school education; • I, L, N – increased demand for cleaning services; • Q – increased demand for other healthcare services, • R – increased demand for relax, sports, cultural services;
EDUCATION	<ul style="list-style-type: none"> • Raising people's ambitions; • Lifelong learning; • Culture intersection; 	<p>Sopyci, 2007, Michalovб, et al. 2013; Angeloni - Borgonovi, 2016; Schunrock et al., 2016; Mlinaric, Oplotnik-Brezovnik, 2016; Hult, Bystrum–Gellerstedt 2016; Vasisovб et al., 2013;</p>	<ul style="list-style-type: none"> • P – increased demand for education, trainings, courses or workshops; • P – qualitative changes in demand related to the increase in specific migrant education with support for new professions and changes in the structure of the economy;

Table 2.2 (continued)

ECONOMY	<ul style="list-style-type: none"> • Economic freedom / Safety • Urbanization; • Migration; • Globalization; • Liberalization; • Internationalization; • Externalization; • Economic crisis; • Global warming; • Environmentalization of production; 	<p>Sopysi, 2007; Michalovb, Venelovb, Љkastnb 2013; Pylkbrovb, 2016; Stratija 2020; Van Den Broek, D., Harvey, W. - Groutsis, D. 2015; Islam, R. - Zaman, K. 2015.; Konig, 2015; Elmqvist et al., 2015; Dujava, 2016; Hamlen, K. W - Thuraisingham, B. 2013; Chang, H. 2013; Bae, Y. K. 2014; Ther, 2016; Michalkovb, A. 2010;</p>	<ul style="list-style-type: none"> • O, E, N – changes in demand for public services and security, as well as security and search services; • R – demand for relaxation, sports, cultural services; • J – increased demand for information and communication services; • J, L, M, N – demand for business services; • M – demand for services in the field of scientific research and development; • N – services related to the operation of security systems;
CHANGES IN POLITICAL STRUCTURE WITHIN A STATE	<ul style="list-style-type: none"> • Economic transformation; • Democratization; • Decentralization of power; • Polarization of society; 	<p>Sopysi, 2007; Strategy 2020; Hamlen, K. W - Thuraisingham, B. 2013; Ther, 2016;</p>	<ul style="list-style-type: none"> • O – demand for services of public sector, defence and security; • M – increased demand for legal, consulting, advisory services;

Source: own processing. * The table uses names of individual branches of services by NACE rev. 2.

Technological changes

Rapid scientific and technological advancements and increased dependence on technologies affect the labour market, employment and work organization (Cascio – Montealegre, 2016). Technological development has fundamentally altered the production of services, products and strengthened the role of product-related services, thereby enabling individualization of production (Obadi et al. 2016). The growth of the service sector in the economy is related to its faster ability to interact, the ability to communicate with stored information anywhere and anytime via the Internet (Demirkan, Spohrer and Krishna, 2011). The following Table 2.3 systematises the theoretical approaches of authors who identify the demand for services influenced by technological advances.

Table 2.3

Areas and indication of technological changes, consequences for service demand within these branches

Area	Indication	Authors	Exposed impacts on demand for services (SERVICE BRANCHES*)
INTERNET	<ul style="list-style-type: none"> • ICT expansion; • Accelerating business processes; • Network connection of enterprises; • E-commerce and trade; • Social media; • Safety and security; 	<p>Michalová, Benešová, Šťastná, 2013; Stratégia 2020; Baláž et al. 2015; Gartner, 2016; Thangavel - Vanmathi, 2015, Komorowski, M. et al. 2016; Pereira et al., 2015, Noury, Sevrin - Massot, 2016; Biahmou et al., 2016 European Commission, 2014c; Smolarek, M. - Witkowski, M. 2015;</p>	<ul style="list-style-type: none"> • G – increase the number of on-line purchases; • J – demand for ICT services in connection with the use of mobile services and smart devices; • J – demand in IT consulting; • M – demand for legal services; • O – changes in demand in connection with removal of legislative barriers and creation of a single market for services; • N – services related to the operation of security systems;

Table 2.3 (continued)

<p style="text-align: center;">INDUSTRY 4.0</p>	<ul style="list-style-type: none"> • Digitalization; 	<p>Staňek, 2016; Theorin, 2016; Foidl - Felderer, 2016; Christmann et al., 2016; Biahmou et al., 2016; Hlušková, 2016; Blanchet et al. 2014; Krueger – Harris, 2015;</p>	<ul style="list-style-type: none"> • J – increased demand for knowledge-intensive high-tech services (computer programming); • M – demand for scientific research and development;
<p style="text-align: center;">INTERNET OF THINGS</p>	<ul style="list-style-type: none"> • Connection of systems; 	<p>Staňek, 2016; Gartner, 2016; Suja, 2014; Reddy et al. 2016; Weber - E. Studer, 2016; Biahmou et al., 2016;</p>	<ul style="list-style-type: none"> • J – increased demand for knowledge-intensive high-tech services; • M,O – demand for services focused on the scientific research and development; • M – demand for legal services;
<p style="text-align: center;">BIG DATA</p>	<ul style="list-style-type: none"> • Modelling and influencing socio-economic processes; • Personalization of services; • Security; 	<p>Staňek, 2016; Gartner, 2016; Suja, 2014; McKinsey - Company, 2011; UNECE, 2013; Anshari - Lim, 2016; Rehman et al., 2016; Biahmou et al., 2016;</p>	<ul style="list-style-type: none"> • M – demand for IT services in the field of research, surveys in relation to the increase in the number of not-analysed data; • M,O – demand for legal services with an emphasis on generating new data processing and data protection regulations and directives; • N – services related to the operation of security systems;

Table 2.3 (continued)

3D PRINTERS	<ul style="list-style-type: none"> • Individualization of production; 	<p>Staňek, 2016; Gartner, 2016; Cutting et al., 2015; Umair - Kim, 2015; Ng - Pang, 2016 Biahmou et al., 2016;</p>	<ul style="list-style-type: none"> • J – increased demand for knowledge-intensive high-tech services, such as computer programming in the section;
CLOUD	<ul style="list-style-type: none"> • Data range availability; • Technology sharing; • Security; 	<p>Staňek, 2016; Gartner, 2016; Suja, 2014; Joshi, 2016; Yi, Wei - Song, 2017; Hallová, 2013; Biahmou et al., 2016; Iqbal, S et al. 2016; Kazim, M - Evans, D. 2016;</p>	<ul style="list-style-type: none"> • J, M – demand for data processing in the field of collection, storage, sorting, transmission, access, analysis and interpretation is related to the demand for knowledge-intensive, high-tech services; • N – services related to the operation of security systems;

Source: own processing. * The table uses names of individual branches of services by NACE rev. 2.

Explaining the level of adaptation of the economy to societal and technological changes in the context of Institutional and New Institutional Economic Theory

The way and the extent to which the economy copes with societal changes are reflected in the level of transaction costs in the context of Institutional and New Institutional Economic Theories. These theories are the basis for recognizing transaction costs as a parameter that has the ability to express the level of institutional set-up in the economy. The subject of institutionalization are the institutions, their origin, development, function in the behaviour and decision-making of economic subjects. According to D. C. North, the institutions represent a set of formal and informal rules aimed at directing human behaviour in a certain direction, influencing the behaviour of individuals and thus reducing uncertainty (Volejňňkovb, 2005, Lílka et al., 2011). If institutions, which were inherited by the society from the past, cease to meet new economic conditions and needs, they must adapt or release the space to new ones (Volejňňkovb, 2005). The impact on economic

performance is ascribed to institutions. According to Teja (2009), the low rate of regional economic growth stemming from an inappropriately functioning institutional framework, the carrier of institutional quality, lies behind the problems of low societal and economic development of lagging regions.

The new institutional economic school developed the knowledge of transaction costs, which has later become established as a separate theory (Liška et al., 2011). These costs significantly determine the set-up of an institutional framework, performance, and competitiveness at microeconomic, as well as macroeconomic levels.

According to the New Institutional Economic Theory, the country's economy achieves higher efficiency under the conditions of better set-up institutions that generate lower transaction costs. Socio-technological changes affect the level of transaction costs. The socio-economic system, which is able to take advantage of the changes in favour of the reduction of transaction costs, presents itself with a good institutional environment supporting economic development. Okruhlica (2013) suggests measuring the institutional environment using the Competitiveness Indexes. In order to express the quality of business environment, or the level of transaction costs in the national economy, we have used the database of the Index of Economic Freedom from the Fraser Institute (Gwartney, Lawson, Hall 2016) in accordance with the principles of the New Institutional Economic Theory.

Index of Economic freedom reflects the ability of economy to respond to societal changes. This ability is reflected in the conditions that the existing administrative system in the country promotes economic freedom. Governments allow for free movement of labour, capital of goods, services, and abstain from restrictions of freedom beyond what is necessary to protect and maintain freedom itself. The Index documents the positive relationship between economic freedom and economic progress, such as a higher share of GDP per capita, human development, democracy, poverty eradication and a better environment (Hall, Lawson 2013).

The impact of technological change on demand for services, as in the case of societal change, is measurable through competitiveness indices. We consider the Networked Readiness Index to be the parameter expressing the adaptation of technological changes in the economy. We assume that the quality of business environment, measured by the level of transaction costs in the national economy, is affected by the rate of infiltration of technological change into socio-economic processes. This

thesis is confirmed by several authors who attribute the effects of increasing labour productivity and a deeper personalization of services to information and communication technologies (Michalov**б**, Bene**љ**ov**б**, Љkacstn**б**, 2013; Kagermann, 2015). Authors Evangelista, Lucchese, Meliciani (2013) identified the positive impact and strong dependence of information services and communication technologies on the international competitiveness of other areas of the economy in the results of empirical analysis. The presence is marked by digital transformation, with signs such as digitization, Cloud, Big Data, IoT, 3D printing and Industry 4.0 (Biahmou et al., 2016). This provides the opportunity to use an exponentially growing amount of data for goals in achieving customer satisfaction and the emergence of new business and managerial options. The Networked Readiness Index is a key parameter that identifies the degree of landscape adaptation in the digital world. It defines parameters that depend on whether a particular country has elements necessary for the development of digital technologies and whether these technologies actually affect the economy and society. The Index identifies the use of ICT to increase the competitiveness and well-being of the company.

Methodology

Based on the study by F. Okruhlica (2013) and in the intentions of the Institutional and the New Institutional Economic Theory, we have identified the impact of socio-technological changes on demand through the correlation and regression analysis of data in 117 countries of the world. Due to the availability of comparable statistical data, we used the value-added parameter in services expressed as a share of services in the total value added in the economy for 2015 (Services_value added_2015).

In order to identify the impact of societal change, the Index of Economic Freedom, which was issued in 2015, was selected, but it characterizes “status quo” of the environment in 2014. So there is a time shift in the analysis. This means that the demand for services (expressed as a share of services in total value added in the economy) in 2015 is determined by the setting of the business (institutional) environment, which is affected by societal changes, especially in the economic area in 2014. In the case of technological changes, the Networked readiness index (NRI) for 2015 was chosen as the parameter. Even in this case, there is a time shift because the NRI issued in 2015 describes the

situation in 2014. Due to the time shift in both cases, we assume that the impact of socio-technological changes on demand for services will be reflected with a certain time span, which will make the estimated model more significant. The use of correlation and regression analysis for selected variables (index and added value) is supported by studies of H. Rahman and R. D. De Sousa (2014), as well as L. Hudrlikov6 and K. Vltavsk6 (2013). The results of the work verify the validity of the hypothesis 1.

H 1: There is a link between socio-technological change and demand for services

The input database as a basis for regression and correlation analysis was based on available data from the group of World Bank (WBG, 2015), the Fraser Institute's annual report (Gwartney, Lawson, and Hall, 2015) and the Global Information Technology annual report (WEF, 2015). Subsequently, the data was processed by MS Excel. The graphical method, the regression analysis was processed by Dell Statistica. The estimated linear regression analysis equation had the following form:

$$\text{Services_value added_2015 (\% of GDP)} = \text{constant} + \text{slope} * x$$

The quantification of the link and the internal relations is expressed by the linear regression analysis and its quality is determined by the coefficient of determination (r^2), t-statistics, p-value, constant (i.e. the locating constant), slope (expresses the regression coefficient) and the number of observations (N). Individual dependencies were identified based on the results of the correlation and regression analysis (Table 2.4).

Results

Both variables were statistically significant at the significance level $\alpha = 0.05$. The force of dependence between variables increases with the increase of the correlation coefficient (r) in absolute value. Strong direct dependence has been confirmed in both cases, which was further interpreted by graphical depiction.

Table 2.4

Correlation and regression analysis

X & Y	All correlations are significant at $p < 0,05000$						
	r(X,Y)	r ²	t	p	N	Constant (dep: Y)	Slope (dep: Y)
Economic_Freedom_Summary_Index	0.57	0.32	7.43	0.00	117	-4.27	9.22
Services_value_added_2015							
Networked_readiness_Index_2015	0.65	0.43	9.28	0.00	117	24.34	8.79
Services_value_added_2015							

Notes: Own processing based on data from the Annual Report to the Economic Freedom Index (Gwartney, Lawson, and Hall, 2015), the Annual Report to the Global Information Technology (WEF) 2015, and statistical data from the databases of the World Bank (WBG, 2015). Data was processed using Dell Statistica.

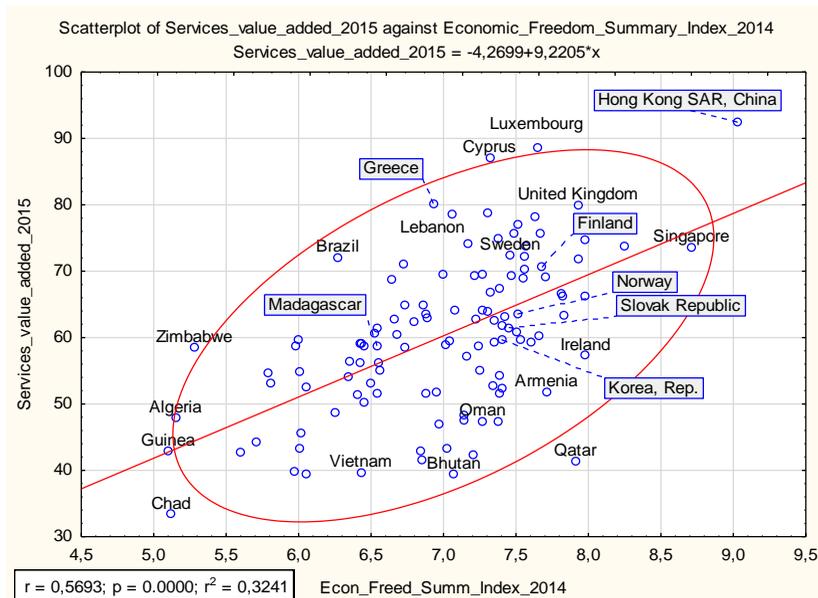


Figure 2.3 Influence of societal changes on demand for services
 Source: own processing with Dell Statistica.

Graphical regression analysis (Figure 2.3) shows a strong correlation between the dependent variable – the share of services in the total value added in the economy for the year 2015 and the independent variable – the Index of Economic Freedom reflecting the state of the environment for 2014. Data were also analysed at global level with total number of observations (N) 117. The model explains 32.41% of input data according to the coefficient of determination. The estimated regression equation has the following form:

$$\text{Services_value added_2015} = -4.2699 + 9.2205 * \text{Index of Economic Freedom}$$

Based on the above equation it can be stated that if the index of economic freedom is equal to 0, we observe a marked drop in value added in services to -4.2699%. If the Index of Economic freedom reaches a maximum of 10, the value added in services will move to 87.94%. The level of economic freedom of countries has been increasing for the last decade, and the countries that have a higher economic freedom have higher economic performance (Gwartney, Lawson and Hall, 2015). These include, in particular, Hong Kong, Singapore, and United Kingdom. In the case of Qatar, we monitor a high level of economic freedom (7.91), but a low value added in services (41.34%), which may be due to the structure of the economy, as Qatar has a higher industrial representation in the structure of economy.

The graphical results of the regression analysis point to another extreme, such as the Republic of Chad. The country has a low Index of Economic freedom (5.12) and a low demand for services (33.42%). The reason for this position in the analysis can be mainly the structure of the economy in the Republic of Chad, which is mainly focused on agriculture, but also the political situation in the country. In the case of the Republic of Zimbabwe, we monitor a low level of the Index of Economic freedom (5.28), but a significant share of the services sector in GDP (58.56%), as retail and tourism are mainly developed in the republic. The opposite extreme is Hong Kong. Its economy is characterized by free trade, low tax burden, minimal government interference and high transparency. Hong Kong thus reaches the highest level of the Index (9.03) in the world. The share of services in total value added in the economy is more than 90%. These include, in particular, financial services, trade and logistics, tourism, including consumer services, and the provision of expert and manufacturing

services.

In this way we can continue to identify other extremes. The position of these countries within the model is influenced by the structure of the economy and the economic freedom achieved. The generalized result is that the increase in economic freedom also increases the share of services in total value added in the economy.

The following graphical analysis identifies the impact of technological change on demand for services (Figure 2.4).

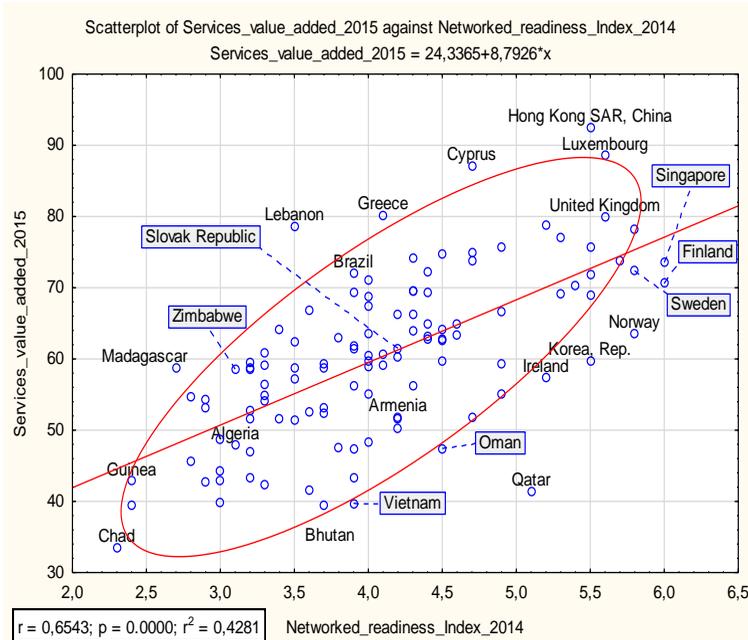


Figure 2.4 Effect of technological changes on demand for services

Source: own processing with Dell Statistica.

This analysis also shows a strong correlation between the dependent variable – the proportion of services to the total value added in the economy for 2015 and the Networked Readiness Index (NRI) for 2014. Data analysed at the global level with total number of observations (N) 117. The model explains 42.81 % of input data according to the coefficient of determination. The estimated regression equation is as follows:

$$\text{Services_value added_2015} = 24.3365 + 8,7926 * \text{index NRI}$$

Based on the above equation it can be stated that if the Networked Readiness Index is equal to 0, we observe the level of 24.3365% of the added value in services. Assuming that the NRI reaches a maximum of 8, the value added in services will be at the level of 85.88%. Again, in this case, we are monitoring the extreme situation of Qatar, which belongs to the countries with a relatively high Networked Readiness Index, but low demand for services. The second identified extreme is Hong Kong. From the point of view of the Networked Readiness Index, Hong Kong (5.5) slightly lags behind the countries like Finland (6), Singapore (6) and Norway (5.8), but still belongs to the countries with a significant added value of services, within that index.

Discussion

The study of the dependence between socio-technological changes and the production of services is based on the principles of Institutional and New Institutional Economic Theory. Within them, the low transaction costs achieved by the institutions are a prerequisite for a good business background. Socio-technological changes affect the level of transaction costs. The socio-economic system, which is able to take advantage of the changes in favour of the reduction of transaction costs, presents itself with a good institutional environment supporting economic development.

Institutionalist theories and the transactional cost theory explain the idea of the company's establishment in connection with externalisation of non-specialized activities. We believe that these activities have become the basis for strengthening the importance of the services sector. Socio-technological changes increase transaction costs, as they increase the cost of adapting them in production and value chains. However, the adaptation of economic processes to these changes, and the associated specialization has an effect on their reduction. This means that countries with lower transaction costs are better adapted to current changes in the company.

The expansion of services in advanced economies can be attributed to efforts to optimize the level of transaction costs, mainly through the creation of effective mechanisms for managing and controlling transactions of a specific nature. In economies, where markets work badly and the costs associated with their use are high, or where markets

operate in a deformed form or do not work at all, the tendency is to include as many activities as possible in one's own organization. In contrast, in economies with advanced market infrastructure, transaction costs are relatively low. There are many specialized providers whose supply exceeds demand. Due to the specialization, the costs are usually lower than if the organization ensured them alone.

These theories are the basis for recognizing transaction costs as a parameter that has the ability to express the level of institutional set-up in the economy. In order to express the level of institutional set-up, we used the Index of Economic Freedom and the Networked Readiness Index. Demand for services is expressed as a share of services in total value added in the economy.

The results of analysis confirmed strong dependence between the studied variables. This means that demand for services (expressed as a share of services in the total value added in economy) is largely influenced by socio-technological changes (Index of Economic Freedom, Networked Readiness Index). The bigger is the extent of adaptation to socio-technological changes in the economy (the selected indices have rising values), the higher is the demand for services, which is reflected in the growing share of GDP. The position of services in the value chain of economies can thus be labelled as crucial in the process of society and economy adaptation to changes. However, the effects of this relationship can be explained also in reverse. High-quality institutional background provides a background for service development. Our observations can be expanded in terms of analyses of dependence on demand for services on the individual parameters contained in the indices used, or it is possible to examine the impact of socio-technological changes on selected departments and service divisions. Demand for services is largely influenced by societal and technological changes. The limit can be the data complexity. Better ability of economy to adapt to the socio-technological changes is reflected in the growing share of services in GDP creation.

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**COMPARATIVE
ANALYSIS OF
TOURISM
DEVELOPMENT IN
THE BALTIC
STATES**

1. INTRODUCTION

Due to the influence of economic, social and political globalization processes, tourism has become one of the leading industries in many countries. According to the data of the United Nations World Tourism Organization (UN WTO) (2017) and the World Travel and Tourism Council (WTTC) (2017), currently tourism is the third largest economic sector in the world and on a global scale creates 10% of gross domestic product (GDP). The tourism sector employs 1 in 10 people worldwide, revenue from tourism services exports in 2017 accounted for 30% of global services exports and 7% of global exports of goods and services. According to the UN WTO, international travel growth in 2018 was 6% and reached 1, 4 billion.

Relevance of the topic. According to UN WTO analysts, tourism is currently one of the top five sources of revenue. The rapid growth of tourism has been largely influenced by the globalization process, reinforced by the following socio-economic factors: rising personal income and inheritance, longer lifetime, faster and cheaper air travel, improved accessibility of various tourist destinations, and intensive use of information technology. The rapid development of tourism has also been influenced by general trends in society, which have become one of the most popular leisure activities.

Research problem. Tourism has a major impact on national economies, attracting foreign tourist flows and, at the same time,

generating income, helping to create new jobs and contributing to attracting foreign investment. This is a huge business that is growing and will continue to grow. One of the aims of tourism development is to attract as many foreign tourists as possible, therefore it is very important to analyze how the incoming tourist flows are changing and which markets the Baltic tourism sector should target.

Many scientists have analysed trends in tourism development: Gartner (1996) analysed theories of tourism development, Noranha (1976), Butler (1980) and Turner (2003) analysed the stages of tourism development, Nordin (2003) analyzed the diversity of tourism sectors, Holloway (2006) explored ways for the government to play a role in tourism, Hall (2007) complemented tourism development by a new tradition of sustainable development, Lomine (2007) analyzed strategic political and economic planning and decision-making in the public and private sectors, Getz (1987, 2008) worked in tourism planning, etc.

Methodology of research:

1. Analysis of scientific literature.
2. Descriptive-analytical method, based on the analysis of tourism sector development according to the data of Eurostat and Official Statistics Department of the Republic of Lithuania

The object of the research: the development of tourism sector in the Baltic States.

Aim of the research: to carry out a comparative analysis of tourism sector in the Baltic States and to identify development opportunities.

Objectives of the research are:

1. To carry out the analysis of the tourism sector development by theoretical aspect;
2. To carry out the analysis of the tourism sector statistics in the Baltic States and to forecast the development trends.

2. ASPECTS OF DEVELOPMENT OF THE TOURISM SECTOR IN SCIENTIFIC DISCUSSIONS

The United Nations (UN) Resolution (1954) defines tourism as an activity outside of one's usual residence which contributes to the improvement of health and physical education. The Manila Declaration on Tourism (1980) describes tourism as an activity which has a significant impact on life and indirectly determines the social, cultural, educational and economic spheres of countries and their international relations. The Hague Declaration (1989) states that tourism is the free

movement of people outside their place of residence and work, as well as the sphere of services designed to meet the needs arising from this movement. The Law on Tourism of the Republic of Lithuania defines tourism as purposeful human activity related to travel and temporary stay outside the place of residence for a maximum period of one year, if such activity is not training or paid work in the visited area. Tourism does not exist without the following components: tourist, transport and places of interest.

Tourism is a complex socio-economic phenomenon, spread over a vast geographical area and encompassing many areas of human activity. Tourism theorists, like Cooper, Fletcher, Gilbert, Wanhill, 1994; Cooper, Hall, 2008; Goeldner, Brent, 2009; Holoway, 1994; Holoway, Taylor, 2006 and others help to understand the scale of tourism, the complex interplay between structures and its elements. The authors of research papers emphasize the need to look at tourism as a system consisting of a set of interrelated activities. The system is “the interface of phenomena, which distinguishes them from the environment as a single, relatively independent unit; it is a planned and correct arrangement and arrangement. The structure of a system is made up of elements which, by interacting interchangeably, produce content specific to that system. Tourism as a system is defined as a whole consisting of interrelated parts that work together to achieve certain goals.

The tourism system is complex because tourism is a broad field of socio-economic activity that covers not only activities related to the fulfilment of tourist destinations but also the whole service business (transport, insurance, health care, financial and other services). There is no other industry that covers such a diversity of different sectors, so the tourism sector cannot be compared to either industry or trade (Nordin, 2003). The tourism industry combines tourist accommodation, transportation, catering, information, management, training, travel and entertainment services. The sector is therefore made up of players – suppliers, distributors and intermediaries – whose vertical and horizontal integration can bring added value and achieve synergies. Business plays a key role in the tourism system by providing tourists with tourism products and services to meet consumer needs.

Tourism development is related to tourism planning and tourism policy-making as well as the increasing flow of inbound tourists. Tourism development can be seen as the evolution of tourism over time. Tourism development can also be understood by the destination (local,

regional, national). The development of tourism is reflected in the development of local infrastructure and the provision of services to attract and meet the needs of tourists. This development requires strategic political and economic planning and decision-making, both in the public and private sectors (Lomine, 2007). The government of the country plays an important role in developing tourism policy in the development of tourism. Ways of manifesting the role of government in tourism (Holloway, 2006): planning and facilitating tourism, including providing financial and other resources; supervision and control of tourism sector components; direct ownership and management of components in the tourism sector; support for tourism in times of financial crisis.

3. COMPARATIVE ANALYSIS OF TOURISM SECTOR IN THE BALTIC STATES

In order to analyse the tourism sector in the Baltic States, a comparative statistical quantitative research and descriptive method is used. Statistics and changes are presented graphically, grouped by individual periods and groups of indicators.

The analysis is based on the Baltic States, because the states are located in one geographical area by the Baltic Sea, belong to the Northern European region and are similar in terms of economic development, population and territorial size. Awareness of the Baltic States, orientation towards foreign markets, quality of services, active niche tourism and more are increasing which creates the preconditions for the growth of the tourism sector.

According to the 2019 World Report on Sustainable Development, in terms of countries' compliance with the 17 Principles of Sustainable Development, Estonia has a regional average of 77.7 points and a global average of 80.2 points, Latvia's 77.7 and 77.1 and Lithuania 77.7 and 75.1 respectively.

In total EU tourism structure (1 258 511 thousands), Estonia and Lithuania occupy 0.36%, Latvia 0.33% of comparative weight. Number of arriving tourists unevenly changed compared to the previous periods (Figure 2.5). In 2014, as compared to 2013, a decrease in tourist flows in all countries is observed, in the following period growth from 6.6% in Estonia and up to 9.3% in Latvia. In 2017, the biggest change in tourist flow is in Latvia, reaching as much as 13%. In 2018 compared to 2017, 10% growth in Lithuania and negative results in Estonia. The Baltic

States are relatively small in size, strongly influenced by climatic conditions, seasonality, and therefore tourist flow is uneven.

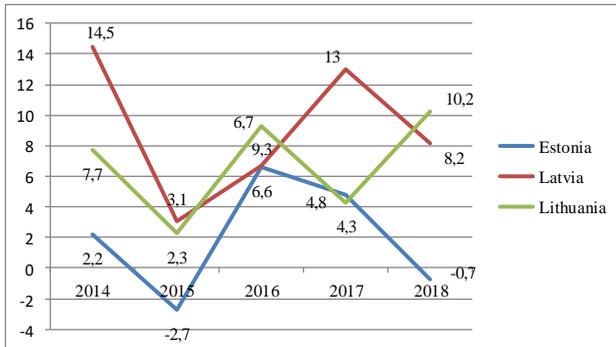


Figure 2.5 Arrivals of residents/non-residents at tourist accommodation establishments (percentage change)

Source: <https://ec.europa.eu>

Comparing the ratio of short and long trips (Figure 2.6), it can be noticed that in 2017, in Lithuania they accounted 39.3% of all trips, in Latvia 23.12% and in Estonia 21.4%.

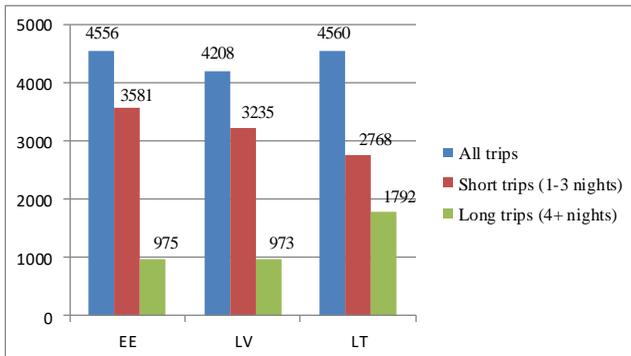


Figure 2.6 Tourism trips of residents (age 15 years or more), 2017 (thousands)

Source: <https://ec.europa.eu>

The number of overnight stays by residents/non-residents in tourism accommodation establishments in the period 2012-2018 tended to increase in all Baltic States (Figure 2.7). Latvia has the highest growth rate of 25.36% or 616K units in 2016 compared to 2012, in 2017 compared to 2016 growth was 11.89% or 362K units. In 2018, the number increased by almost 10%. In Estonia, there is a consistent decline in both domestic and inbound tourism overnight stays, with the largest increase in Lithuania in 2012/2016 reaching 22.13% or 593K units. It can be said that the tourism sector in the Baltic States is showing positive development results.

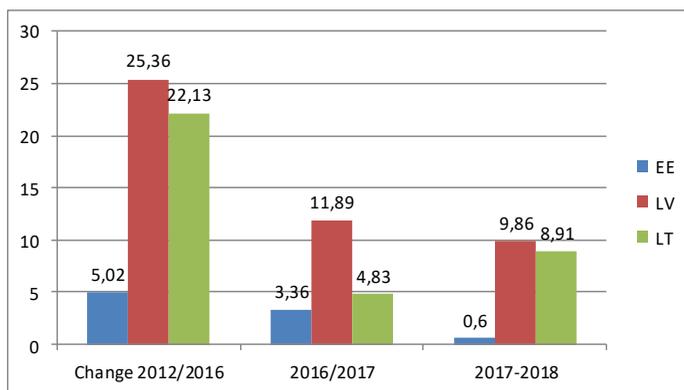


Figure 2.7 Nights spent at tourist accommodation establishments by residents/non-residents (percentage change)

Source: <https://ec.europa.eu>

The change in the number of residents/non-residents arriving at tourist accommodation establishments is presented in Figure 2.8. During the analysed period the biggest decrease was observed in Estonia, where in 2018 the number of arrivals decreased by 0.72% or 15,612 individuals. The biggest changes are observed in the Latvian state, where in 2012-2016 over the period, the change was 43.54% or 477, 358 more arrivals. Although growth rates have declined, the number of arrivals has increased with each period. In Lithuania in 2016, compared to 2017, 4.34% growth was observed and 10.16% in 2018 or in other words, 160,932 more people arrived than in 2017.

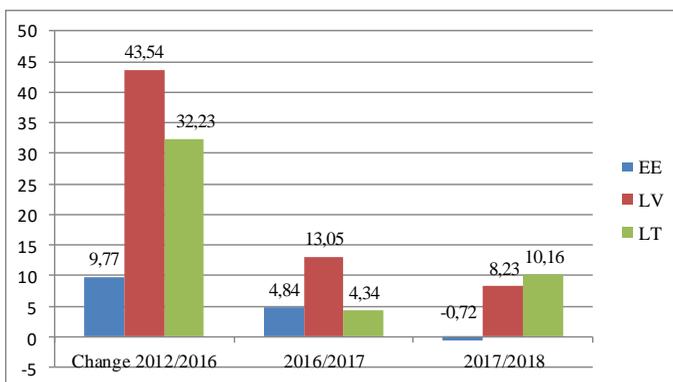


Figure 2.8 Arrivals of residents/non-residents at tourist accommodation establishments (percentage change)

It can be said that more and more people are discovering the Baltic States, are interested in their cultural sites, famous people, and access to high quality services at relatively lower prices and more long-distance tourists (China, USA, Japan, Israel, etc.) find out about Baltic States during one trip to countries they try to visit.

When analysing the number of arrivals by purpose of arrival, it is observed that most of it is for personal purposes (Table 2.5), i.e. leisure travel, recreation, vacation, visiting relatives and friends, shopping, home ownership and more. In Estonia the number has increased by about 20% in 6 years, in Lithuania – 5.39%, in Latvia – 3.61% decrease.

Table 2.5

Participation in tourism for private purposes
(percentage of tourists in total population)

	2012	2016	2017	2018
Estonia	60,58	68,72	67,7	79,48
Latvia	61,46	58,98	57,72	57,85
Lithuania	51,94	57,29	57,68	57,33

Economically, the revenue-to-expenditure ratio in individual countries is important. Figure 2.9 shows the revenue/expenditure balance for 2012/2017 by country. The positive balance observed throughout the period under review, which influences the growth of

countries' GDP (gross domestic product), creates the conditions for the creation of new jobs and promotes the competitiveness of the country on a global scale.

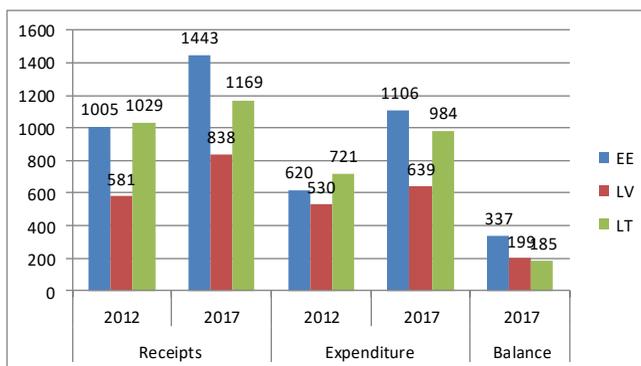


Figure 2.9 Travel receipts and expenditure in balance of payments, 2012-2017 (million EUR)

2017 data shows that in Lithuania, compared to the preliminary data of Estonian and Latvian banks, incoming tourism revenue grew the fastest (9.7%, while in Estonia over the same period it increased by 8.9%, in Latvia +0.8%) (source: www.tourism.lt).

Although the Baltic States collectively represent only a few percent of the total tourist arrivals in the overall context of the EU tourism sector, the geographical location is not particularly favourable for tourism due to seasonality, but the statistics show that positive and rapid changes are taking place in the tourism sector, all analysed countries have a positive income and expenditure balance, an increase in arrivals, travel and overnight stays, observed an increasing in inbound flows, an increasing the number of trips and overnight stays, which in turn leads to an increasing contribution to the GDP of the countries working in the tourism sector.

CONCLUSIONS

1. Researchers emphasize that tourism should be viewed as a system of interdependent activities. The structure of a system is made up of elements which, by interacting interchangeably, produce content specific to that system. The tourism system is complex because tourism

is a broad field of socio-economic activity that covers not only activities related to the fulfilment of tourist destinations but also the whole service business (transport, insurance, health care, financial and other services). There is no other industry that covers such a diversity of different sectors, so the tourism sector cannot be compared to either industry or trade.

2. A comparative analysis of statistical data shows that tourist flows increased most in Latvia during the analysed period, while short/long travel ratios were highest in Lithuania. The overall growth trend of the tourism sector is observed with travel on local routes and with the arrival of tourists from distant countries. The largest increase in revenue from the tourism services sector in the period under review was in Lithuania, but all Baltic countries have a positive income/expenditure balance.

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**CAPITAL STRUCTURE OF
SME SECTOR AND THE
STRATEGIC DEVELOPMENT**

Introduction

Nowadays, every business has to make a successful and sustainable operational strategy in this economic and social environment. The business needs financial sources to realize their strategies with this, which can maximize the profitability. The purpose of the research is to get to know that factors, which are determining the profitability and have an effect on equity and long-term and short-term liabilities. When choosing this theme, we basically assumed that the creation of an optimal capital structure (through increasing profitability and efficiency) able to increase the profit, furthermore, besides the strategic/investment decisions of the examined companies, the financing decisions also have a prominent role to play in gaining a competitive edge in the global market, as they determine the success of the company and the basis for its survival. The research analyzes the annual report of 38 Croatian companies between 2014 and 2017, which were continuously operating throughout the period and belonged to the SME sector. When making financing decisions, taking the risk-yield-liquidity relation into

consideration, company leaders have to aim at developing such a capital structure that contributes the most to increasing company value. The present study looks at the relationship between yield, that is, profitability and capital structure. We seek to answer the question whether capital structure choice has an effect on the profitability of businesses, and, if yes, what the direction and the extent of this relationship is. In this article, we analyse the development of equity, current and non-current liabilities and liquidity.

Literature review

The relationship of capital structure and profitability is specific compared to other influencing factors, profitability can be interpreted as an independent and a dependent variable in the system of relationship between the two factors. Firstly, the better the company's self-financing capacity, the easier it can take out loans and on more favourable terms. Secondly, debt financing can increase equity yields in case the expected return on external sources is lower than the total assets earnings power (Borszéli, 2008).

Studies on the relationship between profitability and capital structure usually looked at profitability as an independent variable, but the results are not consistent. On the basis of the capital structure choice theory, it can be assumed that there is a positive relationship between profitability and leverage, i.e. high profits encourage companies to take out loans in order to use the opportunity of tax saving through the taxable income reducing effect of interests. (Illés et al., 2011) From another perspective, based on the hierarchy theory, the relationship is negative since businesses prefer to use their own resources, retained profit and only turn to external resources when they have exhausted their own. Therefore, less profitable, volatile and lower cash flow businesses, in hopes of positive net present value investments, are more likely to rely on funding from external resources in their resource structure (Baloghné-Mundaca, 2015). This theory is proved by Rajan és Zingales (1995), Revoltella (1998), Hirota (1999), Krénusz (2005), Balla (2006), Szemán (2008), Katits és Szemán (2016). The same was studied by Szűcs (2015) using a sample of automotive businesses and he found that businesses with high profitability use a lower ration of debt financing in their resource structure, mostly in the form of current liabilities.

There are also examples of looking at profitability as a dependent variable, i.e. how the development of capital structure affects profitability. In his study on agribusinesses Borszéli (2008) saw

improvements in total capital and equity profitability as a result of another fundraising. Berger and Bonaccorsi di Patti (2006) showed that a 1 percentage point decrease in equity ratio results in a 16 percentage point increase in the company's profitability. Herczeg (2009), who also studied the relationship of capital structure and profitability using an agribusiness sample, found that liability structure ratios have a significant effect on profitability and his calculations proved that there is a debt-to-equity ratio which can show whether a company operates efficiently or it is loss-making.

Methodology

The 2014-2017 report data on Croatian SMEs used for capital structure analysis was provided by the Bureau van Dijk (BvD) Orbis database, which has data about more than 310 million companies from over 200 countries worldwide. In this article we analyzed from the 21 national economy section data only the "Accounting, bookkeeping and auditing activities", which companies used in the NACE Rev. 2 adjusted to the EU statistical categories, was dealt with at the first, the highest level.

To ensure the comparability of data, out of the ~18.000 companies continuously operating as SMEs in the total examined period, 1000 businesses were selected randomly. During data retrieval public and municipal enterprises, as well as companies with consolidated accounts were excluded.

It is a general characteristic that business profitability differs from industry to industry; therefore, it is necessary to examine capital structure, profitability, liquidity and efficiency indicators and their relationship by industry (based on NACE Revision 2). In the present study the development of different indicators is analysed for the entire sample, however, correlational analysis is only done regarding the businesses in the Accounting, bookkeeping and auditing activities NACE Rev. 2 national economy section [M].

The relationship between factors determining capital structure and profitability indicators were established using correlational analysis which shows the existence and the strength of the relationship. The indicators needed for the analysis were produced taking into account the main items on the balance sheet. With regression analysis examined quantitative relationships, the regularity of the relationship being described by regression. Our profitability analysis looks at return on equity – ROE (earnings after tax/equity), return on assets – ROA

(earnings after tax/total asset), and return on sales – ROS (earnings before tax/gross sales) indicators.

The changes in the capital structure in the study are investigated using leverage (external capital/equity), liabilities ratio (non-current liabilities/total liabilities), equity-share capital ratio (equity/share capital) and equity ratio (equity/total liabilities) indicators. The standard of management is shown by analysing the relationships of certain items of assets and liabilities recorded in the balance sheet for the financial year.

Assessing the liquidity situation means comparing businesses' liquid assets and current liabilities, which helps assess whether the business will be able to fulfil its obligations. (Németh-Gyurcsik, 2019) The analysis assesses the liquidity ratio (total current assets/current liabilities) and the cash ratio (total funds/current liabilities).

Results

From the point of view of leverage it can be stated that compared to small and medium enterprises, micro businesses have the highest equity rate. Rate of leverage for small and medium enterprises is 18-27%, whereas for micro businesses the rate is 34-47%. The uniform structure of the database used for our analysis only highlights share capital and earnings after tax elements and deals with the other items on the balance sheet in aggregate; thus, we will not assess these items separately.

When studying profitability and efficiency, one of the most important groups on the liabilities side of the balance sheet is the amounts payable. If we look at current and non-current liabilities, medium enterprises rely on recognised resources as current liabilities more widely than smaller businesses. For micro and small businesses the changes in the loan and supplier debt volume are not significant, they remain nearly the same every year. In the case of medium enterprises both loans and supplier debt show a substantial increase up until 2017. The data base used for analysis only highlighted loans and supplier debt among short-term liabilities, other current liabilities are aggregated; therefore, these are not dealt with separately.

Regarding these results, in the 2014-2017 period operating surplus shows a 3.21% increase for small, a 1.87% decrease for micro, and a 125.4% decrease for medium enterprises. The distribution for reference years is volatile for micro and small businesses, while there is a steady decline in the case of medium enterprises. Years of increase in supplier liabilities may point to liquidity problems at the company. Overall, it

can be said that medium enterprises have a higher rate of current liabilities: the rates are over 40% for almost the entire examined period; whereas the rates for smaller businesses are 35% or less.

During the capital structure analysis, the size of items recognised as balance sheet assets and liabilities, and their relationships can be examined, where the changes in capital structure can lead to conclusions about the standard of management. The development of the capital structure and profitability situation can also be analysed using indicators, it has to be taken into account, however, that the changes in indicators reflect on the specific micro level economic situation of companies for all businesses.

Usually the financial strength of companies is measured by the equity ratio. From the examined enterprises average rate increased from 34.7% to 46.2% for micro enterprises, from 30.3% to 35.9% for small enterprises and from 22.1% to 27.5% in the case of medium enterprises in the period 2014-2017. Increase can only be interpreted as positive when own capital comes from the company's profit-making capabilities. With regard to effectiveness, it is also important to have as high as possible equity ratio compared to total capital, since in these cases companies are less burdened with capital expenses than in the case of using external sources. The average rate of liabilities decreased from 47.1% to 40.3% for micro, from 41.6% to 38.9% for small, and from 43.2% to 40.1% for medium enterprises.

In addition to studying capital structure, it is worth taking a look at liquidity indicators. Rate indicators determining short-term financial capacity measure creditor risks. In the circle of micro enterprises average cash rate exceeded 1 in the entire period. In 2014 and 2015 above 2 rates, moreover in 2016 and 2017 over 3 rates clearly that show companies' available funds could cover current liabilities. Besides these instruments liquidity rate in the broad sense provides full coverage of liabilities within one year.

In the case of small enterprises 2014-2015 the rate is above 1, then in 2016-2017 liquidity declines back to an average of 0.923. Notwithstanding this, liquidity rate in the broader sense covers emerging short-term liabilities in the entire period at an average rate of 5.649.

In the case of medium enterprises cash ratio in the entire examined period shows below 1 rates, which suggests that in this circle cash amounts cannot cover short-term obligations for the extended period of 4 years. However, even in this segment the current assets/current liabilities ratio reaches the minimum level of liability coverage, the

average rate for the examined period is 2.102. The liquidity rate of 1.4-1.9 confirms with general expectations, which state that the value of current assets should approximate the double of current liabilities value.

When investigating the relationship between capital structure and profitability, to ensure correct results, the variables of the correlation matrix were constructed from the average of indicators generated yearly. The magnitude and direction of the linear relationship between two given rates, and their relationship is shown by the correlational ratio, which indicates if two values are not independent of each other. The algebraic sign of the correlational ratio (r) shows the direction, whereas its magnitude shows the strength of the correlation. The value can range between -1 and 1. (Németh-Gyurcsik, 2019) In our analysis of the calculated correlation matrix, those items are highlighted in the results which are not direct consequences of their mode of generation.

Examining the capital structure indicators of the Accounting, bookkeeping and auditing activities [M] section, it can be said that non-current liabilities are in strong relationship with fixed assets (0.82) and current assets (0.79), moreover, current liabilities are also strongly related to current assets (0.97) and have a moderately strong relationship with fixed assets (0.63).

	Liquidity ratio	Cash Liquidity ratio	Fixed assets	Current assets	Shareholders funds	Non-current liabilities	Current liabilities	Operating revenue	ROE	ROA	ROS	Liabilities ratio	Equity ratio	Shareholders found-Capital ratio	Leverage	Working capital	Total Capital Profitability
Liquidity ratio	1,00																
Cash Liquidity ratio	0,75	1,00															
Fixed assets	-0,06	-0,05	1,00														
Current assets	-0,04	-0,06	0,62	1,00													
Shareholders funds	0,04	-0,01	0,51	0,66	1,00												
Non-current liabilities	-0,05	-0,06	0,82	0,79	0,47	1,00											
Current liabilities	-0,08	-0,07	0,63	0,97	0,45	0,71	1,00										
Operating revenue	-0,11	-0,07	0,53	0,94	0,56	0,69	0,92	1,00									
ROE	0,03	0,02	-0,72	-0,47	0,03	-0,53	-0,71	-0,43	1,00								
ROA	0,00	0,05	-0,08	-0,10	0,08	-0,14	-0,14	-0,06	0,21	1,00							
ROS	0,02	0,01	0,28	-0,02	0,27	0,01	-0,03	-0,03	0,03	0,16	1,00						
Liabilities ratio	0,11	0,04	0,17	-0,04	0,00	0,17	-0,06	-0,09	-0,02	-0,25	0,09	1,00					
Equity ratio	0,43	0,37	-0,08	-0,18	0,12	-0,20	-0,24	-0,21	0,14	0,29	0,12	-0,27	1,00				
Shareholders found-Capital ratio	0,17	0,03	0,08	0,31	0,43	0,03	0,24	0,37	0,04	0,22	0,06	-0,12	0,27	1,00			
Leverage	-0,03	-0,03	0,71	0,48	-0,03	0,53	0,74	0,44	-0,99	-0,19	-0,03	0,02	-0,15	-0,04	1,00		
Working capital	-0,05	-0,08	0,63	0,95	0,53	0,72	0,92	0,89	-0,61	-0,14	-0,02	-0,04	-0,21	0,24	0,62	1,00	
Total Capital Profitability	-0,02	0,04	-0,10	-0,12	0,05	-0,15	-0,16	-0,07	0,21	0,97	0,14	-0,23	0,25	0,21	-0,19	-0,16	1,00

Figure 2.10 Accounting, bookkeeping and auditing activities [M] section correlations

Source: own compilation

Operating revenue has a strong positive relationship with stocks (0.94) and short-term liabilities (0.92), and shares a moderately strong relationship with fixed assets (0.53), equity (0.56) as well as long-term liabilities (0.69). The strongest relationship can be observed in the correlation between turnover and stocks, which in the case of turnover growth can be explained by the faster reaction times than for current and fixed assets. Working capital also shares a strong positive relationship with turnover (0.89), and current liabilities (0.92), as well as current assets (0.95).

Leverage ratio has a strong negative relationship with return on equity (ROE) (-0.99), and a moderately strong positive relationship with fixed assets (0.71), non-current liabilities (0.53), and current liabilities (0.74). No correlation (-0.11) was found between liquidity and turnover indicators in the examined sample. Among profitability indicators there is a strong positive relationship between return on total capital and return on assets (ROA) (0.97).

The analysis of indicators and the results of the correlation matrix statistically prove that there is a relationship between capital structure and profitability indicators characterising company management. Return on equity showed a moderately strong negative relationship with fixed assets (-0.72), and current liabilities (-0.71) as well as long-term liabilities (-0.53). Return on sales shows a weak positive relationship with fixed assets (0.28) and equity (0.27).

Conclusion

To make the appropriate decisions, company leaders need to be well-informed about their enterprise. This way they can develop a capital structure that affects company profitability and operational efficiency positively.

Based on correlation analysis, the relationship between capital structure choice and profitability indicators describing company management can be justified.

In connection with the liability structure rate of businesses by SME sector size it can be stated that the bigger the enterprise, the higher the annual increase of equity within total capital.

Leverage shows a negative relationship with the return on equity indicator. The growth of external capital rate is linked with a decrease in earnings after tax since the reducing effect of interest rate payable is reflected in the value of taxed earnings. The analysis of the components of the results has shown that company profitability is mainly determined

by the operational activity. In this result category in the examined period companies have remained profit-making, albeit at differing degrees.

Also using correlation analysis we have diagnosed the existence and strength of the relationship between determining factors of the capital structure and indicators describing it. The positive relationship between turnover and operating capital suggests a link between the chosen financing strategy and the magnitude of turnover. It deserves attention that there is a strong correlation between turnover and stocks, which entails the existence of a positive relationship with fixed costs.

Among the resources available to companies, the role of external capital is still considerable, and as it has been justified that businesses operating on less external capital have better profitability conditions than those with a higher rate of liabilities, it can be claimed that liability structure rates have a significant effect on profitability.

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Chapter 3

INNOVATION IN THE ECONOMIC SYSTEMS MANAGEMENT

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**THE ROLE OF
LOGISTICS IN
THE MODERN
ECONOMY**

Introduction

The condition for success in the modern economy is the implementation of modern technologies. Due to the very fast increase in the importance of logistics in the 21st century, the aforementioned modern technologies are, in fact, logistics technologies. This subject is very extensive and diverse.

The aim of the publication is to present logistics in its historical development and to indicate selected methods and techniques of modern logistics processes management.

Logistics and its History

From the etymological point of view, the word „logistics” derives from Greek’s *logos* meaning reason, thought and *logistykos* which is, the art of counting, and also a person thinking in accordance with logical rules.

In French *logistique* is the one, who logically thinks, whereas in Latin *logisticus* means understandable and rational.

The first definition of logistics is in the work of the Byzantine emperor Lentos VI (886-911) called *Tactica* and it concerns the payment of wages to the army, its weaponry, ranking and equipment in cannons and other war equipment [Gołembska, 2009, p. 10].

In the colloquial sense, “logistics” refers to the planning and delivery of goods necessary to meet the needs of the population (in the sphere of civilian activities) and supplies for the army in order to wage wars (in

the sphere of military operations).

Until the middle of the 20th century, logistics was associated primarily with the military. Such perception of logistics resulted from many years of tradition and various spectacular examples of military operations, the success of which was significantly supported by logistics, i.e. proper supply of the army with weapons, ammunition, necessary technical equipment, fuel, food, uniforms, medical supplies, accommodation, etc.

However – practically from the beginning of history – logistics has accompanied man in the civil sphere, as well. People have always taken actions to satisfy their needs necessary for existence – such as food, shelter and security. This required the acquisition, transport, storage and distribution of material goods and the production of technical means (tools, means of transport, objects to live, etc.) – that is, the pursuit of activities that are the subject of logistics, indeed.

From the earliest history of humanity, the manifestation of logically oriented behavior was the establishment of camps and permanent settlements near water areas: rivers, lakes and seas.

These basins constituted natural communication routes, and also provided drinking and usable water as well as a source of food (fish, shellfish, etc.).

The construction of pyramids¹ of Egyptian royal tombs erected in the period of the Old and Middle Kingdom (from around 2780 BC to around 1625 BC) – as a gigantic engineering enterprise, was one of the largest logistic operations of the ancient times.

At that time, Egypt was a country rich in stone, but it was not easy to transport the building material – especially over long distances. The problem was solved by the Egyptians, transporting heavy rock blocks (with a mass of many tons) on wooden sleds (in those times the wheel was not known), pouring water under the skids to reduce friction.

Thanks to the excellent organization of work, it was possible to build these magnificent buildings using simple technical means. It arouses admiration even today and constitutes a glorious testimony of engineering knowledge of those times, even though the creation of the pyramids was paid by the efforts of thousands of workers and the loss of many lives (according to Herod, the number of workers was about 100 thousand).

¹ *The Cheops pyramid was inscribed on the list of seven wonders of the ancient world and as the only object from this list survived until modern times.*

The scale of this enormous undertaking made a huge impression, inter alia, on Napoleon Bonaparte, who calculated that the stone used to build only three pyramids in Giza could build a wall with a height of 3.3 m surrounding whole France [Furtak].

In the third century BC another gigantic logistics operation was started in Asia, i.e. the construction of the Great Wall of China² – a fortification going from east to west, whose core was made of ground and rubble, and the upper was paved with stones or bricks. The Great Wall was to protect the Empire from the nomadic invasions of the people from the north and – in its heyday – had about 7,000 kilometers in length.

For many years, the Great Wall served its defensive role and it seemed to be an impregnable fortification. However, around 1211, the Mongol chief, Genghis Khan, invaded China and mastered the Empire for almost 100 years.

The Great Wall is considered the largest building erected by man. According to historical sources, about 3,5 million slave workers (about 70% of the then Chinese population) were employed in the construction of the Wall, and about 1 million workers lost their lives. It is estimated that 300 million m³ of materials were used for the construction of the wall, which would be enough to build 120 Cheops pyramids or a two-meter long wall along the entire length of the equator.

According to some sources, the precursor of logistics applications in the military sphere was Alexander III Macedonian (from 356 BC to 324 BC), regarded as one of the most eminent military commanders in history, who created an empire extending from Egypt to India. Alexander III appreciated the importance of the army supply logistics by introducing officers – quartermasters responsible for the baggage fleet. As part of this rolling stock, each cavalryman had a slave assigned to him on a horse and one pack horse with supplies. Such an organization meant that the soldiers were largely self-sufficient, which increased the speed and efficiency of conducting combat operations.

Antoine Henri de Jomini, a general of Napoleon's army, is considered the father of modern military logistics. In 1837, he published the work „*Précis de l'Art de la Guerre*” („Outline of martial arts”), in which he defined the concept of modern logistics as a part of military knowledge treated equally with strategy and tactics.

² In 1987 the Great Wall was inscribed on the UNESCO World Heritage List, and on 7 July 2007 it was declared one of the seven new wonders of the world.

De Jomini introduced the quartermaster function (“*marechal des logis*”) and formulated 18 duties for army commanders resulting from logistic tasks.

Jomini is considered, like Carl von Clausewitz – the most eminent theoretician of the art of the nineteenth century. After the defeat of Napoleon, Antoine de Jomini went to the Russian service and in 1830 reorganized the Russian Military Academy in St. Petersburg.

During the Second World War, an interdisciplinary team was created in the US Army to shape and develop mathematical planning models and their use to solve specific logistical tasks – such as location and supply of warehouses, transport of cargoes for the army, delineation of transport routes, etc.

In 1948, the American Association of Marketing published a definition of logistics as “movement and handling of products from places of production to places of consumption” [Gołemska, 2009, p. 10].

Published in 1961, E.W. Smykaya, D.J. Bowersax, F.H. Mossman’s *Physical Distribution Management: Logistics Problems of the Firm* is recognized as the first book about logistics.

Established in 1962, the Council of Logistics Management (CLM) defined logistics as “the process of planning and controlling the costs of flow, storage and information from sources of raw material extraction to the place of consumption of the product, according to the client’s wishes” [Gołemska, 2009, s. 10].

With regard to the sphere of civil activity, the term “logistics” was used in the USA in 1955 in the publication “*Note on the Formulation of the Theory of Logistics*” [Gołemska, 2009]. In Europe, however, the term has been used since the 1970s [Gołemska, 2009, s. 22].

The aforementioned term in Europe was disseminated at the First European Congress of the Movement of Materials in Berlin in 1974.

Nowadays, there are many expressions of the word “logistics” in the literature on the subject, some of them being so little different that they can be considered as synonyms.

At the beginning of the 1980s, logistics concepts became popular in the countries of Western Europe, with the largest contribution to the development of logistics theory and its practical applications primarily in the Federal Republic of Germany, the Netherlands and Sweden.

Modern definitions distinguish three basic aspects of logistics perception [Abt, 2001]:

1. As an integrated system of material flow (raw materials, semi-

finished products and finished products) and information flows coupled with them; the goal of such a system is to optimize the acquisition and transformation of physical goods,

2. As a philosophy of managing the processes of the flow of physical goods and information, based on the integrated, systematic recognition of these processes,

3. As an interdisciplinary field of technical, economic and it knowledge, the subject of which are determinants, regularities and phenomena of the flow of physical goods and information in the economy, as well as in its individual links.

Hans Christian Pfohl introduces three categories for defining logistics [Pfohl, 1998]:

- The flow-oriented logistics definition:

as all activities of planning, regulating, executing or controlling spatial-temporal transformation processes of materials (goods), quantitative and assortment transformation processes of materials, manipulative properties and the degree of logistic determination of goods; thanks to the coordinated implementation of these activities, the flow of goods is started, which links the delivery point with the collection point in the most efficient way possible.

- The logistics definition oriented to the product life cycle is as follows.

Society of Logistics Engineers (SOLE) formulates the definition of logistics:

as planning, control and regulatory management support activities that during the product lifetime ensure efficient use of resources and adequate effectiveness of logistic elements during all phases of the product lifetime, with the effective control over resource consumption ensured by interfering with the system at the right time.

- The service-oriented logistics definition states that:

it is the process of coordination of all intangible activities necessary to provide the service in a cost-effective manner and in accordance with the client's requirements.

The main direction of these activities includes the following three areas: minimizing the waiting time (order fulfillment), managing the service potential and providing services through the distribution channel.

In technical applications, the definitions of logistics oriented to flows of physical goods are the most widespread. Accordingly, logistics is

defined as follows:

- as a science about planning, regulating and controlling material flow systems, energy and capital information,
- as a concept (philosophy) of managing the flow processes of physical goods and information, based on an integrated systemic approach,
- as an interdisciplinary field of technical, IT and economic knowledge, examining the determinants, regularities and phenomena of the flow of physical goods and information in the economy, as well as in its individual links.

Logistics is an interdisciplinary tool operating at the interface between technology, IT and economics, integrating material and information flows in order to increase the productivity of enterprises and increase their competitiveness on the market.

Modern definitions define logistics as an interdisciplinary field (Figure 3.1), which uses methods and procedures of such scientific disciplines as planning, control and simulation – in application to material and information flow processes.

Nowadays, it is recognized that logistics is a method of managing the supply chain in the enterprise and between enterprises, including planning, implementation and control of product flow as well as information and finance flow, and finally, the management process of production and distribution companies.

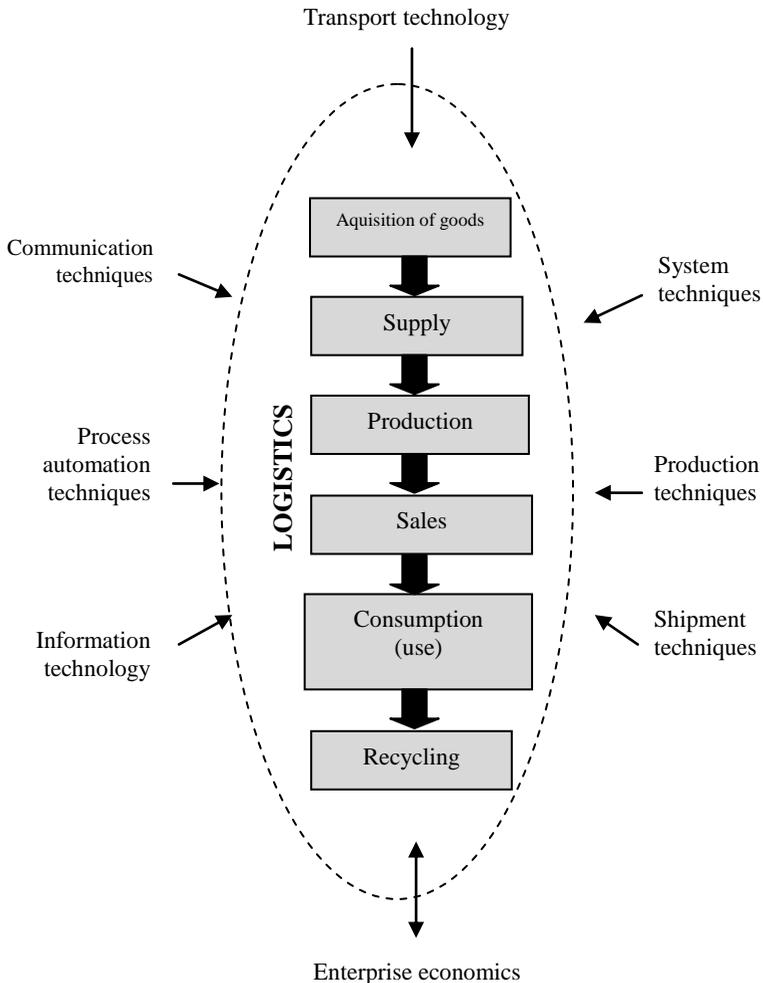
Contemporary trends and strategies of modern logistics

The success of modern companies depends on many logistic problems. These are: growing market competition, increasing customer requirements, reliability and flexibility of operation, or internationalization of enterprises.

Traditional methods are no longer enough. Therefore, the modern economy needs support from modern logistics.

Logistics as a field of knowledge is in continuous development. This development concerns the process of the flow of goods and information and the management of this flow, as well as the efficiency of its operation.

All economic entities are currently understood as specific logistic systems. Each logistics system includes flows of material goods, information and payments. In addition, more and more often, the reverse logistics is considered as an important element of the logistics system. All these processes in the logistics system intermingle.



**Figure 3.1 Interdisciplinary character of modern logistics
[Korzeń, 1995]**

In the process of implementing these various flows, appropriate logistic technologies are used. These include automatic identification systems, electronic data exchange, IT systems or telecommunications technologies and the Internet.

Today, logistic technologies are used in almost every area of the economy and most often they are a combination of many different

instruments and methods.

Logistic technologies are used both in enterprises producing material goods and in entities providing logistic services [Długosz, 2009, p. 15]. In any case, it is about optimal customer service in accordance with the “7R” principle [Szymonik, Nowak, 2018, p. 49]: right product, right quantity, right quality, right time, right place, right information and right cost.

Modern logistics, thanks to the wide use of the latest information and telecommunication technologies, ensures more and more efficient and effective supply chain management.

This management includes information gathering and processing technology, i.e. databases, cooperation between partners covered by the supply chain and agent technology enabling automation of business activities. In addition, Enterprise Information Systems (EIS) [Kawa, Wierzyński, 2006, p. 50-78] make it easier for managers to make decisions in terms of reducing costs and increasing revenues in order to effectively manage a company.

At the end of the 20th century, as a result of the evolution of the existing IT systems, an ERP (*Enterprise Resource Planning*) system was created. It supports business management in the areas of planning, production and distribution, and enables an immediate response to changes in demand under the influence of market conditions and restrictions along with comprehensive financial analysis.

The most technically advanced are the Supply Chain Management (SCM) systems [Adamczewski, 2001, p. 186] including a set of methodologies for the implementation of procurement, production and sales processes ensuring maximization of profit by optimizing prices and maintaining the level of stocks ensuring the continuity of logistics processes.

Dynamic company management is possible thanks to the use of automatic identification (AI) systems [Szymczak, 2011, p. 160] using a bar code, Radio Frequency Identification (RFID), magnetic stripe, Optical Character Recognition (OCR), vision systems and voice solution.

Along with the rapid development of the Internet in the current century, there is a widespread electronic data exchange enabling the retrieval and processing of information in a simple, fast and secure way.

Electronic data exchange, identified with Electronic Data Interchange (EDI) systems is a form of data and information exchange between business partners' IT systems.

Currently, electronic data exchange is based on eXtensible Markup

Language (XML) [Długosz, 2009, p. 115] and on the various applications created on the basis of this language [Długosz, 2009, p. 115].

The continuous dynamics of the business environment and the merging of the local and global economy have resulted in the emergence of so-called network services involving communication between information systems.

Modern enterprises use mobile technological solutions that enable managing an economic entity or a logistics chain from anywhere in the world. All thanks to the wireless communication systems.

Examples of such systems used in logistics are GSM-standard cellular telephony or GPS satellite navigation, inter alia, to the location of means of transport or goods, as well as the processing of voice signals into the digital form in an analog-to-digital converter [Wesołowski, 2003, p. 263].

Modern logistics also uses very complex and diversified technologies in particular branches of road, rail, air, water and combined transport [Neider, 2006, p. 130].

Moreover, technological progress also applies to warehouse solutions in a given company, e.g. automatic transport of goods through transport equipment, dynamic storage and picking, or the use of voice picking technologies.

The subject of logistics is also the packaging process, as an important element of production and distribution, including the acquisition of raw materials for packaging, their design and production, the process and the flow of packaging goods, as well as consumption of packaged goods, re-packaging and packaging waste disposal [Dudziński, 2007, p. 94].

The use of logistics in the management of waste flows resulted in the emergence of the concept of reverse logistics and green logistics associated with the use of environmentally friendly resources, not threatening the existing environment and favorable to man [Szymonik, Nowak, 2018, p. 304].

The modern logistic system, therefore, covers all production stages of material goods: from extracting raw materials, production of semi-finished products, components and products, packaging and storage, through transport and distribution with the provision of products to consumers, as well as recycling and waste management [Jacyna, 2012, p. 141].

Today's logistic services stimulate the development of regions and find a demand in all branches of the national economy in the country

and in international relations. Logistics itself becomes an interdisciplinary science about managing both the enterprise and enterprises of different countries on different continents in the global logistics chains of international business.

Conclusion

In the global economy of the 21st century, logistics is becoming more and more important. It serves to rationalize economic and social processes.

The scope of logistics management covers various spheres of enterprise functioning. These are primarily demand forecasting, planning and delivery, warehouse management, returns management, packaging, transport, information flow and gathering, as well as quality management and determination of the organization and customers' needs.

Due to the impact of the economy on the course of social processes and the functioning of the natural environment, decision problems concerning the design (operation) of the logistics system are becoming more and more important. Therefore, mathematical methods are used to find optimal solutions. They are applicable in both static and dynamic optimization.

In the first kind of optimization we are looking for fixed values of parameters that ensure the best fulfillment of the expectations. In dynamic optimization, when the functioning of a given system can be influenced, from a set of acceptable solutions, the one for which the solution evaluation index takes the optimal value is selected. For instance, in order to determine profit, the maximum of a goal function is sought, and for the loss estimation – its minimum.

In the search for optimal solutions in logistics, analytical simulation experiments, which are closely related to mathematical modeling, are used. Along with the development of mathematical programming and computer techniques, the search for optimal solutions ceases to be too difficult, and all decision-making processes in the economy become inseparable from the use of information technology during all logistics activities.

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**IMPACT OF PROGRESSIVE
INNOVATIVE TECHNOLOGIES ON
THE DEVELOPMENT OF
LOGISTICS ACTIVITIES IN THE
CONTEXT OF THE
CORONOVIRAL PANDEMIC**

There is no doubt that the COVID-19 pandemic has divided the world into “before” and “after”, both culturally and economically. Experts predict a painful and prolonged recovery for the entire world economy. However, not all segments of the market have overcome the crisis time so painfully. On the contrary, online sales are experiencing an unprecedented rise. The same trends can be observed in logistics.

We offer a detailed study of processes that serve as an impetus for the progressive development of transport and logistics system.

E-commerce offers incredible business opportunities to capitalize on the wave of growing demand from consumers interested in buying online. In support of this, we provide analytical data that is relevant to the field of online commerce around the world.

The most popular categories of products that are in greatest demand in the global online commerce are clothing and shoes, home electronics and books. Interesting is the fact that recent events in the world have intensified online trade in food, household goods, medicines and pharmacy products.

If we talk about the number of buyers who make online purchases in relation to the total number of people with access to the Internet, the following situation is typical for European countries (Figure 3.3).

As we can see, 81.5% of all online sales in Europe fall on just three countries – UK, Germany and France.

Logistics and customer service from the regions remain a weakness even for U.S. online stores, and for developing countries this is the Achilles’ heel. But the major players understand this, and, for example, online holding Alibaba plans to invest hundreds of millions of dollars in logistics and delivery services in the segment of regional customer service.

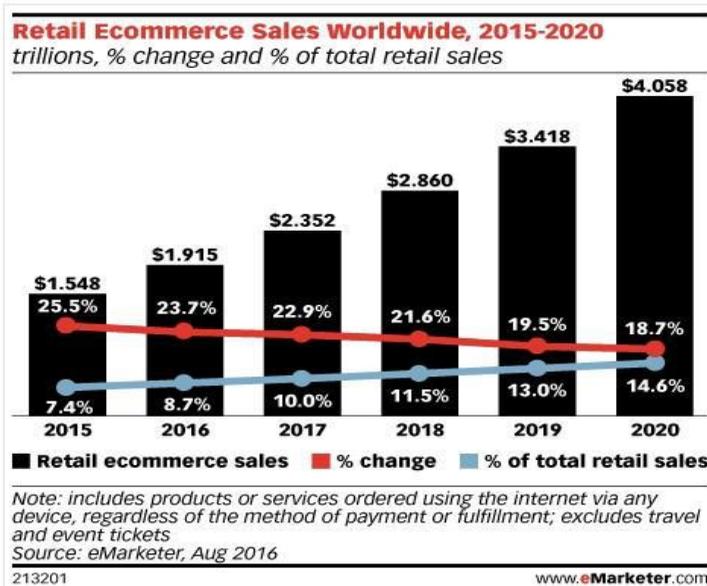


Figure 3.2 The growth dynamics of online trading in the world, 2015-2020 [1]

In the works, it is emphasized that the support of the governments of the countries for the development of the domestic transport and logistics system becomes a priority, as this industry is able to generate a significant increase in gross domestic income to the state budget and become one of the main sources of competitiveness of the state.

In turn, it is obvious that it is impossible to maintain a high level of competitiveness without financial support for the introduction of advanced innovative technologies and developments in the field of transport and logistics. It is possible to hope for a tendency of growth of inflow of domestic and foreign investments into this sphere of economy that will lead to increase of innovative and introduction activity, and also level of national competitiveness owing to optimization of expenses for logistics and improvement of quality of given services.

However, according to the author, this task should become one of the key vectors in the national development strategy.

Statistics support the fact that logistics costs in the supply chain in different countries range from 10% (USA, for example) to 20% of the country's GDP (in Russia and Singapore). The breakdown of these costs is as follows: transportation costs account for 40-55%, inventory

maintenance and storage costs for 30-40%, general administrative and management costs for up to 15%. It becomes obvious that a particularly important task is to optimize the total amount of transportation costs, without reducing the quality of logistics service [2].

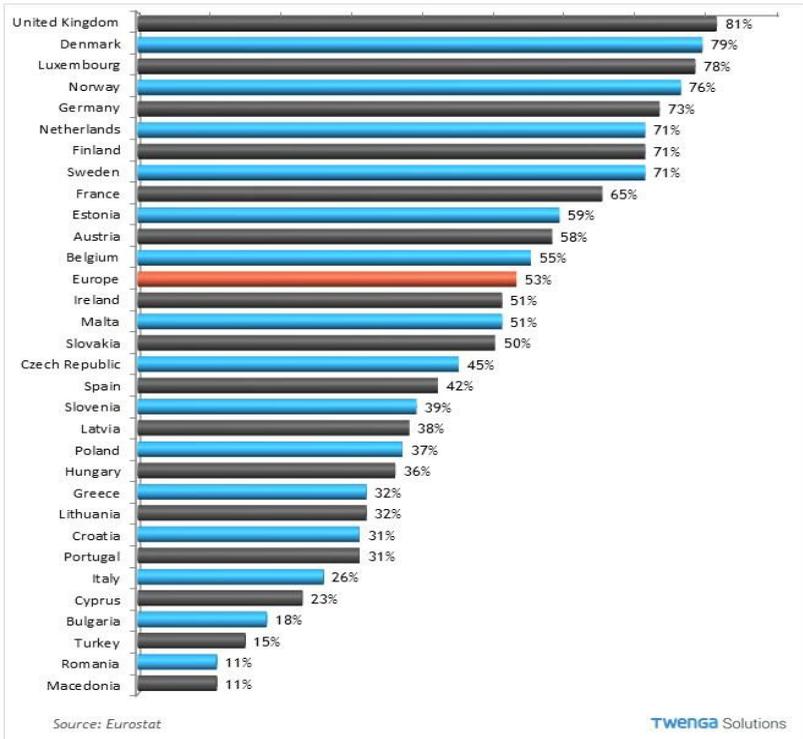


Figure 3.3 Share of online buyers in the total number of Internet users by European countries [1]

It is estimated that the information systems serving the logistic processes account for about 10-20% of all logistic costs [3, p. 118]. Effective information flow management is crucial for “right place, right time” operations and appropriate quality customer service.

In the period from 2014, the Polish economy will receive a financial injection of about 72.9 billion EUR from EU funds. These resources are allocated for the implementation of 6 national and 16 regional Cohesion Policy programs. A significant share of this funding is aimed at

increasing the overall level of business activity of business entities (including the logistics sector of the Polish economy) and intensifying investor activity.

In Poland, the Centre for Transport Projects (CEUTP) was established to implement infrastructure projects in the transport sector financed from European Union funds. The CEUTP has relative autonomy in the implementation of projects with low costs and coordinates with EU funds in the implementation of expensive financial initiatives for road transport development. It is important to note that the principles of CEUTP activity are fully constructed and harmonized with the rules of the Infrastructure and Environment Program and the transport policy of the Ministry of Infrastructure.

The CEUTP Centre provides comprehensive support to beneficiaries at every stage of their activities: from consulting with leading specialists and experts to risk and loss analysis, in-depth analysis of possible barriers that may hinder project implementation. Close bilateral cooperation is key to ensuring financial security and maximizing the leveling of risks and threats.

The European Union Transport Project Centre provides full support to road transport project participants, from the application for co-financing to signing the final agreement. In parallel, the CEUTP Centre coordinates, checks and guarantees that all key EU and Polish legislation requirements will be met in the implementation of joint projects through continuous monitoring [4, p. 8].

As noted earlier, in the functioning of the logistics industry information technology is the basis for all stages of delivery of material resources to end users without exception. Experience in optimizing logistics costs in general and transport costs, including the leading countries in the top 20 according to the World Bank's LPI rating (Logistics Performance Indicator) using innovative digital technologies can be used as a benchmark in other countries. For example, revenue and expense management with the help of the Smart Logistics Grid system in Germany can minimize the ratio between supply and return. In addition, the use of this software significantly reduces transport costs for delivery and the processing and storage of inventory. And with the PSItms transport service management system, effective planning of the logistics process with regard to the situation on the roads and analysis of available space in loading and unloading areas is achieved by integrating it with navigation data (GPS). The combined operation of the above systems with the integrated potential of PSIglobal (PSI Logistics)

integrated management and planning systems enables the integration of global supply chains into the network and their optimization. This takes into account warehouse location, distribution, coordinated planning and implementation of transport with procurement and distribution. As a result, supply chains are formed and managed as a single integrated system – the so-called integrated communication SCM (supply chain management), i.e., operational response technology and supply chain management methodology is formed [2, 5].

Implementing technological innovations in open, globally connected and intermodal transport systems operated by global carriers, logistics operators, freight forwarders, consignors, consignees and customs agencies is certainly more challenging than automating and robotizing individual Smart Factories production systems.

The globally distributed and locally distributed business partners of the Polish logistics system are now integrating and processing an increasing range of data in cloud computing, including: intelligent transport infrastructure, IoT cargo handling systems at sea and air ports, transshipment terminals or logistics centers (including sensor systems and networks), intelligent and autonomous vehicles (manned and unmanned), digital service platforms in certain modes of transport (including intermodal transport), electronic infrastructure and transport registries as well as vehicle registries, digital transport industry records.

Transport chains and delivery systems, using sensor networks and satellite navigation systems, create integrated data systems in which the route and transport conditions are precisely planned and dynamically updated in real time – according to the current state of roads and traffic along the route. Digital access to transport data in real time and an automated processing process allow for the consideration of many factors for the optimal choice of cargo, vehicle, route and traffic schedule.

Therefore, one of the most important strategic tasks of an efficient, competitive Polish logistics market is to increase the volume and scope of implementation of sensor networks and satellite navigation systems.

The dynamically growing needs for mass data exchange and processing (e.g. traffic, cargo, operations, vehicle, container/body condition and transport conditions – temperature, humidity) and for data sharing and reuse have led to the development of digital data processing services in private and public cloud computing. For transport planning and monitoring purposes, many digital service delivery models

have been developed, including SaaS (Software as a Service), PaaS (Platform as a Service), IaaS (Infrastructure as a Service) or CaaS (Communication as a Service). Increasing demand from many transport companies for similar services (tracking, delivery notification, electronic data exchange, etc.) – e.g. in sea and inland ports, logistics centers, airport centers) has led to the dynamic development of digital service platforms in SOA (service-oriented architecture), Comprehensive digital services for goods flows and transport operations (road, rail, sea and air transport), transshipment and border controls take into account the connection between the services of digital administration systems and business in Poland in particular and worldwide. They include national and international administrative procedures (including digital public services) and commercial or financial transactions in business processes. Hence, the basis for the integration of transport processes and mutual trust between partners in the digital environment is standardization and data security, unified application information technology, communication protocols, data access interfaces and digital services (using, among others, block-chain technologies to guarantee irreversibility and auditability of electronic transactions). All of the above is an important strategic vector of development of the Polish logistics system.

An important strategic point that affects the activation of international partners in the field of logistics is to ensure security, especially information security. Requirements for security, transaction reliability and data exchange in transport chains include a secure architecture for cross-border digital services, the use of access points for trans-European transport networks, and the use of information and communications technologies.

The European Union's Digital Services Infrastructure (DSI) meets the requirements of the European Parliament and the Council under eIDAS Directive 910/2014 for electronic transactions in the domestic market. The digital settlement of transactions and digital services in transport chains (including electronic fees, fuel payment, cargo handling, driver delegation, etc.) requires the integration of these systems with electronic settlement platforms, electronic payments and electronic banking operations.

Comprehensive digitization of data and information flows is particularly important with the development of international trade and trends in growing global turnover. The speed of data processing is a key factor in the growth of trade transactions. Increasing requirements for

additional services are becoming more and more noticeable: digital and service booking, operations of info-communication support, notifications of bank settlement facts on transactions, etc.

Blockchain technology is gaining popularity in this respect. Published literature analysis has revealed [6 – 8] that blockchain technology has significant potential and prospects for application in various fields of economy but the most interesting area for this technology is logistics.

Given that supply chain is a sequence of delivery points on route from the origin to destination, information on goods through decentralized records movement is rather essential. One of the most universally applicable blockchain technology performance capabilities is that it can become a successful solution for supply chains elements recording and controlling while providing entire cycle operations secure and transparent monitoring [8].

Blockchain, which is bitcoin technology core, in fact, is a very reliable and effective way of information exchange between the parties. This creates an immutable digital Transactions Ledger that is maintained by computers distributed network. This technology sharing potential, its protected from unauthorized access architecture and complete transparency make it an ideal tool for today's supply chain management methods revolutionizing.

Logistics chains often involve numerous stages and hundreds of geographical locations. Due to this, transparency in the process (goods production and transport) assurance, quality and origin of goods to the ultimate buyer (counterfeit and/or low-quality goods) guaranteeing seem extremely difficult. This issue is especially acute for the food group products, where a buyer, for example, can not in any way identify harvesting, animals and poultry culturing, fishing, etc. location and environmental conditions.

In this aspect blockchain technology introduction main advantage is synchronized audit between partners' provision and the processes in real time optimization. More importantly, blockchain increases the entire promotion chain entities trust level, as well as facilitates decision making process at every stage due to the possibility of providing one-time access to information that allows processes and actions synchronizing and anticipating.

Blockchain, even in the most basic version, into the supply chain introduction allows to ensure the following: unnecessary middlemen elimination; payment security and fraud protection; decentralization, i.e.

possibility of a logistics process entities to participate in the real-time operations monitoring: in vehicles and goods movement monitoring; in documents in the form of smart contracts completion and thus errors and fraud risks reduction; in illegal links in the supply chain eliminating: goods counterfeit, smuggling and illegal labor, etc.; traceability from the place of the origin to its final consumer; consumer's rights and health safety protection, which allows informed buying decision making.

In this respect, Maersk in association with IBM experiment result is of interest. The purpose of this experiment was research of feasibility of blockchain technology implementation when transporting one container with flowers from Kenya to Rotterdam. More than 200 interactions with documents and goods, the most important of which are signatures from three agencies for exports approval; completion of six documents confirming origin, chemical composition and quality of the product; customs formalities, etc. are required in the course of such transportation.

Main advantages of blockchain technology in logistics application are: all network participants' consistency and transparency; handling operations traceability and recording; errors in auditing and payments minimization; protection against fraud (hackers); confidence of network participants and customers increase; real-time feedback, which allows the supply chain participants to react on a timely basis and improve their operations; companies' activity scale expansion.

Along with that, bottlenecks of blockchain in modern logistics implementation should be noted. Among these are: skepticism as to innovative technologies, particularly by the traditional supply model adherents; complexity of participants' coordination and business processes standardization; high requirements for personnel qualifications.

Thus, one of the main barriers to the blockchain introduction is the lack of trained personnel, i.e. professionals who have experience in cryptocurrency area and crypto-assets consciousness. Accordingly, a company, which plans to introduce innovations in its operations, should learn more about its specific nature and analyze business in order to assess potential advantages and disadvantages. Along with this, experts note technological imperfections of the system itself, namely technical failures and hacker attacks on the data sets. It should be understood that today blockchain as an innovative technology for supply chain management introduction is rather slow due to associated risks and

skepticism of individual companies, but it is very likely will soon gain credibility, and its application will increase the industry efficiency [7].

The above arguments allow to summarize the following. Blockchain introduction guarantees huge potential cost saving benefits for the industry. Such a system can certainly reduce delivery delays and likelihood of frauds, saving billions of dollars for every transportation chain participant. According to the World Trade Organization, barriers in goods international supply chain elimination will increase global GDP by 5% and traffic total volume by 15% [8].

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**DIRECTIONS AND
CONDITIONS FOR
DEVELOPMENT OF
INNOVATION PROCESS
IN ENTERPRISES**

In the conditions of high competitive pressure and increased risk, one of the problems of the modern development of the Ukrainian economy is the solution of the problem of rapid updating of products and technologies, the collapse of industries that have lost their prospects for development. The new products complement the product range of the enterprise and give it the opportunity to compete with the products of other producers, offering consumers more than competitors, both in the variety of goods and the ways and conditions of their realization. The opportunity to realize the competitive advantages of an economic entity is increased if the enterprise has a sufficiently wide range of products, each of which is at different stages of the life cycle, the product is constantly updated. Accordingly, production capacity loading and stability of the level of profitability of the activity will be ensured almost always.

The value of innovative entrepreneurship for the development of the enterprise's activity and its functioning in the conditions of market relations in the sphere of economy is increasing, increasing the responsibility of the entities managing the enterprise for carrying out innovative activity. At the same time, the spread on domestic enterprises and the efficiency of innovation activities are reduced in the presence of a complex of problems in the field of economic theory and management, as well as in the practice of creating, developing and implementing in the production of innovative products.

There are no normatively regulated methods of accounting and economic analysis of innovative activity. Accounting reflection of business transactions related to innovation is complicated by the unsettledness in the Plan of accounts of accounting of assets, capital, liabilities and business operations of enterprises and organizations and the Instruction on its use of accounts and their correspondence on reflection of expenses, income and results of innovative activity, as well as the lack of Methodological recommendations for accounting for innovation activity. The effectiveness of assessing the results of economic analysis of innovation activity is significantly reduced in the absence of appropriate methodological developments, in particular, Methodological recommendations for determining the cost effectiveness associated with the creation of innovative products, their introduction into production.

Innovative activity of industrial enterprises is hampered by lack of financing, including state, difficulties with material resources, crisis in science, lack of information support of the system of activity management. The state policy in the sphere of innovations now is not aimed at increasing and stimulating the activity of innovative activity of enterprises both in the domestic and international markets of goods and services. However, in the world practice the scale of market commercialization of components of scientific and technological development is constantly increasing.

The complex of existing problems in the sphere of stimulation and implementation of innovation activity necessitates the strengthening of the general level of financial and economic requirements to support the implementation of research and development projects, first of all, regarding the improvement of accounting and analytical support for the management of innovation activity at the level of economic entities. There is not enough scientific research to solve the problem of creating a system of accounting and analytical support for innovative activities. The use of foreign experience without taking into account the specifics of domestic economic entities prevents increased efficiency of management of innovation activity in order to realize its technical and socio-economic effect.

The need for introduction of innovations in domestic production is constantly increasing. The most notable negative effects of extensive economic development in Ukraine include the predominance of obsolete fixed assets with high levels of wear and a high level of resource consumption of manufactured products.

Insufficient utilization of part of production capacities, use of old production technologies make inconsistency of activity of the overwhelming number of domestic enterprises in the level of labor productivity and qualitative characteristics of production tough competition requirements of world markets of goods and services. In this regard, the study of the economic nature of innovation and innovation activity is relevant.

The concept of “novation” (innovation) means a progressive novation involved in the dynamics that is new to the organizational system that accepts and uses it [7].

Innovation is the subject of research in a number of fundamental sciences. In the philosophical aspect, in particular, innovations means new knowledge and solutions to contradictions. Psychologists, above all, consider the conflicts that arise, the ways as they are resolved, and the synergistic effects achieved by teams of innovators. In the research of technical sciences, attention is paid to the technological aspect of the introduction of fundamentally new technologies. Economists, considering innovation, explore not only the process of creation and development, but also the large-scale introduction of innovation. The most comprehensive is the definition of innovation from the birth of the idea to the placing on the market, which takes into account both the objective laws of economic theory and the subjective factors that influencing on environmental innovation. Understanding the economic nature of innovative activity makes it possible to effectively use economic levers to control the development of domestic enterprises and increase the level of profitability of their activities.

The founder of innovation is the Austrian scientist Joseph A. Schumpeter (1883-1950), who first introduced into scientific circulation in the first decade of the twentieth century the concept of “innovation” as a new economic category. Also, the founders of the innovation priority in entrepreneurship are M. I. Tugan-Baranovsky, M. D. Kondratiev, G. Mensch, E. Hansen, E. Mansfield.

According to J. Schumpeter’s point of view, innovation is the main source of profit: “... profit is, in fact, the result of executing new combinations” [9, p. 44]. In the work “Economic cycles” (1939) J. Schumpeter explored the basic concepts of the theory of innovative processes, considering innovation as a change in technology and management, as new combinations of resource use. He particularly emphasized the role of the entrepreneur in the innovation process. According to his views, the entrepreneur is the link between invention

and innovation [10].

An important impetus for scientific research in the field of innovation and their role in economic development were the works of M. D. Kondratiev, whom the famous American economist P. Drucker called the economist “number one” of the XX century [11, p. 8]. Considered by M. D. Kondratiev’s large cycles of conjuncture (long waves) initiated a further study of the causes of these cycles and their duration, the most significant reason for which innovation is recognized. The ideas of M. D. Kondratiev influenced the development of J. Schumpeter’s theory.

German scientist G. Mensch tried to link the pace of economic growth and cyclicity with the emergence of basic innovations. According to him, in a situation where basic innovations are exhausting their potential, there is a situation of “technological pat” that defines stagnation in economic development [12, p. 14]. According to G. Mensch, industrial development is the transition from one technological pat to another. The scientist argued that as a result of the emergence of basic innovations, new businesses emerge, whose development cycles are quite interconnected. The production of new goods at the initial stage, as a rule, lags behind demand, and therefore is characterized by high growth rates during this period. G. Mensch linked the cyclicity of the economy with the cyclicity of innovations and the stages of development of new businesses. He pointed to the moment when production of new goods began to exceed demand. Since then, companies have been looking for entry into foreign markets, the rate of return has been falling, less and less money is being used for investments, on the contrary, capital is being channeled to financial markets. There is a time when speculative financial transactions are gigantic and the rate of return in the monetary sphere falls below the rate of return in industry, which, according to G. Mensch, means that the financial sector is ready for investment in the real sector.

Innovation is transformed into innovation as an economic benefit, primarily through the investment process. Investments that are made to bring science and technology to production and the social sphere are called innovative investments or investments in innovations. They are usually of a long-term nature and include investments in tangible and intellectual (intangible) assets, as well as financial investments. Realization of innovations causes growth of real investments as a result of opening of new resources, development of technology.

In determining the economic nature of innovation, an object-based

approach is dominant, in which innovation is regarded as the result of scientific and technological progress. However, the concept of “innovation” is broader than the concept of “new technology”, which is explained by the use of relatively new work instruments, materials, reagents and other assets used primarily in production. The concept of “innovation” extends to a new product or service, the way they are manufactured, innovations in organizational, financial, research and other fields, any improvement that provides cost savings or creates the conditions for such savings. In this case, the innovation means the transition of things to a new quality.

According to the Law of Ukraine “On Innovative Activity”, innovations are newly created (built) or improved competitive technologies, products or services, as well as organizational and technical solutions of industrial, administrative, commercial or other nature, which significantly improve the structure and quality of production and social sphere [7]. Thus, the legislative definition of innovation covers the fields of production, trade, construction and all kinds of services, including the social sphere.

The most comprehensive approach is to consider innovation as a result of scientific and technological progress. Yes, according to prof. M. D. Korinko, innovative activity is oriented on market relations, which leads to clarification of concepts of “scientific and technological progress” and “scientific and technological development”, in which the category of “innovation” is the main driving element. Innovations are novations using the advances in scientific and technological progress that ensure the recovery of fixed assets, optimal consumption of resources, energy conservation in the introduction of new technologies and have an impact on improving the economic performance of business entities. The economic essence of innovation is manifested in the making a profit and competitiveness increasing of the enterprise. Unlike the developed countries of the world, Ukraine still remains a state where extensive type of economic development is maintained, which characterizes the irrational use of natural resource potential [6, p. 149-154]. The approach to considering innovation as a result of scientific and technological progress determines their clear orientation to the end result of applied nature, which provides a certain technical and socio-economic effect of innovation activity. In their development (lifecycle), innovations change forms, moving from idea to implementation. The progress of the innovation process is due to the complex interaction of many factors.

The most important feature of innovation is the novelty of consumer properties that obtained as a result of its implementation. Innovation means not only the introduction of a new product to the market, but also a number of other innovations: new or improved types of products (product innovations), new or improved services (service innovations), new or improved production processes and technologies (process and technological innovations); changed social relations at the enterprise (social and personnel innovations).

A purposeful system of measures for the development, implementation, assimilation, production, diffusion and commercialization of innovations is called innovation activity. In its content, such activity is the basis of the concept of entrepreneurship as a special economic category, since the introduction of innovations contributes to the creation of qualitatively new market demand, increase of economic activity of economic entities, growth of income. Innovative activity is one of form of investment activity and is carried out in order to implement the achievements of scientific and technological progress in the industrial and social spheres. Herewith innovative activities include the following areas: production and dissemination of fundamentally new types of equipment and technologies; implementation of long-term scientific and technical programs with long payback periods of cost; financing of basic research to achieve qualitative changes in productive forces; development and implementation of new resource-saving technologies designed to improve the social and environmental environment.

In world practice, the transfer of high technology from the field of fundamental science to production is due to the use of entrepreneurial structures such as technoparks and technopoles, in which scientific and training centers and knowledge-intensive firms are concentrate. The corresponding state support to the functioning and development of fundamental science, the formation of the market of innovative services should contribute to the increasing of economic growth and increase of the population's well-being.

Generalization of existing approaches to defining the category of "innovation" has allowed to establish that during the organization of accounting and analysis of innovation activity of enterprises it is advisable to understand by innovation the set of measures aimed at the use and commercialization of the results of research and development and the appearance on the market of new competitive products or services. The concept of "innovative activity", which herewith emerges,

with the legal definition proposed to be interpreted as a process aimed at finding opportunities to intensify production and meet public needs in competitive goods and services based on the use of scientific, technical and intellectual potential), taking into account the change of tasks and principles of innovation activity in the economic environment and the economic basis for the creation and use of an innovative product – technical and socio-economic effect. Innovative activity of industrial enterprises is constrained by lack of funds, difficulties with material resources, crisis conditions in science, insufficient state financial support.

However, in the context of market relations in the sphere of economy and the need to become a modern model of economic growth, it is necessary to increase innovation activity. The solution to the issue of providing an effective mechanism for implementation of innovations requires building an effective economic system at the level of enterprise as the main subjects of innovation activity. The tasks of rapid updating of types of products and technology, the collapse of productions that have lost perspective in the face of high competitive pressure and increased risk come to the fore before the management of enterprises. New products (innovation) add to the product range of the enterprise and create opportunities for competition with the products of other producers, offering consumers a more diverse range of products, better ways and conditions of their sale. The production of various by purpose and fields of use of goods allows for a stable profit from the sale of different goods when changing the structure of consumer demand. Innovation is one of the factors that reduce cost, price, and therefore increase profits and the level of quality for products. Therefore, it is necessary for enterprises to develop and implement innovations to enable them to realize their own competitive advantages in the market of goods and services.

In order to ensure effective management of innovative activity, which covers different spheres of activity of the enterprise (capital investment, material and technical, energy, technical support, environmental protection), functions of accounting and economic analysis in their interdependence and connection with other management functions should form an unbroken management cycle in space and time, to be subordinate to the goals of a system of managing such activities to ensure technical and socio-economic effect of innovation.

The study of directions and conditions for the development of the innovation process at domestic enterprises, taking into account the

existing scientific achievements in this field, allowed to do the following conclusions.

For entering of Ukraine on equal terms in the world economic system, it is necessary to form an innovative model of economic development. Achieving the technical and socio-economic effect of innovation involves the need to deepen the convergence process of directions of technological and economic research.

The term “innovation activity” encompasses a process aimed at finding opportunities to intensify production and meet public needs for competitive goods and services based on the use of scientific, technical and intellectual potential), which takes into account the change in the objectives and principles of innovation activity in the economic environment and such economic basis of creation and use of an innovative product as a technical and socio-economic effect.

Ensuring an effective mechanism for innovation activity managing requires the organization of an effective system of management at the enterprise level as subjects of innovation activity, which can be achieved by: 1) implementation at the state level of targeted measures that can create economic opportunities as a precondition for the formation of mechanisms that stimulating innovative activity, in particular, the growth of financial allocations to the field of science and innovation activity; 2) development of the mechanism of interaction of economic entities, which will ensure the achievement of competitive advantages through active innovation activity.

Disregard of accounting and analytical support for innovative activity is caused by the underdevelopment of scientific research in the field of accounting and economic analysis of such activity. Such activity covers various spheres of activity of the enterprise (capital investment, material and technical, energy, technical support, ecological protection). Accordingly, scientific research in the field of accounting and analysis should be directed to substantiate the possibility of appropriate integration into the management process of functions of accounting and economic analysis in their interdependence and interrelation with other management functions.

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**INNOVATIOS IN
DOCUMENTATION
ON THE
FUNCTIONING OF
THE COMPANIES IN
SLOVAKIA**

Financial audit, as one of the essential indicators of the behavior and reporting of companies' results, is the systematic and independent acquisition and evaluation of evidence of allegations related to economic transactions and events, to determine whether activities in a given area and related results are consistent with the intended intentions and to determine the degree of consistency between the predetermined criteria and the claims, also whether these intentions are implemented effectively and are suitable for achieving the objectives. (Žák, 2012, p. 92)

In Slovakia, the financial audit is regulated by Act no. 423/2015 Coll. Act on Statutory Audit and on Amendments to Act no. 431/2002 Coll. on Accounting as amended and in accordance with International Standards on Auditing (ISA).

Financial auditors are required to have audited financial statements of the following entities: cooperative, stock company, simple joint stock company, limited liability company, public limited company and limited partnership, which on the date on which the financial statements are prepared and for the immediately preceding accounting periods at least two of the following conditions:

1. the total amount of assets exceeds EUR 2 000 000,
2. the net turnover exceeded EUR 4 000 000,

3. the average recalculated number of employees in the accounting period exceeded 30.

In addition to business entities, self-government entities, ie municipalities, cities, higher territorial units.

The financial audit is performed by an auditor who has obtained a license, which is issued by the Office for the Supervision of Audit Performance.

Each financial audit is performed in accordance with International Standards on Auditing (ISA). ISA defines audit procedures.

1. Audit procedures

Audit procedures are the auditor's procedures aimed at obtaining financial information about the relationships between financial and non-financial data that are contained directly or indirectly in the financial statements.

The auditor's objective is to design and perform audit procedures to obtain sufficient appropriate audit evidence to enable him to reach the appropriate conclusions, which are the basis for the auditor's opinion.

Overall, audit procedures can be divided in terms of time, but also in terms of the objective of the audit into:

- audit procedures related to the complex knowledge of the client by the auditor,
- audit procedures related to audit planning, audit procedures related to the actual performance of the audit,
- audit procedures related to the completion of the audit and the submission of the auditor's report (Kareš, 2014, p. 11).

Ad a) Audit procedures related to the complex knowledge of the client by the auditor

In addition to the findings of the overall audit risk, knowing the entity and its environment is one of the necessary prerequisites for conducting an audit in accordance with International Standards on Auditing (ISAs). The reference framework expresses the nature and level of knowledge, plans the audit and also expresses his professional judgment about the risk assessment of material misstatements in the financial statements, and also responds to the risks throughout the audit (eg considers the appropriateness of accounting policies used, their proper transformation into financial statements, it examines specific

areas such as the entity 's related party transactions, it may also analyze trends to be used in performing analytical procedures, it suggests and performs additional audit procedures to reduce audit risk to an acceptable low level, the reference framework also evaluates the adequacy and appropriateness of the audit evidence obtained).

The main source of information – internal – is the management of the audited organization, because it can inform about expected events and various problems that are or may occur in the organization. The other sources of information could be the external sources, which also contribute to a better knowledge of the audited organization.

Client knowledge issues are addressed in ISA 315. According to the auditor, the auditor is required to perform:

- Obtaining of the information from management and others in the entity. Obtaining information from others explains to the auditor how the financial statements have been prepared, the effectiveness of the entity's internal control, suspicions of fraud, or future trends in the organization.
- Implementation of the analytical procedures – these help to identify extraordinary transactions that have an impact on the financial statements and thus on the audit.

Ad b) Audit procedures related to audit planning

Audit planning is the creation of an overall audit strategy – that is, the sequence of steps for a particular engagement and the development of an audit plan to reduce audit risk to an acceptably low level. Audit planning takes place throughout the audit, but begins shortly after the auditor's appointment. (Kareš, 2014, p. 16).

The auditor should develop and document a comprehensive audit plan describing the expected scope and management of the audit. As the comprehensive audit plan should be sufficiently detailed to guide the preparation of the audit program, its form and content will vary with the size of the entity, the complexity of the audit, and the specific methods and techniques the auditor will use in the audit. (Kareš, 2010, p. 101).

The audit plan includes:

- a description of the nature of the planned work and the procedures for assessing the risks of material misstatement (in accordance with ISA 315) and their scope and timing,
- a description of the nature of the additional audit procedures for each significant transaction, timing and extent (in accordance with ISA

330), this plan reflects the auditor's decision as to whether to test the operating effectiveness of controls, timing and extent of procedures,

- the audit procedures that must be performed on the engagement to meet the requirements of International Standards (ISA).

Ad c) Audit procedures related to the actual performance of the audit

The primary objective of an audit of financial statements, that is, the financial statements, is to enable the auditor to express an opinion on whether the financial statements have been prepared in all material respects in accordance with the applicable financial reporting framework and whether the annual report is consistent with the financial statements. Techniques that are designed to measure the overall accuracy of financial data are collectively referred to as analytical procedures. They are used for the following reasons:

- to assist the auditor in planning the nature and extent of audit procedures,

- represent substantive procedures to obtain evidence of specific assertions in relation to the state of the accounts,

- for the overall verification of the accounting information in the final examination of the audit results.

So we can talk about analytical procedures:

- in planning, this involves knowing and understanding the entity and identifying areas, where audit risks may occur,

- used as substantive procedures (substantive procedures) – here the aim is to reveal material inaccuracies at the level of assertions, which include tests of details of individual types of transactions, account balances and information. The auditor may use substantive analytical procedures instead of detailed verification of items, or a combination of both, ie detailed verification and substantive analytical procedures, depending on the auditor's decision, which is also influenced by the nature, availability and reliability, accuracy and accuracy of the data. Deviations from the expected condition, with the auditor considering which deviation to accept.

Ad d) Audit procedures related to the completion and submission of the auditor's report

The final stage of the audit is a summary of the conclusions in order

to document the adequacy of the audit work performed and the appropriateness of the conclusions reached. Prior to issuing the auditor's report, the auditor should, based on the assessment of the audit documentation, ensure that he / she has obtained sufficient appropriate audit evidence to support the conclusions reached and to issue the auditor's report (Kareš, 2004, p. 28).

Thus, the auditor's objective at this stage is to decide:

- whether the identification of risks of material misstatement at the assertion level is appropriate,
- whether appropriate and sufficient evidence has been obtained to reduce the risks of material misstatement of the financial statements.

The objective at the beginning of this stage is to obtain sufficient evidence to reduce the risks of material misstatement of the financial statements. At the end of this stage, all significant findings are recorded in the contract document.

In evaluating the financial statements, the auditor needs to evaluate whether the summary of the misstatements identified in the audit is significant. The auditor must also conclude, that the audit evidences, which have been obtained, are appropriate and sufficient to reduce the risk of material misstatement at the financial statement into the acceptably low level.

The resulting documents that the auditor always submits to the entity are:

- a) the auditor's report and opinion,
- b) a letter to the accounting management (Kareš, 2004, p. 106).

The auditor is obliged to base the preparation of the auditor's report on all the facts that he / she has found, while evaluating each fact found individually and at the same time in their mutual connection; the auditor should not conceal any fact that may have a significant effect on the conclusions of the auditor's report on the conduct and results of the audit (Act no. 540/2007 Coll. on Auditors).

The final step in the audit process is to evaluate the conclusions based on the audit evidences obtained and to prepare a stylized auditor's report.

The auditor's report may be of the following nature:

- a) conditional opinion
- b) rejection of the opinion
- c) negative opinion.

The nature of the auditor's report depends on the deficiencies identified in the implementation of the audit procedures.

2. Audit evidence

The acquisition of significant and credible audit evidence is considered to be a particularly important part of audit procedures to provide the auditor with reasonable final conclusions and to provide an objective basis for the auditor's opinion. Audit evidence is also defined by the International Standard on Auditing (ISA). The most common methods used to obtain evidence include:

- examination: represents the process of verifying accounting documents and their circulation, physical inspection of assets and inventories, confirming the correctness of internal and external documents and records (used to verify the existence of the items),
- observation: pays attention to the process performed by the delegate or the auditor (limited to the time period in the presence of the auditor),
- external confirmations: represent confirmations from third parties, e.g. account balances, confirmation of contractual conditions, resp. the terms of transactions that the company has established with third parties,
- recalculation: focuses on the mathematical accuracy of documents (performed electronically and manually),
- re-performance: represents the performance of controls that the auditor performs independently of the procedures and controls that were originally performed as a result of the company's internal control,
- analytical procedures: independent evaluation of financial information by analyzing the relationships between financial and non-financial data (the auditor creates his expectations of the item, which he later confronts with the reported companies),
- obtaining information: The most commonly used method of obtaining audit evidence (the auditor obtains various financial and non-financial information from stakeholders orally or in writing throughout the audit).

The amount of audit evidence required is affected by the risk of misstatement – the higher the risk, the more audit evidence it is likely to be obtained, but also the quality of that evidence – the higher the quality, the less it will be necessary.

3. Audit documentation

Documentation is the key element of any audit, it demonstrates, that

the work of the audit is satisfactory, it ensures the readiness to provide information that has appeared in the audit throughout its history, it ensures the completeness of the information. Auditors need to be able to assess the sources of information and how they are balanced. The concept of audit is inseparable from documentation that is accurate.

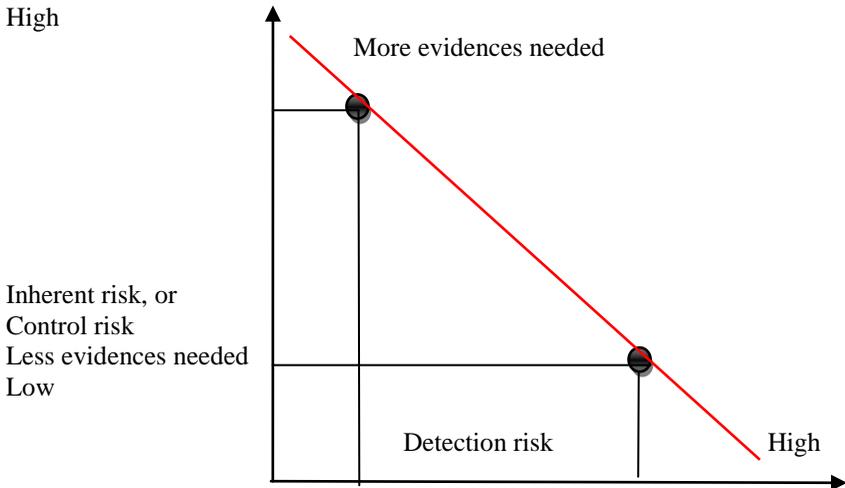


Figure 3.4 Relationship between the components of audit risk and the required audit evidence

Source: http://www.eca.europa.eu/Lists/ECADocuments/FCAM_2012/FCAM_2012_SK.pdf

The need for audit documentation is resulting from the riskiness of the audit profession.

It can be understood in the triple dimension:

- 1) as an activity connected with the fixation of relevant phenomena,
- 2) as a formalized result of audit activity,
- 3) the use of these results for various purposes.

It can be said that this is the only reliable evidence, that the audit was performed at all, it is an irreplaceable argument and a permanent summary of the findings from the auditor's work.

It is the property of the auditor and enables dynamic identification of the accounting unit, operational refinement of the audit program and procedure.

The auditor and the auditing company shall keep audit

documentation on the course of the audit in accordance with International Standards on Auditing. The audit documentation also includes the contract under which the audit, the audit plan and program, the auditor's report, the separate financial statements or consolidated financial statements, the annual report or the consolidated annual report and other documents documenting the audit process are performed. (Act 540/2007 Coll. on Auditors § 20 par. 1).

Form and content of the audit documentation.

Each audit engagement is different and therefore the form and content of the audit documentation differ. The form and content are affected by the following factors:

- the nature of the contract,
- the form of the audit report,
- subject of assurance,
- conditions at the client,
- the extent of the inherent, control and detection risk,
- the need to control the work performed.

The content of the audit documentation must have evidence that:

- the audit was adequately planned, performed and controlled,
- the entity's internal control system was analyzed, which is the basis for determining the scope and nature of substantive tests,
- the audit documentation, procedures and tests obtained provide a sufficiently qualified basis for the auditor's opinion on the financial statements.

The auditor should record information in the working documentation about the planning of the audit work, the nature, timing and extent of the audit procedures performed, the results of those procedures, and the conclusions that result from the audit evidence obtained. The working documentation must contain evidence of all the auditor's judgments and considerations and of significant facts, as well as the auditor's conclusions and decisions made on their basis. (Kareš, 2004. p. 223).

The audit documentation should contain information that relates to:

- the legal status and organizational structure of the entity,
- copies or extracts from relevant legal documents, plans and contracts, information relating to the industry, legislative and economic environment in which the entity carries on its business,
- evidences related to the planning of the audit, its program and possible changes, evidences of the understanding of the accounting and internal control system, evidences of the assessment of natural and control risk and its changes, as well as evidences of the auditor's

decision on internal audit and conclusions obtained, analysis of transactions, and balances, analysis of conditions, trends and relationships, records of the nature, dates and scope of work performed,

- evidence that the work performed by members of the audit team has been managed and controlled, as well as an indication of who is responsible for carrying out the audit procedure and when,

- copies of letters concerning audit matters with the entity's management, including confirmation of the audit engagement and a letter regarding deficiencies in the internal control system,

- letters with statements, the preparation of which is the responsibility of keeping the financial statements,

- a copy of the financial statements, the auditor's report and the annual report.

In terms of the research task we performed over a period of three years, we evaluated the process of auditors' documentation. And the results are shown in Table 3.1.

Table 3.1

Evaluation of auditor's documentation for the period 2017-2019

Evaluation level	Evaluation according to the accepted scale	Together			Legal entities			Natural persons		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
D1	Auditing standards are applied correctly	33	27	51	16	17	36	17	10	10
D1/D2		22	12	0	4	7	0	18	5	0
D2	The use of auditing standards can be improved	57	31	45	6	14	19	51	17	26
D2/D3		6	3	0	1	0	0	5	3	0
D3	The auditor has serious deficiencies in the application of auditing standards	11	11	25	1	2	5	10	9	20
D3/D4		0	2	0	0	0	0	0	2	0

Table 3.1 (continued)

D4	The auditor has serious deficiencies in the application of auditing standards that require immediate resolution by the supervisory board	0	3	1	0	0	0	0	3	1
	No evaluation (did not perform practical activities)	17	8	29	1	0	0	16	8	29
	Together	146	97	151	29	40	60	117	57	91

Source: Report on audit quality assurance results for 2019

Note: The numbers in the individual columns represent the number of the checked documentations of the auditors

From the above tables, it can be stated that the most common deficiencies identified by the Commission for audit quality assurance were the following:

- the audit documentation did not contain adequate audit evidence to support the auditor's assertions, deficiencies in the identification of risks and the auditor's responses to those risks,
- shortcomings in determining the level of the significances,
- not developed or insufficiently developed the ISQC1 quality control guideline, or its non-application in the activity of the auditor,
- non-compliance with the formal and content adjustment to the Auditor's Report and the Addendum to the Report on the verification of the compliance of the Annual Report with the Audited Financial Statements,
- deficiencies in connection with the fulfillment of obligations in relation to the Slovak Chamber of Auditors (late submission of reports, delayed payment of fees),
- deficiencies in communication with the previous auditor,
- incompleteness of the auditor's internal guidelines (eg directive on protection for money laundering, archiving rules) weaknesses in audit planning and inconsistent monitoring of time, as well as the

application of the guideline on the duration of the audit and the subsequent determination of the amount of fees.

Conclusions

The quality of the financial audits performed should be at a high level, as the auditors' reports are public and they testify to the functioning of the organization. In the light of the above assessment, we see a wider field of possibilities for improvements of the audit work, so it needs to be given high attention on it and thus it can have an affect on the higher efficiency of the entire economy in the state.

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Chapter 4

FINANCIAL-CREDIT AND INVESTMENT ENSURING OF THE ECONOMIC SYSTEMS MANAGEMENT

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**THE ESSENCE AND
ROLE OF
FINANCIAL
PLANNING IN
ENTERPRISES IN
MODERN
CONDITIONS**

Today's financial management is the most complex and responsible link in the system of management of any business entity activity. The process of enterprise financial management, including financial capacity management, is carried out within the framework of the financial management mechanism. The mechanism of financial management is a system of functional elements governing the process of development and implementation of management decisions in the field of financial activity of the enterprise based on the effective use of regulatory and market mechanisms, resource, production and financial potential of the enterprise itself. It is possible to distinguish the following elements in the mechanism of financial management: state regulatory legal support of financial activity of enterprises (Legal and regulatory frameworks regulate the financial activity of enterprises, set legal "rules of the game"); market mechanism of regulation of financial activity of the enterprise (It is formed within the limits of the action of market laws of supply and demand, pricing and competition in the sphere of resource and financial markets in the context of their individual types and segments); internal mechanisms for regulating certain aspects of financial activity (These mechanisms are formed and used within the enterprise itself, regulate certain operational management decisions in the sphere of its financial activity); system of specific methods and

techniques of implementation and management of financial activity of the enterprise (In the process of implementation and analysis of financial activities, planning and optimization of financial capacity, making financial decisions and monitoring their implementation, various methods and techniques are used to achieve the desired results).

In the context of market relations, enterprises have freed themselves from government tutelage, but their responsibility for economic and financial performance has increased sharply. Enterprises began to operate at the beginning of the commercial calculation, at which costs should be covered at the expense of their own income. The main source of production and social development of labor collectives was profit. Withholding finances had two consequences: on the one hand, enterprises had more opportunities for commercial and creative activity, they freed themselves from the care of the state and began to strive to meet the needs of their customers by improving the quality of products and reducing prices for it; on the other hand, there was a sharp shortage of financial resources, without which the normal activity of an economic entity is impossible. In the acute shortage of own revenues for development, debt sources of investment remain difficult to reach the bulk of enterprises. There are many reasons for the depressed development of economic entities, but the main ones lie in the inertia of the existing structure of production, its technological backwardness and physical deterioration of fixed assets, in the absence of priorities of the state scientific and industrial policy, in the conditions of established economy and in the result of inefficient economic, financial and tax changes that prevent businesses from making money for modernization, in the high cost and inaccessibility of long-term loan and borrowing financial sources for modernization and reconstruction of enterprises, etc.

Changes in the economy of Ukraine related to the transition to market relations require the search for new ways and approaches to management technologies, including in the field of financial management. In modern conditions it shows that the deterioration in the efficiency of financial management is linked to the crisis in the country. All this necessitates the complex application and development of modern financial management system tools, which should ensure the continuous increase of the financial potential of the business entity or at least prevent its decline.

Management of financial potential is carried out at the enterprises for achievement of the maximum possible financial result under the

following conditions: availability of own capital sufficient to fulfill the conditions of liquidity and financial stability; opportunities to raise capital to the extent necessary for the implementation of effective investment projects; profitability of invested capital; the availability of effective financial management system that ensures transparency of the current and future financial position.

Management of financial potential of the enterprise has its own features, including:

- taking into account the impact of competition;
- definition of financial resources;
- presentation to management object manifestation of management results through size and timing of cash flows;
- the need for optimal distribution and redistribution of financial resources;
- development and decision making on reaching a certain compromise between the requirements of profitability, reliability and liquidity of capital of industrial enterprises;
- the need to generate financial resources from different sources;
- regulation of structural transformations of financial potential;
- use of methods of managerial influence on financial resources.

Management functions are planning, organization, motivation and control [5]. The system of financial potential management of an enterprise includes the following elements: financial planning (budgeting, planning and forecasting of financial flows, cash income and receipts); financial regulation (adjustment of planned and actual parameters of financial resources, including risk management); financial control in the process of budgeting and realization of financial potential. The planned (projected) values of financial potential are based, first of all, on the adjusted indicators of its realization in the previous periods, taking into account the projected changes in sales volumes, profitability, equity and debt capitals, ensuring the positive effect of financial and operating leverage, implementation of investment projects, etc. Ultimately, financial capacity planning is aimed at ensuring, restoring or maintaining of financial sustainability.

The transition of the economy to market mechanisms is accompanied by changes in the forms of financial planning of economic entities. In circumstances where economic interests are secured through market self-regulation of the economy, each enterprise plans its own activity, independently evaluates the need for financial resources and the efficiency of their use in production or in profitable investments, bears

full responsibility for the obtained results. To ensure the co-ordination of the work of all divisions of the enterprise, control over production processes and the rational use of resources, the incentive for employees is increasing the role of financial plans of organizations and enterprises of all forms of ownership and scale of production.

Financial planning at the enterprise is an element of management activities related to the process of drawing up financial plans, forecasts and budgets, monitoring their implementation, identifying the causes of deviations from the planned parameters. In the general case, it is a list of actions and sequences of formation of financial potential, bringing under it the appropriate material, labor and financial resources to achieve the financial goals and objectives set by the enterprise. Financial planning must be continuous, plans may not be static, but must be flexible in the light of changing circumstances. Financial planning as one of the management functions allows you to anticipate all the necessary actions, to anticipate the maximum of surprises that may occur in the course of the activity and to offer ways to minimize the negative consequences of such surprises.

Financial planning by enterprises has a broad classification structure. The classification of financial planning is presented in Figure 4.1.

Financial planning is distinguished by the covered timeframe of financial plan developing as long-term, medium-term and short-term; they differ from each other by the length of timeframe (periods) required to meet the planned financial performance. Long-term planning typically covers long periods of 10 to 25 years.

Medium-term planning specifies the benchmarks identified in the long-term plan. It is designed for a shorter period. Until recently, the medium-term planning horizon was five years. However, the unpredictable nature and speed of environmental change often make the planned terms shorten from five to three years, and five-year plans are therefore long-term.

Short-term planning is an annual plans, it includes specific directions for using the resources needed to achieve the goals set in the medium- and long-term plans. The content of the short-term plans is detailed by quarter and month. Long-term, medium-term and short-term plans should not contradict each other and be as interconnected as possible.

The main purpose of financial planning is to develop and adjust financial plans that ensure effective management of finances and financial potential. In this regard, strategic, tactical and operational financial planning is differs.



Figure 4.1 Classification of financial planning

Source: compiled by the author

Strategic planning is the development on the basis of the results of the financial analysis of the state of the enterprise and the forecast of changes in the external and internal environment, the strategy of financial activity for a certain period. Strategic planning is not a simple definition of the desired goals and convenient ways of their transformation, but a timely and necessary response to the objective external and internal circumstances of the activity taking into account the real capabilities of the enterprise and the market. In the context of high uncertainty in which most businesses operate, medium-term and sometimes short-term strategic planning is preferable. Strategic planning

differs from long-term planning in that strategic planning is a function of directing economic growth and incorporating a set of global enterprise development ideas. Implementation of the financial strategy is achieved through the development of tactical plans implemented through operational planning. With regard to financial planning, tactical planning addresses the issue of allocating the organization's resources to achieve strategic goals. Tactical planning typically covers short to medium-term periods, i.e. is a matter of concern for middle and lower level management links. Operational planning is the process of developing financial plans that maximizes the use of all resources (both own and involved). Operational planning helps to carry out the current regulation of the course of production for the purpose of uniformity and rhythm of work, allows to quickly and in time practically correct or direct the course of affairs, to coordinate the separate actions of different divisions united for the sole purpose – ensuring the financial stability of the enterprise through the implementation of the financial strategy.

Depending on the information available about the past, current or desired financial position of the enterprise, there are distinguished reactive, inactive, preactive, interactive planning directions.

Reactive planning is aimed at the past, its main method is the study of all problems in terms of their origin and development in the past. Planning is based only on previous experience, without taking into account the objective circumstances of today and possible future changes, and is carried out from the bottom to the top. The organization's finances are perceived by proponents of reactive planning as a stable, steady, well-established mechanism. The assumption is that everything that happens in an organization is known in advance. Initially, the needs and wishes of the company's units are clarified and plans are drawn up. Processed materials are passed to top-level management, who corrects, edits, and passes them to the next level, and so to the top level of management where the consolidated draft plan is being developed.

The content of inactive planning is adaptation to the conditions of the present, which are generally regarded as quite favorable. The collection and initial processing of the execution or non-execution of plans is the most time-consuming and time consuming phase of work. In this regard, stable and favorable working conditions are a necessary condition for inactive planning implementation.

Preactive planning is mainly focused on future changes and finding optimal solutions. Planning is done from top to bottom: the higher levels

predict external conditions, formulate goals and strategies, then determine the goals of the lower levels and the program of their actions. Preactive planning means more level of activity.

Interactive planning implies that the future can be controlled and, to a large extent, is the product of the creative actions of employees of the organization who have knowledge of the past and current financial status of the enterprise and the environment. Interactive planning is based on the principle of participation and maximum mobilization of creative abilities of employees of the organization.

Inactive planning is more theoretical than practical, since it is provisionally assumed that the future is planned with 100% probability. However, such a situation in real life is unattainable, it gives inactive planning an idealistic color. As most business executives in real life, are people that certainly practical and adhere to the philosophy of pleasure, preferring to formulate a not too exaggerated purpose, allocate resources and exercise control in the most acceptable ways in today's conditions.

The most widespread area of planning now remains inactivism, which in the current environment does not want to concede expensive interactive planning. To bring interactive planning theory closer to practical application, it needs to be modernized – replacing the single-variant design of an organization's future financial status with multivariate forecasting that looks at different environmental behavior scenarios through the development of an enterprise financial strategy. Upgraded interactive planning will allow for flexible choice in the context of one of the predetermined, specifically designed options.

Therefore, financial planning is the planning of all financial resources, revenues and areas of their expenditures, which form the basis of financial potential to ensure the development of the enterprise. The practical content of financial planning is the development of financial plans, and the purpose is the effective management of finances through their development and implementation. The essence of financial planning is to draw up financial plans of different content and purpose, depending on the tasks and objects of planning. The bases of financial planning in an enterprise are its three main systems: forecasting of financial activity; current financial planning; operational financial planning. All financial planning systems are interconnected and implemented in a certain sequence.

Thus, the system of financial potential management of the enterprise includes financial planning (budgeting, planning of cash flows, cash income and receipts); financial regulation (adjustment of planned and

actual parameters of financial resources, including risk management); financial control in the process of budgeting and realization of financial potential.

Financial planning at the enterprise is an element of management activity related to the process of drawing up financial plans, forecasts and budgets, monitoring their implementation, identifying the causes of deviations from the planned parameters. In general, it is a list of actions and sequence of formation of financial potential, bringing to it the appropriate material, labor and financial resources to achieve the financial goals and objectives set by the enterprise. Financial planning as one of the functions of management allows to anticipate all the necessary actions, to anticipate the maximum of surprises that may arise in the process of activity and to offer ways to minimize the negative effects of “spraying” of financial potential.

The planned (projected) values of financial potential are based, first of all, on the adjusted indicators of its realization in the previous periods taking into account the forecast changes in sales volumes, profitability, equity and loan capital, ensuring the positive effect of financial and operational leverage, implementation of investment projects and so on. Ultimately, financial capacity planning is aimed at ensuring, restoring or maintaining financial sustainability.

Intercompany financial planning is based on the use of its three main systems: forecasting financial activity; current financial planning; operational financial planning that is interrelated and implemented in a certain sequence.

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**ASSESSMENT
COMPETITIVENESS OF
INNOVATIVE
ENTERPRISES WITH
FOREIGN
INVESTMENTS**

Introduction. In recent years, almost all of Ukraine's foundations have developed long-term socio-economic development strategies, in which the formation and development of enterprises with foreign investments often appear as priorities.

The solution of the problem of increasing competitiveness is inextricably linked with the assessment of the level of competitiveness. It is clear that an analysis of the competitive position of the business entity in the sectoral market, the identification of the main sources and reserves for increasing competitiveness is impossible without objective assessment. In the course of the analysis of the reasons for the low practical applicability of existing methods for assessing the competitiveness of economic entities, the authors of the dynamic approach came to the conclusion that the main reason for this is the lack of a clear definition of the concept of competitiveness of the company and the criteria for evaluating the analyzed category (as shown in the first section of this paper).

In general, agreeing with the thesis that the most accurate results of the assessment of the competitiveness of enterprises can be obtained by mutually supplemented the strengths of the product and operating methods, it is obvious that before combining these methods, it would be nice to get rid of their shortcomings. The desired complementarity can only be achieved through synthesis, (Krylova N., 2012) but not mechanistic "accumulation" of techniques, by clarifying the definitions and criteria for assessing the competitiveness of business entities, but not the eclectic of heterogeneous categories (as is done in combined methods) (Borysova T., 2011).

The dynamic approach is based on the assumption that the main way of making profit in a market economy is the sale of products and the added value in it. In this case, the production and sale of products is

carried out through the use of limited economic resources. It follows that gaining profit in a market economy is mediated by the efficiency of the use of economic resources. The ratio of the result obtained and the costs incurred for its achievement. That is, the essence of market competition is to fight for maximizing profits by maximizing the efficient use of economic resources.

Based on the previously mentioned shortcomings of existing methods to assess the competitiveness of the enterprise, we can conclude the limited practical application of most of them. An exception, in our opinion, is a dynamic method of assessing the competitiveness of enterprises (Polischuk H., (2017). Thus, the study of evaluation of innovative enterprises with foreign investments in enhancing competitiveness and ensuring sustainable development of Ukraine at the present stage is very relevant.

Analysis of recent research and publications. The work of such scientists as T. Borisova, V. Dikan, N. Kasyanova, N. Krylova, K. Kuznetsova, M. Moretova, M. Rogozi, Yu Samoilenko, etc were devoted to the research of the assessment of the competitiveness of the functioning of innovative enterprises. Despite the significant scientific contribution made by many scholars in the identified competitiveness of innovative enterprises, the competitiveness of the dynamic method of evaluation requires a more detailed consideration.

The purpose of the article is to analyze the competitiveness of innovative enterprises with foreign investments, based on the dynamic method of assessing the competitiveness.

Presentation of the main research material. The advantages of the dynamic method are as follows: it covers the key characteristics of the enterprise activity and eliminates the duplication of valuation parameters (Apostoliuk O., 2016); is based on a clearly expressed mathematical relationship between the established evaluation parameters, which allows to detect and analyze the dependence of the estimated competitiveness indicator from the initial parameters in the dynamics; allows to predict the level of the competitiveness of the enterprise (groups of enterprises) (Samoylenko Y., 2010); is a universal method, that is, it allows to assess the competitiveness of individual enterprises (groups of enterprises) taking into account the purposes of the analysis and the availability of output data; It is flexible, that is, the ability to record the conditions and features of the functioning of individual enterprises (groups of enterprises) (Zaikina, O., 2008); allows to assess the competitiveness of innovative enterprises with foreign investments

(groups of enterprises), regardless of size and sectoral affiliation (Dykan' V. und Ponomar'ova T., 2011).

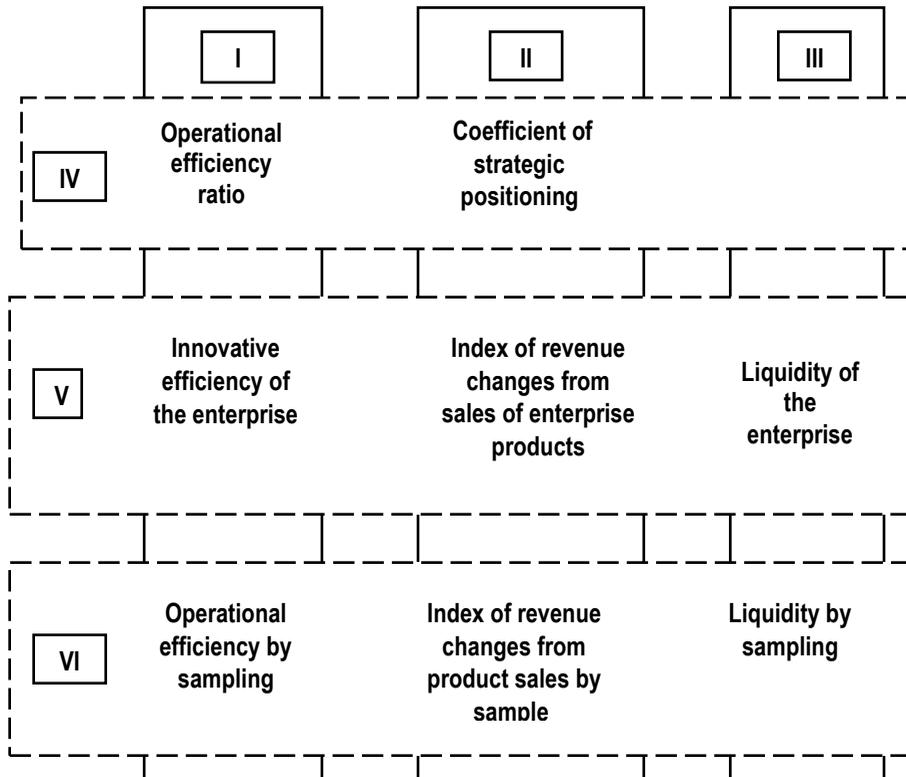


Figure 4.2 Main stages of assessing the level of competitiveness of innovative enterprises with foreign investments

The essence of the proposed method and the methodology of assessing the level and sources of competitiveness of the enterprise, as well as the identification of reserves to increase the competitiveness of the economic entity, are discussed in detail below. This method of assessing the competitiveness involves the analysis of the main indicators of enterprise activity in the dynamics. The key indicators are considered: operational efficiency (profitability of economic activity), strategic positioning (dynamics of market share), as well as financial stability (liquidity).

The essence of operational efficiency is the implementation of similar types of competition with competitors in order to ensure profit in the process of implementation of additional value. The main result and the criterion of operational efficiency can be related to the profitability (profitability) of production and sales of final products. However, the result of evaluating operational efficiency through profitability on profit can be both positive and negative, in connection with which the most capacious and universal indicator of operational efficiency – the ratio of proceeds from sales of manufactured goods (goods, works, services) to costs, incurred in the process of its production and implementation (Karlsson, E. und Liljevern, J., 2017).

The operational efficiency of the analyzed agrarian enterprise (Figure 4.2), the cell at the intersection of blocks I and V) is determined by the formula (4.1):

$$R_A = \frac{S_A}{E_A}, \quad (4.1)$$

where: R_A – operational efficiency of the analyzed innovative enterprises with foreign investments for the reporting period;

S_A – proceeds from the sale of products (goods, works, services) of innovative enterprises with foreign investments, analyzed during the reporting period;

E_A – proceeds for the production and sale of products (goods, works, services), which include the cost, non-operating expenses, mandatory payments to budgets of all levels in the analyzed enterprises for the reporting.

The calculation of operational efficiency by sampling (Figure 4.2, the cell at the intersection of blocks I and VI) is carried out by the formula (4.2):

$$R_S = \frac{S_S}{E_S}, \quad (4.2)$$

where: R_S – operational efficiency of the sample for the reporting period;

S_S – proceeds from the sale of products (goods, works, services) by sample for the reporting period;

E_S – costs of production and sale of products (goods, works,

services), which include cost, non-operating expenses, mandatory payments to budgets of all levels by sample for the reporting period.

To calculate the operational efficiency (Figure 4.2, block I) according to formula (4.3), it is necessary to compare the value of the analyzed index of the analyzed enterprise with the corresponding indicator on the sample:

$$K_R = \frac{R_A}{R_S}, \quad (4.3)$$

where: K_R – efficiency factor of operational activity;

R_A – efficiency of operational activity of the analyzed innovative enterprises with foreign investments for the reporting period;

R_S – efficiency of operating activity for the reporting period by sampling.

The essence of strategic positioning is to create a unique position based on the implementation of a combination of activities, different from the activities of competitors. By creating, supporting and expanding sales markets, strategic positioning provides the very opportunity for the process of implementing additional value (Krupskiy O. et al., 2017). The main result and criterion of this indicator is the change of revenue from the sale of products (goods, works, services) compared with the previous period. The index of changes of revenue from the sale of products (goods, works, services) of the enterprise being analyzed (Figure 4.2, the cell at the intersection of blocks II and V) is determined by the formula (4.4):

$$I_A = \frac{S_A}{S_{A0}}, \quad (4.4)$$

where: I_A – the index of changes in sales proceeds from the sale of products (goods, works, services) of innovative enterprises with foreign investments, analyzed for the reporting period;

S_A – proceeds from the sale of products (goods, works, services) of innovative enterprises with foreign investments, analyzed during the reporting period;

S_{A0} – proceeds from the sale of products (goods, works, services) of innovative enterprises with foreign investments, analyzed in the previous period.

Calculation of the index of change of revenue from the sale of products (goods, works, services) by sampling (Figure 4.2, cell at the intersection of blocks II and VI) is carried out by the formula (4.5):

$$I_S = \frac{S_S}{S_{S0}}, \quad (4.5)$$

where: I_S – the index of changes in sales proceeds from the sale of products (goods, works, services) by sample for the reporting period;

S_S – proceeds from the sale of products (goods, works, services) by sample for the reporting period;

S_{S0} – proceeds from sales of products (goods, works, services) by sample in the previous period.

In order to calculate the strategic positioning factor (Figure 4.2, block II), in accordance with formula (4.6), it is necessary to compare the value of the analyzed index of the analyzed enterprise with the corresponding indicator on the sample:

$$K_I = \frac{I_A}{I_S}, \quad (4.6)$$

where: K_I – the coefficient of strategic positioning;

I_A – the index of changes in revenues of agrarian enterprises with foreign investments, analyzed for the reporting period;

I_S – the index of changes in revenues by sample over the reporting period.

The essence of financial sustainability in the short run is to ensure the availability of current assets by sources of financing. Short-term financial stability can be characterized by the provision of the company's own working capital (Manoilenko, O. and Stokov, Y. E., 2013). It is important to note that the indicator of financial stability in comparison with the indicators of operational efficiency and strategic positioning are large fluctuations, resulting in becoming a key factor affecting the level of competitiveness of the enterprise. As a result, the influence of these indicators on the competitiveness of the enterprise leads to comparable values, by removing from the index of liquidity of the square root (Kuznyetsova K., 2013).

The liquidity of the analyzed enterprise (Figure 4.2, the cell at the intersection of blocks III and V) is determined by the formula (4.7):

$$L_A = \sqrt{\frac{CA_A}{CL_A}}, \quad (4.7)$$

where: L_A – the liquidity of the analyzed enterprise at the end of the reporting period;

CA_A – current assets of the enterprise analyzed at the end of the reporting period;

CL_A – short-term liabilities of the analyzed enterprise at the end of the reporting period.

The calculation of liquidity by sampling (Figure 4.2, the cell at the intersection of blocks III and VI) is carried out by the formula (4.8):

$$L_S = \sqrt{\frac{CA_S}{CL_S}}, \quad (4.8)$$

where: L_S – liquidity by sample at the end of the reporting period;

CA_S – current assets by sample at the end of the reporting period;

CL_S – short-term sample commitments at the end of the reporting period.

In order to calculate the coefficient of financial condition (Figure 4.2, block III) according to formula (4.9) it is necessary to compare the value of the analyzed index of the analyzed enterprise with the corresponding indicator on the sample:

$$K_L = \frac{L_A}{L_S}, \quad (4.9)$$

where: K_L – the coefficient of financial state

L_A – the liquidity of the analyzed enterprise at the end of the reporting period;

L_S – the liquidity by sample at the end of the reporting period.

Then, taking into account the above expressions (4.3), (4.6) and (4.9), the only indicator of the competitiveness level of the investigated enterprise (Figure 4.2, block IV) can be represented by the formula (4.10):

$$K = \frac{R_A}{R_S} \times \frac{I_A}{I_S} \times \frac{L_A}{L_S}, \quad (4.10)$$

where: K – the level of competitiveness of the analyzed enterprise;

K_R – operational efficiency;

K_I – the coefficient of strategic positioning;

K_L – coefficient of financial condition.

The values of the coefficient of competitiveness are analyzed as follows: the higher the coefficient of competitiveness, the more competitive the analyzed company in relation to the sample. If the coefficient of competitiveness is greater than zero, but less than one, the competitiveness of the enterprise in relation to the sample is low. If the coefficient of competitiveness is equal to one – the competitiveness of the company is identical to the competitiveness of the sample (Fatkhutdinov, R.A. 2012). If the coefficient of competitiveness is more than one – the competitiveness of the enterprise is higher than the sample.

It is important to note that each of the above-mentioned sources of competitiveness is individually necessary, but not a sufficient condition for ensuring the competitiveness of the enterprise. Sustainable competitiveness of the enterprise can be achieved only by combining all sources of competitiveness, complementing each other and creating competitive advantages of the enterprise (Shyshkina O., 2016).

By presenting a general indicator of competitiveness of the enterprise in terms of sources of competitiveness and objects of comparison, the assessment of integral values reflects the efficiency of the use of foreign investment resources by the investigated business entity and the sample (Szarowská, I., 2017). An analysis of the competitiveness of the enterprise in terms of the sources of competitiveness and the objects of comparison makes it possible to identify the main factors that determine the current level of competitiveness. That, in turn, allows us to determine the basic reserves for improving the competitiveness of the investigated entity. The coefficient of efficiency of using the enterprise resources analyzed (Figure 4.2, block V) is determined by the formula (4.11) given below:

$$K_A = R_A \times I_A \times L_A , \quad (4.11)$$

where: K_A – the coefficient of efficiency of using the resources of the enterprise being analyzed.

The coefficient of efficiency of the use of resources by sampling (Figure 4.2, block VI) is determined by the formula (4.12) below:

$$K_S = R_S \times I_S \times L_S, \quad (4.12)$$

where: K_S – the coefficient of efficiency of the use of resources by sampling.

Taking into account that the value of each of the factors used to calculate the efficiency of the use of resources has a necessary value greater than one, it can be concluded that the recommended value of the indicated coefficient is also greater than one. On the basis of the above methodology it is envisaged to assess the level of competitiveness. And also to identify the basic reserves for improving the competitiveness of the investigated business entity.

On the basis of the above analysis of the general situation in the agrarian sector and the selection of objects of comparison, an estimation of the level, sources and reserves of the competitiveness of innovative enterprises with foreign investments is carried out.

In accordance with the previously considered algorithm, in the first stage, the basic indicators of economic activity of agrarian enterprises are calculated: the coefficient of operational efficiency by the formula, the coefficient of strategic positioning by the formula and the coefficient of financial stability by the formula. On the basis of which the formula provides an assessment of the level and dynamics of competitiveness.

Conclusion. The proposed methodology for assessing the competitiveness of innovative enterprises with foreign investments, based on the dynamic method of assessing competitiveness and taking into account the weight of each type of product in total, allows to assess objectively the level of competitiveness of innovative enterprises and take managerial (strategic) decisions to improve their activities.

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**REAL ESTATE
TAXES IN THE
TAX POLICY OF
INCLUSIVE
ECONOMIC
GROWTH**

Introduction. Despite the priority of Ukraine’s economic development in the near future is to increase economic growth, the strategic focus of its development that is emphasized in the Government’s Action Program, is to ensure inclusive economic growth [1]. In characterizing the relationship between these two priorities – short-term and strategic – it is necessary to assume that increasing economic growth is an important precondition for the implementation of its inclusive focus. However, inclusive growth cannot be assessed only in terms of GDP or GDP per capita growth. It should also be seen as a process that creates opportunities for all segments of the population to work, develop, improve their skills and contribute to the development of society. In addition, inclusive growth emphasizes on a more dynamic definition of equity that takes into account the impact of income policies on people’s well-being throughout their life cycle, as well as the well-being of generations [2]. Mentioned above is estimated with the Inclusive Development Index (IDI), developed by the World Economic Forum, that is based on 12 indicators, which, in addition to GDP per capita, also include: labor productivity determining the level of wages; the level of employment as an indicator of economic opportunities and, ultimately, family security; the expectancy healthy life as an indicator of quality of life; median household income, characterizing the progress in the achieved level of living standards; poverty line; Gini coefficient by income – a standard international indicator of inequality; and the Gini coefficient for property (wealth) – an indicator of the concentration of wealth; adjusted net savings – an indicator that measures the actual rate of savings in the economy after taking into account investment in human capital, the depletion of natural resources and the damage caused by

environmental pollution; public debt as a share of GDP, illustrating the scale of the current generation's debt compared to the potential of future generations; demographic burden that is the main indicator of possible future pressure on public finances; and the carbon intensity of economic production that is an indicator of the country's relative efficiency in the field of climate change [3].

Given the components of the index of inclusive economic growth, to provide it is necessary to implement of a set of measures in the economic, social, environmental, budgetary, debt, tax policy. The significance of tax policy in the system of instruments for inclusive economic growth is determined by its ability to influence the distribution of its results among different segments of the population, including the global problem of growing inequality in income and wealth. However, not all tax policy instruments that can improve the situation with inequality meet the requirements of inclusive economic growth, but only those one that do not have a negative impact on the behavior of economic agents, and thus, do not slow down economic growth. Thus, tax policy of inclusive growth, as noted by Brys, B. et al. (2016), is associated with the management of a compromise between fairness and efficiency. This compromise can be reached either by reducing the loss to provide equity of tax reforms aimed at improving efficiency, or by reducing the loss of efficiency in tax reforms aimed at improving fairness, or by implementing tax reforms that increase both efficiency and fairness [2]. The OECD experts also emphasize the possibility of implementing a strategy aimed at solving these two tasks at the same time, emphasizing that inclusive growth oriented taxation policies should go beyond traditional political trade-offs between fairness and efficiency. It should reduce inequality without lowering economic growth [4].

Literature review. The most thoroughly the issues of tax policy formation of inclusive economic growth are covered in the already mentioned works [2, 4]. The publication of Akgun, O. et al. (2017), as well as OECD experts [5, 6] is devoted to the analysis of the cumulative impact of changes in the tax structure on growth and inequality. The approaches to the design of tax reforms, developed on the basis of the rating of different taxes in the context of their impact on economic growth, are reflected in the OECD Recommendations published in 2008 in the working papers of the Economic Department № 620 "Taxation and Economic Growth", and in 2010 – in the working papers of the same organization "Tax policy reforms and economic growth" [7]. A

plenty of publications deal with the tax impact on the redistribution of income the purpose of which is reducing inequality and poverty regardless their influence on economic growth [8, 9, 10]. The Ukrainian scientists have not studied the problems of tax policy of inclusive economic growth. The publications covered only some aspects of the tax system functioning (mostly personal income tax) concerning with income equalization [11-16].

The purpose of the article. The formation of the tax policy for inclusive economic growth involves identifying areas for the reform of the entire tax system. In the process of developing measures to reform the taxes that better meet the requirements of economic efficiency; the emphasis is on ways to increase their fairness, while for taxes that better perform the redistributive function the ways to increase their economic efficiency should be identified. However, due to the limited scope of this article, it is impossible to cover all direction of a tax system design focused on inclusive economic growth. The purpose of the article is to identify ways to reform only real estate taxes that meet both economic efficiency and equity requirements.

Research methodology. The study is based on the theoretical foundation of optimal taxation in the welfare economy, in particular, on the conceptual provisions of the theories of excessive tax burden, fairness in taxation from the standpoint of benefit and solvency. The analysis of ways to form a tax system that would meet the requirements of inclusive growth was conducted using the already compiled rating of taxes on the criterion of economic efficiency or their impact on economic growth [7]. The ways of reforming in accordance with the requirements of social fairness were determined taking into account that taxes can affect equity in the distribution of income and wealth not only directly – through the income redistribution effects that are the consequences of tax payment, they can change taxpayers' behavior as well. In addition taxes can provide budgetary revenue that can be used to pay transfers to the poor. It means that even unfair but financially effective taxes, provided they are used to fund government programs to reduce inequality and poverty, can be part of a comprehensive growth-oriented tax reform. In the process of research the general scientific and special methods of cognition were used: abstract and logical assumptions – in the study of compliance of property taxes with the requirements of economic efficiency and social fairness; critical analysis of the different approaches to assessing the economic efficiency of periodic taxes on residential real estate; a combination of theoretical and

empirical analysis – in substantiating ways to reform real estate taxes in order to bring them closer to the requirements of inclusive growth and to the actual design of such taxes in OECD countries.

Results. According to the OECD Recommendations “Tax Policy reforms and Economic Growth”, periodic real estate taxes [7] distort the economic choice of taxpayers the least (and therefore the most effective). This kind of taxes takes the first place in the ranking according to this criterion. It means that these taxes are the easiest to adapt to the requirements of inclusive growth. To do this, it is only necessary to develop measures that increase their fairness. However, there are two points of view on this tax in theory, none of which can be considered the one that has won the majority of supporters. According to one of them, the real estate tax is neutral, according to another – distorting. The neutral nature of the real estate tax is substantiated by representatives of the “benefit theory” (Hamilton, B. (1975) [17], Fischel, W. (2000) [18]), according to which the tax is a payment for the benefits that each payer receives from the consumption of public goods funded with taxes. In turn, taxation on the principle of benefit provides for certain conditions: 1) mobility of taxpayers who can change their place of residence in search of jurisdiction (territorial community) that provides the most acceptable for each individual payer the correlation between real estate tax and public goods; precise zoning as a prerequisite for the homogeneity of each jurisdiction by type of building in which the property tax does not affect the consumption of housing and eliminates the problem of “free rider”; 3) the presence of a large number of competing jurisdictions as a prerequisite to realise the payer’s right to free choice. It is under these conditions the individual equivalence in real estate taxation is ensured (and the tax itself is converted into a lump sum (not deforming)), i.e. a correspondence is achieved between the amount of tax paid and the benefit from the consumption of public goods. The representatives of traditional and new views believe that real estate taxes are distorting taxes. In this case, according to the traditional views (G. Simon, D. Netzer), they are capitalized in the value of real estate (its price), and the end result of taxation depends on the elasticity of supply and demand for real estate by price. Real estate taxes are considered in the context of taxation of land and capital invested in improvements, including real estate other than land. The fact that the real estate tax may have different effects on land in contrast to other forms of capital (invested in real estate other than land) is a result of the difference in the elasticity of their supply.

The supply of capital is considered perfectly elastic, and the supply of land is considered perfectly inelastic. If the return on capital for owners is carried out at the nationally determined rent rate for capital (R_n), then in the result of the introduction of real estate tax (t) (in the context of capital tax invested in land improvements) the cost of capital will increase to $R_n (1 + t)$ to keep the return on capital after tax at R_n , and the amount of capital in the jurisdiction, as well as demand for it will fall. Instead, the introduction of a land tax will result in its ideal capitalization in the price of land that will fall [19].

According to the new views (Mieszkowski, P., Zodrow, G. (1984)), real estate tax has two effects: the effect of “income tax” – the effect that results in a decrease in net return on capital in the amount of tax, and the effect of “excise tax” – the effect that causes a net redistribution of income between owners of factors of production and consumers [20]. To analyze these effects, Mieszkowski and Zodrow use a model with many assumptions, the main of which are the full mobility of capital in all jurisdictions, the division of jurisdictions into zones of high and low demand for public goods, restrictions on the use of lump-sum (non-deformable) taxes to fund public goods that encourages communities to introduce a real estate tax in order to provide additional funding. In the case of differentiated real estate taxation in jurisdictions with high tax rates the relative value of housing increases and the return on capital invested in real estate falls compared to jurisdictions with low tax rates. The result is an outflow of mobile capital from jurisdictions with high property taxes, as well as other losses, in particular in the form of job losses and a reducing of the tax base. The transfer of capital will take place until its return in all jurisdictions is equalized. In the end, it will be set at a lower level than before the introduction of real estate tax. Another direction of capital outflow due to the high real estate tax may be its outflow from the field of housing construction to other fields that will reduce the return on capital in the economy as a whole. The excise effect of the property tax is manifested in a distortion of consumption that will ultimately result in higher house prices and land prices, as well as lower wages in both types of jurisdictions. All mentioned above allowed the authors to conclude that the real estate tax leads to many distortions, especially in the distribution of capital, and therefore is a distorting tax.

The representatives of different theories explain the impact of periodic taxes on real estate and income redistribution in different ways. According to the theory of benefit, such taxes have limited opportunities

for redistribution, because under the conditions of unrestricted mobility, taxpayers can choose a jurisdiction where real estate tax will be an adequate payment for the benefits of consuming public goods provided in this jurisdiction.

According to the traditional views, periodic property taxes, in terms of land taxation, are progressive, as they fall more on the owners, who usually have higher incomes. However, a part of the tax burden, that falls on buildings (improvements) is distributed between economic agents both on the supply side and on the demand side. Because tenants tend to have lower incomes, this part of the tax burden is rather proportional or even regressive [21]. However, Netzer, D. (1966) suggested that the regression of real estate tax will be less if consumers who make decisions about housing, consider the prospects of income for periods exceeding one year [19].

According to the new views, the real estate tax as a form of capital tax has an important redistributive component, as its main burden is borne by the owners of capital (capitalists) [20]. At the same time the tax burden due to the outflow of capital from high to low tax sectors is distributed among all capital owners. As the latter usually have higher incomes the real estate tax becomes progressive. Regardless the theoretical ideas about the real estate tax, it is perceived as unfair in the public consciousness due to the following reasons: 1) the contradiction between the high market value of property owned by certain households and the low levels of their disposable income (due to retirement, job loss, temporary disability, etc.), in a result of which they may have difficulties in paying tax obligations; 2) imperfect assessment of the object of taxation both in the case of its determination on the basis of real estate area (such assessment does not take into account its quality and location) and on the basis of value (due to periodic revaluations and imperfect methods of assessment the object of taxation in the calculation of the tax liability may be significantly deviate from the market value of real estate). In particular, the value of real estate for tax purposes is not updated for many years in many EU member states. If difference between the appraised and market value of real estate are not substantiated it can cause unfair and unpopular property taxes.

By eliminating these causes of unfairness of periodic taxes on real estate (reducing their negative impact) it is possible to achieve their maximum compliance with the requirements of inclusive economic growth. To this end, the different approaches are used especially different types of tax benefits. Some of them, called “Quantity-Based

Restrictions” [22], are a kind of protection against excessive tax burden on low-income taxpayers. They work only when the amount of tax specified in the declaration exceeds the statutory percentage of income of the property owner. The consequence of such measures is to limit the number of beneficiaries and provide it only to those who need it most. Special benefits in many countries are provided for the elderly and people with disabilities. For example, in France, low-income people over the age of 75 are exempt from paying the tax, and in Denmark the people over the age of 67 pay the tax at a reduced rate with the actual amount of the benefit depending on the income and value of the property. In Greece, real estate tax benefits are provided to the unemployed, the disabled and families with four or more children. In Hungary, social housing and real estate of up to 100 m² in villages with less than 500 inhabitants are exempt from tax [23]. Another type of tax benefits is a tax rebate called “owner-occupied housing allowance” [2]. Although the latter is provided regardless of income, i.e. to all homeowners, and provides for tax exemption of part of the value (or area) of real estate used by the owner as primary housing (it gives additional progressiveness to real estate tax), the tax benefit can be set so that the low-income households living in a small house will not pay tax at all. This tax rebate may also contain a component that allows taxpayers to cover the depreciation of property – as an approximate amount of costs incurred by households to obtain imputed income from real estate. One of the ways to avoid arrears of real estate tax the persons experiencing temporary difficulties may be allowed to pay it not in a lump sum, but in installments. In addition, some real estate tax systems provide for the possibility of deferring the payment of real estate tax (including for the elderly – indefinitely) without paying penalties until the sale of property or death of its owner. In particular, there is a possibility of deferring the property tax in Denmark (for people over 65), France (in case of trouble), Germany, the Netherlands, Spain, Sweden (in case of unemployment or illness), Turkey and the United Kingdom [23]. In order to avoid injustice related to the mismatch of the value of the object of taxation to the market value of real estate, any increase in periodic real estate taxes should be accompanied by a revaluation of real estate that should be carried out regularly (for example, every five years or more), and the value of the property should be adjusted for inflation between revaluations. However, for certain groups of taxpayers, especially the elderly, a “frozen assessment” may be used which involves fixing the appraised value of real estate for tax

purposes, despite fluctuations in its market value. As a rule, the increase in the “frozen assessment” occurs only due to the annual adjustment of the tax base with the inflation index [24].

The introduction of a tax rate with a slight progressiveness can also help increase the fairness of the periodic real estate tax. For example, in Denmark, the residential property tax has a two-class progressive rate structure: property up to DKK 2.6 million is taxed at a rate of 1%, above this amount at a rate of 3%. A two-class progressive rate structure for single-family homes also exists in Germany (0.26% for single-family properties with an estimated value of up to € 38,347 and 0.35% for properties with an estimated value exceeding this amount) [23].

As for other property taxes (inheritance taxes, net property taxes, property transactions taxes), according to the OECD Recommendations, they are less favourable for economic growth than periodic real estate taxes and consumption taxes, but more favourable than personal income taxes. Among them, inheritance taxes are considered the least distorting, and property transactions taxes are the most distorting. The characterization of inheritance taxes as sufficiently effective is based on the assessment of their impact on incentives to work, savings and investments of both testators and heirs³. In particular, it is considered that such a tax may, on the one hand, encourage the prudent conduct of the testator in order to compensate the loss of part of the inherited income through the payment of tax (income effect). On the other hand, because of the costs to be incurred for the transfer of the inheritance, the testator may be interested in increasing his lifetime consumption rather than saving (substitution effect). Which of the effects outweighs ultimately depends on the size of the tax rate(s). Given the preferential conditions of taxation of inheritance received by family members of the first degree of kinship, as well as the fact that an important motive for savings is the inheritance of property to immediate heirs, it can be concluded that in most cases inheritance tax will not demotivate savings. In addition, inheritance taxes, as a result of their payment after death, may have less of a negative impact on the testator’s investment decisions during his or her life than a comprehensive income tax. As for the impact of the tax on the behavior of the heirs, by reducing the amount of the inheritance, it can encourage the heir to work harder and make savings both before and after the inheritance. If we consider the

³ *This tax can be withheld both from the testators in the form of inheritance tax and from the heirs in the form of inheritance tax (on inherited property).*

inheritance as one that is acquired without the heir's own efforts, and therefore is an unforeseen income, then the taxation of it should not affect the behavior of the heir.

Without making significant distortions in the economic decisions of taxpayers, inheritance taxes are fair enough. First, the taxation of property received without the efforts of the heir is fairer than the taxation of income earned by one's own labor. Second, inheritance taxes, especially when they imposed on heirs, reduce the concentration of wealth and help reduce inequalities in its distribution. Third, they reduce the unfairness associated with unequal opportunities of taxpayers. One of them receive inherit, which increases their solvency while others do not.

To ensure the inheritance taxes to contribute to inclusive growth the key is their design. In particular, T. Piketti and E. Saez, developing a theory of optimal capital taxation, found that given the high concentration of inherited wealth in countries where the share of wills in national income is high (for example, 15%, as in France) the optimal linear inheritance tax rate can be up to 60%, and the optimal tax rate applied to the leading owners of wealth can be even higher (70-80%), especially if the wills are large [25].

According to modern ideas, it is possible to increase the redistributive effect of inheritance taxes, and hence the impact on inequality in the distribution of wealth, by applying differentiated tax rates depending on the value of inherited property. This approach has become widespread in European countries such as Belgium (tax is levied at rates of 3 to 80%; they vary depending on the region, beneficiary and value of inherited property), Denmark (0-52.7%), Germany (7- 50%), France (5-45%), the Netherlands (10-40%), Great Britain (0-40%) and others [26].

One of the main arguments for the use of another property tax – the tax on the net value of property (net wealth) is its possible impact on the concentration of wealth that has reached excessive proportions in the world, and property inequality. Another argument for its introduction may be the lack of a well-designed personal income tax in the country, which would cover all types of personal income from capital. However, despite these arguments, the scope of the property tax in the world is narrowing. If in 1990 it was levied in 12 the OECD countries, in 2018 – only in three: Switzerland, Spain and Norway [27]. Austria, Denmark, Germany, the Netherlands, Finland, Iceland, Luxembourg and Sweden are among the countries that waived the tax in the mid-1990s. The

waiver of this tax can be explained by several reasons:

1) the tax is quite difficult to administer due to the wide range of objects of taxation, the possibility of evasion of declaring certain assets, problems with their assessment, the presence of a significant number of deductions and other tax benefits aimed at reducing the tax burden on the less affluent people or restrictions the number of its payers including only rich people⁴;

2) the objects included in the tax base on net value property (it includes tangible and intangible assets owned by an individual: the real estate, financial assets, bank deposits, the share of property in business, etc., less liabilities on these assets) are also taxed. For example, it can be real estate tax, personal income tax. Therefore, if the latter are designed well enough, there is no need to tax the net asset value;

3) taxes on the net value of property are more distorting than taxes on inheritance and periodic taxes on real estate. In particular, compared to the latter, they distort the investment decisions of taxpayers, creating incentives for investment in tax-exempt assets, as well as for investments made through borrowed funds.

Given this fact, most countries are unlikely to consider the introduction of a property tax as part of a modern tax reform aimed at inclusive growth. However, if to use this tax is expedient the following aspects should be taken into account when the tax design is developed: 1) the possibility of choosing between a tax with a broad base (the choice in its favour involves solving the problem of preventing double taxation of assets) and a tax that will be paid only by the rich (this choice will require finding ways to reduce distortions caused by such tax); 2) the possibility of effective tax administration; 3) the public perception of the problem of income inequality and wealth and the severity of this problem in a particular country. Despite the theoretical estimates of real estate taxes as the most favorable for economic growth and the possibility of such a change in their design that would meet the requirements of inclusive growth, in most countries they do not play a major role, and the latter is characterized by a declining trend in the long

⁴ *The development of the tax in this direction is evidenced by the changes in its collection, made in 2019 in Argentina. Among them: the increase of the threshold of tax exemption from 1 050 000 ARS to 2 000 000 ARS; the introduction of a tax exemption for residential buildings, which are now subject to wealth tax only if their estimated value exceeds ARS 18 million; the replacement of the fixed tax rate with progressive ones, which increase with the value of taxpayers' assets [28].*

run. In particular, in the OECD countries, real estate tax revenues averaged about 8% of total tax revenues in 1965, compared to about 5.7% nowadays. However, during 2000-2017, the dynamics of tax revenues in different the OECD countries were not characterized by the same trends: 24 countries reported an increase in real estate tax revenues as a share of GDP, and 15 countries – a decline. Its largest growth was in Argentina, Belgium, the United States and France, and its decline – in Iceland, Sweden and Switzerland. In 2017 the amount of income collected from real estate taxes ranged from 0.2% of GDP in Indonesia to 4.4% of GDP in France. The real estate tax reforms have been limited in recent years, and the potential of this tax is not realized [28].

Conclusions and discussion. Thus, the main task of the tax policy aimed at ensuring inclusive economic growth is to find ways to resolve the fundamental contradiction between economic efficiency and social fairness of taxation. If in theory it can be solved in one of three ways – either by increasing the fairness of taxes, which are characterized by a high level of economic efficiency, or by increasing the efficiency of taxes with high redistributive properties, or by implementing measures that simultaneously can solve both problems, in practice (due to the inconsistency of the actual design of a tax to its theoretical model) is mostly used the third way, which allows to overcome the shortcomings of different taxes, increasing both their efficiency and fairness. Despite the fact that in the theory of taxation there is no single point of view in the assessment of economic efficiency and fairness of periodic real estate taxes, in the ranking of taxes compiled by the OECD experts on the criterion of economic efficiency, they take first place. As for other property taxes (inheritance taxes, net property taxes and property transaction taxes), according to the OECD Recommendations, they are less favorable for economic growth than periodic real estate taxes and consumption taxes, but more favorable than personal income tax and corporate income tax. Given mentioned above issues the reform of periodic real estate taxes in the process of building a tax system that meets the requirements of inclusive economic growth, should be in the direction of improving their fairness. The latter is possible through the introduction of tax benefits for the poor and the elderly, installments and deferrals of tax for those who are experiencing temporary difficulties and cannot meet tax obligations on time, the use of a moderately progressive scale of tax rates. Increasing the fairness of inheritance and gift taxes in the modern world is through the application of differentiated tax rates depending on the value of inherited property.

Regarding the tax on the net value of property, the scope of its use is characterized by a tendency to narrow.

In general, despite the high positions in the ranking on the criterion of economic efficiency of property taxes, their place in the tax systems of most OECD countries is quite modest indicating that their potential is not realized. One of the reasons for this situation is the narrowing of the tax base due to large-scale tax benefits that help mitigate tax unfairness. Thus, on the one hand, it is not possible to reduce the unfairness of property taxes without the application of tax benefits, but, on the other hand, their application hinders progressive changes in the structure of tax systems aimed at shifting the tax burden on real estate taxes. The ways to resolve this controversy should be the subject of further research.

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Chapter 5

SOCIO-DEMOGRAPHIC PROCESSES IN THE ECONOMIC SYSTEMS MANAGEMENT

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MODERN LEVEL OF HUMAN CAPITAL OF THE UKRAINIAN ENTERPRISES IN THE CONDITIONS OF TECHNOLOGICAL SPREADS

1. Introduction

Modern technological spreads quickly displace the borders between working tasks, that people execute, and tasks that execute machines and algorithms, causing serious transformations at the labour market. Advanced technologies change the enormous amount of low-skilled jobs and open new possibilities, creating terms for appearance of new and regenerate workplaces, growing the productivity and promoting efficiency of production. Many specialities today, and, also, in the nearest future, will require the complex of the special skills – possessing technologies, ability to settle problems, critical thinking, as interpersonal skills, such, as zeal, readiness to collaboration and ability to have compassion. For this reason in Lecture of the World Bank about the

world development in 2019 “Change of labour character” the basic role of human capital in the decision of this problem is underlined [22].

Actuality of human capital topic is predefined by that a person is examined in the center of economies as inexhaustible resource that is fundamental in functioning of national economy and certain enterprise. The rates of innovations introduction are growing, and the enterprises, as well as country on the whole, for providing the competitiveness in the future will operate quickly. To take advantage of new technologies and diminish the problems that were generated by them, they will carry out investments for the workers – foremost, in protection of education and health, that are basis of human capital increase.

2. Analysis of the last researches

Today, the study of the problem of forming and effective use of human capital of Ukrainian enterprises is not simply actual, but has the main value in the structure of socio-economic researches. It envisages the realization of deep scientific researches of this problem.

Many scientific researches of foreign and home authors are devoted to the question of human capital development. Different aspects of human capital conception are described in researches of famous authors of economic science as A. Smith, D. Ricardo, V. Patten, K. Marx, A. Marshall, L. Walrus, I. Fisher and others. As independent direction, the theory of human capital was formed in the 60th of XX century. Awarding standard became the world confession of these researches importance in economy for prominent scientific activity T. Schultz (in 1979) and H. Becker (in 1992). They got Nobel price. In Ukraine the research of human capital problems was activated at the beginning of XXI century foremost due to the scientific developments of O. Hrishnova.

Discussion of many positions and presence of plenty unsolved problems stipulate the necessity of further research of questions in relation to forming, use and development of human capital of both main factor of competitiveness increase of national economy and separate enterprises.

3. Research methodology

In modern society the human capital becomes basis of wealth. Exactly the human capital determines the competitiveness of the economic systems, comes forward as the key resource of their development. The ability of economy to create and effectively use human capitals in greater measure determines the economic force of

nation and its welfare.

The object of the developed indexes analysis is directly influence on the level of human capital development of the country, estimation of Ukraine rating place among other countries of the world for realization and confession of domestic enterprises' investments in human capital as the main asset.

Basic material. Human capital can be determined totality of productive capabilities, personal lines and motivations of individuals, that they have in their property, are used in economic activity assist the increase of labour productivity and due to it influence on the increase of income (earnings), profit of the enterprise and national income, formed and developed as the result of investments [2, p. 16-17].

The concept "human capital" means not only the realization of the person's main role in the economic system of society but also confession of investing necessity in a person, as the capital comes and increases by investing and brings long by time and integral by the nature the economic effect. Thus, it follows to take into account, that more quality investments, though they need money more than time, bring, as a rule, better and more longtime effect. Thus, at the world level, without regard to considerable increase in the supply of skilled labour force, the norm of profit from education presents approximately 9% in a year, norm of profit for higher and secondary education is almost 15% in a year [22, p. 19].

Investments in human capital are all types of charges on the person's development in monetary or other form (on education, health protection, mobility), that assist intellectual and professional increase of a person, promote his/her productivity, that influence on future increase of incomes as individual, enterprise and society on the whole.

From all types of investments in human capital the most essential are investments in education and health. Universal and special education improve quality, promote the level and supply of knowledge, the volume and quality of human capital are also increased. Investments in higher education assist forming of highly skilled specialists, highly skilled labour of which carries out the most influence effect on the rates of economy growing [7].

Thus, all types of charges, that can be estimated in monetary or other form and that assist to increase productivity and worker's income in the future, must be examined as investments in human capital, that the state (government), enterprises, educational establishments, non-state public funds and organizations, international funds and organizations, families

and separate citizens can be carried out.

The estimation of human capital level can come true on existent rating lists. Index of human development (HDI) (Human Development Index, HDI) is the most popular index, it is integral index that accounts annually for intergovernmental comparison and measures the average level of achievements in three basic measuring of human development: health and longevity, knowledge and deserving standard of living [6, p. 25]. The index is published in the special series of UN reports about human development. In 1990 UNDP published the first “Report about human development” (Human Development Report 1990. Concept and Measurement of Human Development) [14].

Basic measurements of HDI [6, p. 1] are:

- ability to conduct long and healthy life that is measured by the expected life-span at birth;
- ability to get knowledge that is measured by the middle duration of studies and expected studies duration;
- ability to attain the deserving standard of living that is measured by the index of gross national receipt per capita.

Data are also taken into account about the levels of social security, indexes of health and cultural development of population, people participation in making decision, state of criminality, guard of environment [8].

Rating of countries after the index of human development is annually folded by the Program of development of UN (UNDP) from 1990 for 187 countries and the confessed UN territories, in 2015 and 2016 – for 188 countries and territories, from 2017 – for 189 and published in “Reports about human development” (Table 5.1).

As registers in “Reports about human development 2019. After the scopes of incomes and middle indexes level of nowadays: inequality in human development in XXI century” on this index according to statistical data Ukraine in 2018 and 2017 occupied the 88-th place in rating of the countries of human development index among the 189 countries of the world [15, p. 301] (in 2015 it was the 84-th place among the 188 countries of the world [16], in 2014 it was the 81-st place, in 2013 – 83, in 2012 – 78, in 2010 – 69). Norway, Switzerland, Ireland, Germany, Hong Kong (China), Australia, Iceland, Sweden, Singapore and Netherlands are ten states with the very high level of human development in the world. The USA is on the fifteenth place, dividing this place with Great Britain, and Russia is on the 49th place.

Table 5.1

Ranking of some countries in the world according to the Human Development Index as of 2018 (2019 report)

Ranking	Country	Human Development Index 2018 (2019 report)
1	Norway	0,954
2	Switzerland	0,946
3	Ireland	0,942
4	Germany	0,939
4	Hong Kong (China)	0,939
6	Australia	0,938
6	Iceland	0,938
8	Sweden	0,937
9	Singapore	0,935
10	Netherlands	0,933
15	The United Kingdom	0,920
15	USA	0,920
26	Czech Republic	0,891
26	France	0,891
32	Greece	0,872
32	Poland	0,872
88	Ukraine	0,750
89	Dominican Republic	0,745
89	Saint Lucia	0,745
116	Egypt	0,700
188	Central African Republic	0,381
189	Niger	0,377

Compiled by source [15, pp. 300-303]

As the human development index measures the country's achievement from the position of health state, receiving education and actual income of its citizens, let's analyse the the level of human capital development of Ukraine on these indexes: GDP per capita (Table 5.2); average life duration; level of education.

Let's analyse the dynamics of GDP per capita, preliminary finding out the general level of GDP and dynamics of populations quantity, that is presented by the official figures of Government service of statistics, Ministry of finance of Ukraine, World bank and IMF [1; 5].

Table 5.2

Gross Domestic Product per capita in Ukraine for 1990-2018

Years	GDP of Ukraine *, billion USD	Population**,		GDP per capita, USD	GDP per capita growth	
		thousands of people	relative increase, %		absolute, +/- \$.	relative, %
1990	293,235	51 891	–	1742	–	–
2000	32,331	49 177	-5,23	632	-1110	-63,7
2001	39,309	48 662	-1,05	782	150	23,7
2002	43,956	48230	-0,89	879,0	97	12,4
2003	52,010	47801	-0,89	1048,8	169,8	19,3
2004	67,226	47448	-0,74	1367,5	318,7	30,4
2005	89,282	47091	-0,75	1829,2	461,8	33,8
2006	111,885	46771	-0,68	2303,8	474,6	25,9
2007	148,734	46501	-0,58	3069,1	765,3	33,2
2008	188,240	46240	-0,56	3892,5	823,4	26,8
2009	121,552	46044	-0,42	2546,0	-1346,5	-34,6
2010	136,011	45865	-0,39	2974,4	428,4	16,8
2011	163,161	45693	-0,63	3570,8	596,4	20,0
2012	175,707	45577	-0,25	3856,8	286,1	8,0
2013	179,572	45483	-0,21	4030,3	173,5	4,5
2014	132,343	43722	-3,87	3014,6	-1015,7	-25,2
2015	90,939	42836	-2,03	2115,4	-899,2	-29,8
2016	93,263	42668	-0,39	2185,9	70,5	3,3
2017	109,321	42477	-0,45	2640,3	454,4	20,8
2018	130,832	42269	-0,49	3095,2	454,9	17,2

* According to the International Monetary Fund [18].

** Compiled by source [1; 5].

From data of Table 5.2 it is possible to draw conclusion, that the quantity of Ukrainian population is decreasing every year. It goes to show that the death rate exceeds the birth-rate. In relation to the GDP index per capita we see the negative trend of value of index reduction in 2009, that is related to the world financial and economic crisis. In this period there was a slump of commercial activity of small and large enterprises in the country. It resulted to the increase of unemployment that is negative phenomenon for human capital development on the whole rate. In the period from 2010-2013 there was a positive tendency of increase of GDP value, and in 2014-2015 there was a decline of GDP level, that was predefined by political unstable position and swift

depreciation of national currency. In recent year GDP increases fas the result of different branches: building (prices grow) industries; part of agriculture increases in GDP structure; changes in bank and financial sphere, the role which had changed. In 2016-2018 the ordinary volumes of export commodities began to recommence from the country due to the set contract about the free trade zone between Ukraine and European Union in January, 2016. However, the mainly extensive way of development and scientific slippage of Ukraine from the leading countries of the world substantially influence on the state of GDP. Therefore, for Ukraine characteristic the development of separate industries of production, that are recourse-limited, production, mainly, raw material products, while the prepared products do not conform to international standards. Also considerable influence on the country’s GDP state has the high level of corruption.

During the analysed period 1990-2018 the reduction of the population’s quantity is reduced approximately on 18,5%, and from 2013-2018 – on 7%, and GDP per capita in Ukraine in 2018 is presented 63,4% the level of 1990, for period of 2013-2018 it reduced on 23%.

Rating positions of Ukraine on GDP per capita according to the data of the World Bank during the period of 2013 is shown on Figure 5.1.

In relation to theaverage of population’s life duration in Ukraine, during the last two decades the value of this index has a positive tendency to increase.

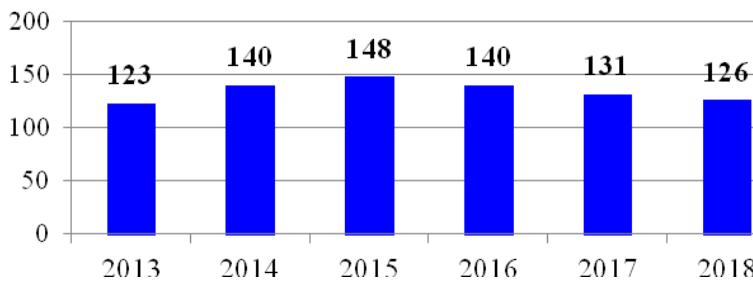


Figure 5.1 Place of Ukraine in the World Bank’s GDP per capita rating, 2013-2018

Compiled by source [11].

However, it should be noted that life-span of women exceeds life-span of men (Table 5.3).

Table 5.3

Average life expectancy in Ukraine at birth, years

Years	The average life expectancy of a person, years	Men, years	Women, years
1990	70,42	65,60	74,82
2001	67,89	62,32	73,63
2002 ¹	68,32	62,70	74,13
2003 ¹	68,24	62,64	74,06
2004 ¹	68,22	62,60	74,05
2005 ¹	67,96	62,23	73,97
2006 ¹	68,10	62,38	74,06
2007 ¹	68,25	62,51	74,22
2008 ¹	68,27	62,51	74,28
2009 ¹	69,29	63,79	74,86
2010 ¹	70,44	65,28	75,50
2011	71,02	65,98	75,88
2012	71,15	66,11	76,02
2012	71,15	66,11	76,02
2013	71,37	66,34	76,22
2014	71,37	66,25	76,37
2015	71,38	66,37	76,25
2016	71,68	66,73	76,46
2017	71,98	67,02	76,78
2018	71,76	66,69	76,72

Compiled by source [5; 13, p. 56]

Without regard to the increase of life duration, it still remains most subzero in Europe, in addition, Ukraine has the biggest difference in life duration of men and women' life duration among European countries. After the index level of life duration in different countries, that is published in the special report of the UN "Estimation of world population progress", Ukraine took the 114th place among 191 countries of the world (in 2018 life duration was 72) [10]. Leading positions occupy Hong Kong, Japan with the average duration of life is more than 84 (Table 5.4).

In relation to the level of education index, the Ukrainian population belongs to the most well educated nations. The estimation level of education comes true on the basis of index of average duration of education in the country (Table 5.5).

Table 5.4

Average life expectancy for some countries in 2018

Ranking	Country	Index (the average life expectancy of a person, years)
1	Hong Kong	84,7
2	Japan	84,5
3	Switzerland	83,6
4	Singapore	83,5
5	Italy	83,4
38	USA	78,9
40	Estonia	78,6
43	Poland	78,5
85	Belarus	74,6
98	Georgia	73,6
109	Russian Federation	72,4
114	Ukraine	72
115	Egypt	71,8
191	Central African Republic	52,8

Compiled by source [10].

Table 5.5

Expected years of schooling (years) in Ukraine for 1990-2018

Ranking HDI (2018)	1990	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018
88	12,4	13,0	14,6	14,8	14,8	14,9	14,9	15,0	14,9	15,1	15,1	15,1

Compiled by source [4].

Access to knowledge is determined by the expected duration of studies – amount of years, as expected, the child can get from the entry to school, if some tendencies of population bringing during her/his life are kept to education. For period of 1990-2018 the average duration of studies in Ukraine grew on 2,7. By estimation rating of UNDP (in 2018) Ukraine according to the index of studies duration Ukraine occupied the 56th place from 189 countries of the world (Table 5.6).

After the index level of education in the world (Education Index 2019) Ukraine took the 46th place (0.797) among 189 countries. The greatest positions in rating have: Germany (0.946), Australia (0.923), New Zealand (0.923), Denmark (0.920), Norway (0.919), Iceland (0.918), Ireland (0.918), Great Britain (0.916), Finland (0.915), and

Sweden (0.914). The closest neighbor's of Ukraine in Index after 2018 are Luxemburg (0.802), Montenegro (0.797), Croatia (0.796) [9].

Table 5.6

Average length of study in some countries in 2017

Ranking (2017)	Country	Higher education (years)	Average length of study (years)
1	Australia	22,9	12,9
2	Belgium	19,8	11,8
3	Ireland	19,6	12,5
4	Iceland	19,3	12,4
5	Denmark	19,1	12,6
16	Germany	17	14,1
20	USA	16,5	13,4
24	Poland	16,4	12,3
32	Estonia	16,1	12,7
55	Georgia	15	12,8
56	Ukraine	15	11,3
188	Niger	5,4	2
189	South Sudan	4,9	4,8

Compiled by source [12].

More detailed idea about the state of human capital of Ukrainian enterprises gives the Global human capital index (Global Human Capital Index, GHCI), that gives an estimation, both current and expected, human capital of the country, as an accumulation of skills does not end with formal education, and permanent application and accumulation of skills at work are part of human capital development. As marked in Lecture about human capital after 2017 the World economic forum (World Economic Forum), “very often economies own necessary talent, but can not use” it [21, p. 5]. Conducting the analysis of level of human capital development the World economic forum (World Economic Forum) applies human capital index (Human Capital Index), at determination of that constituents, that, in particular, characterize life duration, are taken into account, even education in the country, professional training, employment and others like that.

After the of human capital index (HCI) Ukraine in 2015 occupied the 31st position among 124 countries of the world by estimation rating of human capital development, in 2016 it had the 26th place among 130 countries of the world, in 2017 it had the 24th place among 130 countries

of the world, as marked, the efficiency indexes of Ukraine are especially high to the level of GDP per capita [21, p. 13]. Besides, only 25 countries of the world use 70% of human capital or even anymore, including Ukraine – 70,28.

It is needed to pay attention, that after the sub-index of mental abilities (competences) estimation (Capacity of score), the personnel reserve is estimated, are people that have the formally accredited qualifications according to the main base of skills and got qualifications on more various brief-case of specializations, Ukraine took the 5 place (from 130 countries) in 2017 – 81,7 points. After the estimation sub-index of “Now-how” (Know-how score), that determines the potential for creation of effective cycle of possibilities for new skills acquisition in the workplace and motivation of investments in development of highly skilled personnel among private and state representatives, and also among people, Ukraine took only the 38th place (59,3 points) [21, p. 8].

This situation directly influences on the competitiveness of the Ukrainian enterprises, that in the conditions of rapid technological changes acquires priority. Thus, on the estimations of the World economic forum after the global competitiveness index (Global Competitiveness Index, GCI), that consists of 113 variables that, in turn, incorporated in 12 control indexes, in particular innovative potential; the level of technological development; efficiency of labour-market; competitiveness of companies; health, primary education; Higher education, professional training and others like that, Ukraine for the period of 2014 (76 place among 144) on 2019 (85 place among 141) has a tendency to worsening the indexes (Table 5.7).

From 2018 the World Bank for realization of measuring and analytical work with the aim of increase of awareness level and demand on items in relation to human capital forming and of human capital index (Human Capital Index, HCI) was worked out, measures the productivity level of next generation’s workers as compared to the standard index of complete course of studies and valuable health. The index value is for the country in that the average worker has valuable health and has passed the complete course of education that is equal to 1. On this index Ukraine in 2018 was on the 50th position (0,65) among 157 countries [22, p. 62].

About the state of human capital of the Ukrainian enterprises testifies the highly sought of highly skilled specialists in the country. The data, given to the report about the state of highly skilled market in the world,

Table 5.7

**Positions of Ukraine and some countries in the Global
Competitiveness Index 2010-2019**

Ranking GCI	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ukraine	89	82	73	84	76	79	85	81	83	85
Georgia	93	88	77	72	69	66	59	67	66	74
Turkey	61	59	43	44	45	51	55	53	61	61
Romania	67	77	78	76	59	53	62	68	52	51
Russia	63	66	67	64	53	45	43	38	43	43
Poland	39	41	41	42	43	41	36	39	37	37
Estonia	33	33	34	32	29	30	30	29	32	31

Compiled by source [20].

that is annually published by the French experience institute of INSEAD together with Adecco Group and Institute of leadership in the sphere of human capital (HCLI). The global talent competitiveness index (Global Talent Competitiveness Index) measures, how countries are able to compete for the most skilled and talented employees. In addition, countries are estimated by the ability to prepare and keep the most talented specialists. On this index Ukraine occupied in 2018 the 61st place among 119 countries, in 2019 it was the 63rd among 125 countries. For the estimation of Global Talent Index (GTI) seven independent indexes were used by every country: demography; quality of obligatory education system; quality of studies in universities and business-schools; quality of environment for skilled personnel training; mobility and relative openness of labour market; tendencies in providing of foreign investments and international specialists. The estimation of Ukrainian GTI indexes in rating of countries by the level of highly skilled personnel is given in Figure 5.2.

4. Conclusions

As technological spreads are opened out, enterprises are trying to use new technologies for the achievement of higher levels of production efficiency and consumption, going into new markets and for new products competition, the necessity of the use of digital technologies are growing. However, to use new technological possibilities to the

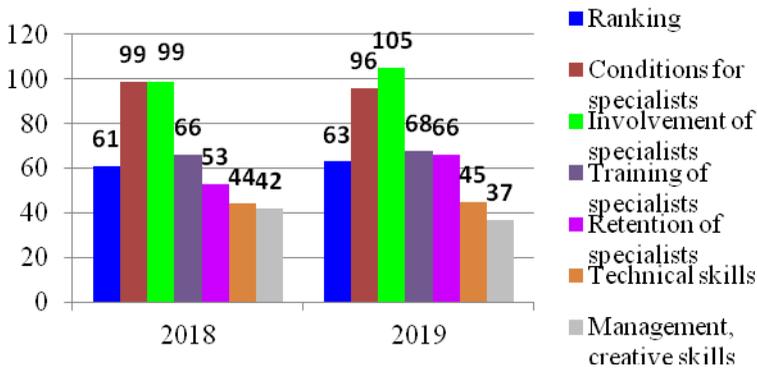


Figure 5.2. Position of Ukraine in terms of highly qualified personnel

Compiled by source [16; 17].

enterprises it is necessary to work out people strategy that is ready to decide the task of new era of technological changes and innovations. This is especially important, because between new technologies and personnel training there is effective intercommunication. Introduction of new technologies assists business increase, creation of new workplaces and expansion of existent workplaces, on condition that he/ she can completely use the talents of motivated and flexible labour force, that has skills oriented to the future, to get new possibilities due to the continuous retraining and qualification training. And vice versa, spreads in skills, both among workers and among the top management of the enterprise, can considerably complicate introduction of new technologies.

The modern state of human capital of the Ukrainian enterprises cannot be simply estimated. Without regard to the improvement of some quality descriptions related to the educational level of population, there are some processes in a country, that destroyed it. As depopulation combines with the considerable worsening of population's health and other its quality descriptions, there were some conditions in Ukraine for transformation of demographic crisis onto demographic catastrophe, that results in instability of community development, negatively influences on economy and social transformations, predetermining the physical, intellectual and spiritual decline of society, results in the lack of skilled human capital in all industries of economy.

For the change of situation and progress of human capital trends

purposeful efforts of the enterprises, society and state are needed on the basis of scientifically reasonable understanding of problems essence and facilities of their permission.

The prospect of further researches in this direction is determination of prospects of human capital development of the enterprises in the conditions of employment patterns change, skills instability caused by technological changes.

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**DETERMINATION OF
THE VECTORS OF
CORRECTION AND
DEVELOPMENT OF
THE PENSION
SYSTEM OF UKRAINE**

In the last few years, research on pension systems has become increasingly important due to reforms, growing interest of the state and society to the problems of social justice, financial security, the level of social protection of the people of retirement age and people with social pension status. The state policy on modernization and improvement of the pension system is focused on building an updated institutional and legal framework of the pension system, on structural changes in the pension system to improve the living standards of the population of retirement age.

Analysis of the current state of the socio-economic sphere shows that an important factor in the implementation of reforms and transformations in Ukraine is the social insecurity of a large part of citizens, declining incomes, declining quality of life. Therefore, the pension provision of citizens is an important aspect of socio-economic relations, especially in the field of labor and income, standard and quality of life, as well as public finances, budget, taxes. It is obvious that the pension system of Ukraine is vulnerable and needs additional measures to ensure its financial stability.

The pension system in the context of economic transformation needs to be reformed. The need to increase the efficiency of the existing

pension system is largely due to significant economic problems that have arisen in Ukraine as a result of economic crises, significant shadowing of incomes, adverse demographic trends, deteriorating employment rates and increasing macroeconomic factors. In this regard, it is important to study and investigate the existing problems of reforming the national pension system of Ukraine, identifying ways to ensure financial stability and its protection from risks.

Pension reform is an important element of life for both citizens and the state, as it is an important area of strategic interests on which the social well-being of people and the economic development of the state depend. Therefore, this industry is attracting more and more attention of specialists and researchers in the field of finance, demography, investment, insurance, etc. Problems related to the study of fundamental problems of pension provision in Ukraine, as well as the ways to solve them are reflected in the works of such scientists and practitioners as: I. Chugunov, O. Nasibova, T. Staverska, I. Shevchuk, V. Fedyna, E. Libanova, V. Rudyk, V. Oleksijko, I. Zagreba, O. Kukurudz and others. Mainly, I. Chugunov notes that the pension system, which originated on a social basis, i.e. on the need to support the disabled, needy people, gradually with social development has become an economic factor that contains the investment component of economic growth and affects the quality of reproduction of productive forces in Ukraine [14]. T. Staverska, I. Shevchuk researched the preconditions and factors influencing the reform of pension systems in the world, analyzed the gradual changes in the field of pension provision in Ukraine, proposing vectors for further pension reform. Scientists emphasized that in Ukraine the raising of retirement age was veiled and had little effect on solving the problems of the Pension Fund of Ukraine [12]. V. Fedyna made the study of factors that led to the restructuring of the national pension system and the problems of its practical implementation and also substantiated the need to identify and monitor risks [13]. E. Libanova notes that the pension system remains socially unjust – both on occupational and gender grounds [8]. Assessing the state of reforming the domestic pension system V. Rudik, V. Oleksiyko systematized the factors of negative impact and determined the priorities of its development, namely: substantiated some aspects of the introduction of the funded pension system and suggested to reconcile the parameters of pension reform with the real state of the domestic economy [11]. Thus, the researcher I. Zagreba offered recommendations for the introduction of a funded pension system in the context of attracting investment into

the domestic economy, and analyzed the experience of implementing a funded pension system in some European countries, noting the possibilities and feasibility of its implementation in Ukraine [4]. At the same time, O. Kukurudz considers that in the existing pension provision the principle of insurance is not fully implemented and has an administrative distribution character and does not ensure the dependence of the amount of pensions on the amount of paid contributions. There is also no relationship between the employee's work and the size of his pension, there is no interest of the employee in the formation of the pension budget [7]. Thus, the problem of reforming the existing pension provision in the new realities of a market economy, a complex demographic situation requires new approaches.

Thus, given the above, taken into account the significant interest of researchers in this topic, the pension system of Ukraine remains inefficient and its reform needs further improvement to achieve higher standards of socio-economic security of retirees.

An integral feature of all reforms and transformations taking place in Ukraine is the social insecurity of a significant number of citizens. The formation of a new pension system that would meet the constitutional principles and at the same time be adequate to the new property relations, market relations, distribution and consumption is a very important issue reviewing the realization of the constitutional right of citizens to social security. One of the reasons for the socio-economic significance that led to the objective preconditions for pension reform is the devaluation of the pension system, which has existed and transformed into an equal one, and is financed over a long period on a residual basis.

The main disadvantages of the pension system are financial instability, weak differentiation of pensions depending on the labor contribution, the lack of a fair mechanism for increasing the size of pensions, associated with rising levels of consumption.

The pension system, which was established during a considerable period on the principle of solidarity, does not have sufficient capacity to ensure sustainable long-term stability of pension institutions, as well as to guarantee pensioners a decent standard of living. In well-developed European countries, this is ensured by the accumulated assets for the period of active working spell, as well as by measures of additional social support for retirees.

The national pension system needs to be reformed due to the impact of both socio-economic and demographic factors.

The pension reform introduced a three-tier pension system, which includes the following levels:

- solidary;
- accumulative obligatory;
- accumulative voluntary.

However, the second level has not been introduced, and private insurance is too slow, so the basis of the pension system is the solidarity level.

The modern pension system is faced with the problem of balance, lack of real sources of material support for pensioners, a significant deficit of the Pension Fund of Ukraine (PFU): the amount of expenditures significantly exceeds the amount of revenues.

The financial analysis of incoming and outgoing flows of pension provision during 2014-2019 was conducted (Table 5.8).

Table 5.8

Dynamics of revenues and expenditures of the Pension Fund of Ukraine

Years	Revenues mln. UAH.	Rate, (%)	Expenditures mln. UAH.	Growth rate, (%)
2014	239871,7	-	240068,6	-
2015	264767,8	10,4	262177,5	9,2
2016	255801,1	-3,4	253448,6	-3,3
2017	292369,8	14,3	291467,3	15,0
2018	352175,3	20,5	358604,6	23,0
2019	434857,8	23,5	435933,6	22,4

Source: [5]

The data presented in Table 5.8 show that during the study period the fund's revenues increased by 81.3% (almost UAH 194.986 billion), and in 2019 amounted to UAH 434.858 billion, which in 23.5% (UAH 82.7 billion) exceeded the corresponding figure of the previous year.

The growth of the revenue part of the PFU in 2019 is partly explained by changes to its budget, introduced by the Resolution of the Cabinet of Ministers of 20.02.2019 №137 [9], according to which to revenues there has been added the position of "the funds the State Budget of Ukraine for benefits and housing subsidies to citizens to pay for housing and communal services in cash" in the amount of over UAH 10 billion. According to the Resolution of the Cabinet of Ministers dated by February 6, 2019 № 62 [10], the Ministry of Social Policy pays housing subsidies in cash. However, despite such innovations, the

provision of the population with other types of social support and revenues of the budget part of the PFU in 2019, increased compared to the previous year.

The trend in PFU expenditures is similar, having increased by 81.6% over the last 6 years (over UAH 195.9 billion).

Systemic underfunding and ever-increasing expenditures, even despite the steady decline in the number of retirees, lead to a PFU budget deficit, which is mainly covered by the state budget (Table 5.9). The obvious increase in external subsidies to the PFU occurs in 2016, when more funds were allocated from the State Budget of Ukraine than the institution's own revenues.

Table 5.9

Comparative dynamics of some indicators of the Pension Fund of Ukraine

Indicators	2014	2015	2016	2017	2018	2019
The average annual number of retirees, thousand people	13533	12147	12297	11956	11725	11470
Chain growth rates, %		89,8	101,2	97,2	98,1	97,8
The amount of the average monthly pension, UAH.	1526,1	1581,5	1699,5	1828,3	2479,2	2645,7
Chain growth rates, %		103,6	107,5	107,6	135,6	106,7
The amount of revenues from the state budget, mln. UAH.	75813,9	94811,5	142586	133459	150091	129264
in % to the total amount of the revenues of PFU	31,3	35,8	53,5	45,5	42,4	31,6
Chain growth rates, %		125,1	150,4	93,6	112,5	86,1

Source: [5]

During the period, arrears of payments to PFU increased, caused by arrears of SSC payments, wages, difficult financial condition of state-owned enterprises, arrears of compensation of preferential pensions (Figure 5.3).

An equally important reason for the growing deficit of the pension fund is the presence in the structure of Ukraine's economy of a significant volume of the shadow sector. Thus, according to the State Statistics Service of Ukraine, every fourth employee works without

registration of employment. Most of such workers are in agriculture (42.3%), trade (17.9%), construction (16.1%), industry (6.4%), transport (3.7%). As a result of informal employment, the PFU loses about 30 billion hryvnias annually. Therefore, the problem of de-shadowing of incomes and legalization of employment should become one of the important priority areas for ensuring the revenue side of the budget and the effective functioning of the PFU.



Figure 5.3 Dynamics of arrears of payments to PFU

Source: [5]

Thus, the threatening dynamics of the PFU budget deficit, the rapid deterioration of the financial situation of the population (pension entities) indicate a lack of efficiency of the current pension system. As a result, the average size of pension provision for the majority of elderly Ukrainian citizens is less than the subsistence level and does not meet even their basic needs (Table 5.10).

The PFU provides management of the solidarity system of the obligatory state pension insurance. For the full and independent functioning of the PFU, the main source of income should be its own income (i.e. contributions of insured people), so it is advisable to consider the dynamics of this indicator.

During the six years, the share of own revenues ranged from 46.5% (2016) to 68.7% (2013). The largest dynamic decline in this indicator is observed at the beginning of the active reform of the pension system, which led to a significant dependence of PFU revenues on external sources of funding. In 2017, more than 10.2 million pensioners (87.2%) had their pension payments increased. At the same time, the increase was extremely uneven: about 2.3 million people received monthly allowances

of up to 100 UAH, 4.6 million – in the amount of 100-500 UAH, 1.3 million retirees improved their pensions by 500-1000 UAH, for 800,000 the increase in pension provision was 1-1.5 thousand UAH [5].

Table 5.10

Distribution of pensioners by the size of pensions in 2019

The amount of pension payment, UAH	Number of pensioners of all categories, people	Share in the total number, %	The average size of the pension payment, UAH
Over 10000	237734	2,1	12845,25
From 5001 to 10000	1019928	9,0	6710,85
From 4001 to 5000	686472	6,0	4447,48
From 3001 to 4000	1425000	12,6	3440,86
From 2001 to 3000	3137828	27,6	2389,80
From 1501 to 2000	4763653	42,0	1824,19
From 1401 to 1500	3678	0,03	1477,84
Under 1400	75619	0,7	908,55

Source: [1]

The results of a comparative analysis of the study of the average size of assigned pensions by type and quantitative analysis of pensioners in these groups (Table 5.11) shows a simultaneous increase in average monthly pension benefits and a reduction in the number of pensioners, which suggests a real possibility of further pension reform.

Table 5.11

Dynamics of the number of pensioners and the average monthly pension in Ukraine in 2014-2019

Years, as of the end of the year	The average size of the assigned monthly pension to pensioners who are registered with the Pension Fund, UAH				The number of pensioners, thousands
	Total	including:			
		by age	for disability	in case of the loss of breadwinner	
2014	1526,1	1521,6	1406,5	1303,8	13533,3
2015	1581,5	1573,0	1432,1	1433,1	12147,2
2016	1699,5	1690,3	1545,2	1640,3	12296,5
2017	1828,3	1808,9	1705,9	1803,0	11956,2
2018	2479,2	2556,7	2000,9	2368,0	11725,4
2019	3006,8	3009,1	2547,4	2853,0	11470,1

Source: [2]

Using the coefficients of substitution (C_{subst}), security (C_{sec}) and system load (C_{sl}), the efficiency of the solidarity pension system will be determined (Table 5.12). These coefficients are directly related to each other and highlight the internal logic of building a joint pension system.

Table 5.12

Dynamics of indicators of the efficiency of solidary pension system functioning

Indicator / Years					
2014	2015	2016	2017	2018	2019
<i>The average pension, UAH</i>					
1526,1	1581,5	1699,5	1828,3	2479,2	2645,7
<i>Average monthly nominal salary, UAH</i>					
3149,5	3661,4	4482,4	6273,5	7810,9	10343,7
<i>The weighted average subsistence level per workable person per month, UAH</i>					
1218,0	1271,3	1434,3	1684,0	1808,2	2155,6
<i>Demographic load on the population of people aged 0-14 years (per 1000 people of working age)</i>					
212,3	217,6	221,4	225,3	227,4	227,7
<i>Demographic load on the population of people aged 65+ (per 1000 people of working age)</i>					
219,2	225,3	230,8	236,7	242,6	247,1
<i>C_{subst} (coefficient of substitution) = the ratio of the average pension to the average salary</i>					
0,48	0,43	0,38	0,29	0,32	0,26
<i>C_{sec} (coefficient of security) = the ratio of the average pension to the subsistence level</i>					
1,25	1,24	1,18	1,09	1,37	1,23
<i>C_{sl} (coefficient of system load) = the ratio of the number of persons insured with the Social Insurance Fund to the number of pensioners</i>					
0,73	0,87	0,88	0,87	1,10	1,11

Source: [1, 2, 5]

It is obvious from the above data that the systemic insufficiency of PFU's income is due to the low rate of SSC, the insufficient number of its payers and the low base for its accrual. It should be noted that the purpose of reducing the SSC rate was an attempt to institutionally influence the level of tax evasion. SSC created a particularly significant burden on low-income people, while the upper limit of the rate leveled such a burden for the wealthy. Instead, this innovation has not become an effective tool, as tax evasion is a multidimensional problem, and the separately introduced

reduction of the SSC rate has not had a significant impact on the withdrawal of income from the shadow sector of the economy.

The system load coefficient is also consistently low, which indicates an insufficient number of SSC payers. This has led to a situation where the pension rate is in the lowest position among European countries.

Pension income in Ukraine mainly depends on the financial stability of the solidarity system, however, the replacement coefficient in the solidarity system tends to decrease due to changes in the labor market and demographic situation, which will increase in the share of pension income from additional systems of voluntary or mandatory funded pension provision. Therefore, there is a question of rethinking the accumulative system of private pension provision.

Non-state pension funds (NPFs) with a fixed contribution have existed in Ukraine since 2005, however, the non-state pension provision system has not been successful throughout its existence. As can be seen from Table 5.13, the overall performance of NPFs remains low.

Table 5.13

General performance indicators of non-state pension funds in Ukraine

Indicator / Year					
2014	2015	2016	2017	2018	2019
<i>Number of NPFs</i>					
80	72	64	66	64	62
<i>Number of participants, thousands of people</i>					
837,7	836,7	834,0	840,8	855,3	868,7
<i>Number of concluded contracts, thousand</i>					
55,1	59,7	62,6	58,7	68,8	70,7
<i>Number of recipients of private pensions, total, thousand</i>					
75,6	82,2	81,3	78,8	81,3	83,3
<i>Pension payments, mln. UAH</i>					
421,7	557,1	629,9	696,3	809,9	912,9
<i>Pension contribution, mln. UAH, including:</i>					
1808,2	1886,8	1895,2	1897,3	2000,5	2112,6
▪ <i>from individuals</i>					
71,4	80,3	92,2	124,3	172,1	208,7
▪ <i>from self-employed persons</i>					
0,2	0,2	0,2	0,2	0,2	0,2
▪ <i>from legal entities</i>					
736,1	1806,3	1895,2	1772,3	1827,7	1903,1

Source: [6]

The analysis of quantitative indicators of NPFs activity shows the gradual development of this segment, however, despite the gradual increase in the number of NPFs participants, the level of citizen participation remains significantly low. In our opinion, this may be due to the low level of awareness of the population in matters of disposal of their pension savings, low income, distrust of financial and economic institutions of NPFs.

The transition from solidarity to an accumulative system is caused by a change in the demographic situation: declining birth rates, rapid aging of the population of Ukraine, increasing demographic burden on the working population. All this leads to the impossibility of ensuring a decent standard of living for the elderly at the expense of the younger generation and requires the replacement of the principle of solidarity of generations by the principle of personal responsibility of people for ensuring the standard of living in retirement. No less important is the increase in the outflow of population abroad in recent years. Labor emigration usually occurs in more economically developed countries, which causes indirect losses to the country's population, and at the same time has a negative impact on budget replenishment. Such threats are not only facing the pension system of Ukraine, they have already become global problems.

International researchers point to the secondary character of the demographic factor, believing that the economic determinants of the functioning of pension systems always dominate. The negative impact of the deteriorating demographic structure of the population on the sustainability of the pension system can be leveled by an increase in the production of goods and services per employee in the sphere of economy. At the same time, replacing the principle of solidarity financing of funded pensions without increasing production potential and labor productivity can only delay the crisis of the pension system: pension savings not provided with sufficient goods and services will lead to their depreciation and, consequently, lower living standards.

Thus, despite the fact that the main purpose of reforming the pension system is to improve the solidarity pension system and ensure fairness in determining the amount of pension benefits, the trends we have demonstrated indicate the difficulty of solving this problem. Such steps were aimed at ensuring a certain stability and equalization of the financial capacity and results of the solidarity pension system. The results of the study showed that certain stabilization was achieved, as in 2017-2019 there is already a positive dynamics of the share of own

revenues in the PFU budget, and, consequently, an objective reduction in the burden on the budget of Ukraine. It can be considered that the next step should be the introduction of mandatory funded pension insurance and voluntary funded insurance.

The main vectors of the development and improvement of the pension system and elimination of its shortcomings can be: correction of pension legislation, clear financial regulation, increase of labor productivity and salary, reduction of risks associated with labor migration, increasing the role of insurance experience in forming the right to pension, correction of methodology calculations of the replacement coefficient, revision of the principles of the formation of accumulative component of the pension, effective information work.

Conclusions. The pension sector as a complex socio-economic system affects the economic processes in the state. At the same time, the transformation processes in the economy involve evolutionary transformations in the pension sector. Limited material and financial resources pose a task for researchers to analyze the combination of market and non-market bases of the pension sector at a new level. Both employers and employees are called upon to ensure the organization and order in the pension system along with the state. At the same time, the key element in the pension system should be played by the basic element – the insurance mechanism with the active introduction of additional voluntary NPFs.

There are a significant number of problems in the pension system of Ukraine, and partially implemented reform measures cause a number of contradictions. A real assessment of the current state of the domestic pension system shows the importance of the pension issue in the context of ensuring social development, strengthening the potential for economic growth. Further research should focus on finding stable and reliable sources of funding for all types of social insurance and the optimal distribution of resources accumulated through a single contribution to compulsory state social insurance between social insurance funds.

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**SAFETY ASPECTS OF
DEVELOPMENT OF
SOCIAL RESPONSE TO
THE PANDEMIC
THREAT**

Continuous transformation of international social security system is happening under influence of globalization processes. Fundamentally new features of world order are being formed and international processes become controversial, there are constantly new challenges and threats. In the present historical moment, when major public efforts to provide social security are aimed at sustainable development, poverty reduction and environmental problems, humanity is facing new pandemic threats that immediately require significant political, economic and social efforts at all levels of social hierarchical construction. The problem of providing social security in response to a pandemic is not a completely new phenomenon in the history of human civilization, it has been repeatedly actualized at different times, as evidenced by both the historical events and texts of theological orientation (Lukanova, 2017). In 2020, a new pandemic challenge has become a global problem for humanity, the successful solution of which is determining the future quality of life of most countries' population in the world. The extremely rapid pace of development of social response to the pandemic threat, due to objective uncertainty about the possible consequences, actualises the need for this study.

The phenomenon of social response to pandemics remains largely unexplored today. Moreover, since the problem identified is at the intersection of medico-biological, socio-economic, ecological, social, psychological and cultural branches of scientific fields, individual publications of both domestic and foreign scientists partially cover only certain highly specialized aspects of this large-scale problem. The well-known epidemiologist B. Cherkassky offers qualitative understanding of the concept of a pandemic as a global social and environmental

epidemiological system that ensures the preservation and spread of infection on a planetary scale, differentiating it from the concept of the epidemic (massive infectious affection in a given time and space) (Cherkassky, 2008).

American epidemiologist A. Omran within his own epidemiologic transition concept put forward and substantiated the assumption that social development and massive growth of welfare are not able to overcome the pandemic risks, and therefore can be considered only as a situational tool for easing the negative consequences of spreading socially dangerous diseases (Omran, 2005). The stages of epidemiologic transition have been defined by this scientist as a reduction in the mortality rate of the population from the most dangerous infectious diseases, an overall improvement in living and working conditions, active promotion of healthy lifestyles and a reduction in mortality among the most vulnerable population categories (children and older people).

Scientific works of A. Tkachuk are devoted to consideration on biological hazards connected with the massive spread of infectious diseases (Tkachuk, 2017). Author reveals the study of the main reservoirs and sources of mass outbreaks of dangerous diseases, to which he attributed the uncontrolled release or spread of pathogens, especially laboratory-modified and with unknown mechanisms of impact on the ecosystem, their own and transboundary mobility.

Upon investigating aspects of civil protection O. Levchenko and co-authors emphasize that modern society has rejected the concept of absolute security, instead it developed the concept of adopted risk, that can consciously be perceived by its greater part in the time of a pandemic, and is itself a compromise between the level of security and the institutional capacity to achieve it in technical, economic, social and political aspects (Levchenko, Polukarov, Zatsarnyi, 2019). Thus, the critically low amount of scientific research and the practical underdevelopment of socio-political and socio-economic responses to the pandemic's social dangers are obvious and drive us to explore this problem.

In March of 2020, WHO has identified the outbreak of a new coronavirus SARS-CoV-2, which causes affection on COVID-19, as the pandemic, and providing all governments recommendations to expand the services to respond to emergencies, to inform the public about the risks and how to protect themselves, to detect, isolate and treat each patient, to monitor their communications, and to prepare hospitals, to train and to protect nursing staff (World Health Organization, 2020).

General Director of WHO T.A. Ghebreyesus noted that COVID-19 reaches a new tragic milestone with every day, and most concerning is the possibility of this virus impact if it strengthens in countries with weak health service and medico-biological protection.

According to WHO, as of March 23, 2020, the number of laboratory confirmed COVID-19 cases in the world reached more than 341 thousand (daily increase +26069 cases) in 180 countries or territories, and the death toll from the disease exceeded 14.7 thousands of people (World Health Organization, 2020). The rapid increase in the spread of the virus is concerning: if the first 100 thousand cases were recorded within three months, then the next 100 thousand – only in 12 days, and the third 100 thousand – in 4 days (Figure 5.4).

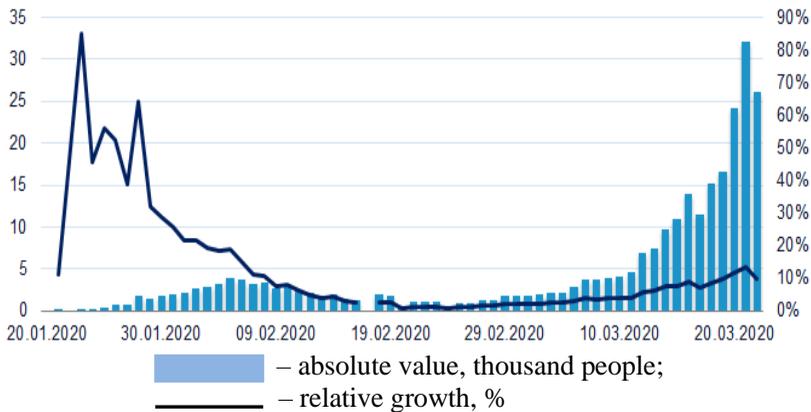


Figure 5.4 Increase in the number of confirmed COVID-19 cases worldwide. Screenshot (World Health Organization, 2020)

But every loss of human life is not only a tragedy but also a motivation to use every opportunity to stop the spread of a pandemic.

Public expectations of moderate but stable growth of the global economy in 2020 proved to be unfulfilled, based on on-line data from provider of financial information Bloomberg, the global index FTSE All World (the main indicator of the global economy state) only for the first week after the announcement of a pandemic has lost about 6 trillion USD or 13% (Figure 5.5) and showed the value of the market price of the shares of half a year ago, the fall of the S&P 500 index (the total stock index of the 500 US joint-stock companies with the highest capitalization) was about 9% during the same period (Bloomberg, 2020).

FTSE All World ▼ 253.95 -8.23 (-3.14%)



Figure 5.5 Dynamics of the fall of the FTSE All World Global Index in January-March 2020 Screenshot (Bloomberg, 2020)

Today, clusters of COVID-19 related cases are already observed in several European countries, and the risk of clusters appearance in other countries is considered moderate or high. Despite WHO's announcement of a decrease in the number of new laboratory-confirmed COVID-19 cases on March 23 relative to the previous day and market expectations that a slowdown in pandemic recovery could be a driver for economic recovery, there is still no strong arguments for a positive scenario.

Leading Bloomberg economic analysts have been unanimous in negatively assessing the potential for rapid and full recovery of world markets, and their reports indicate significant restrictions on the functioning of national economies in the conditions of increased quarantine measurements.

In particular, analysts of at least six US financial firms, including Wells Fargo & Co., BMO Financial Group, Canadian Imperial Trade Bank, ABN Amro, Rabobank and Berenberg forecast a contraction of up to 2% in the second quarter of 2020 due to significant dynamics of COVID-19 morbidity, excessive market changeability, a reduction in consumer spending in the discretionary sector, which includes players in the apparel and restaurant industry, and a decrease in business investment due to declining demand in the travel industry (Zacks, 2020).

One of the critical risks to the economic environment is a high degree of uncertainty, since no expert is today able to estimate the time perspectives of curbing a pandemic, as well as the level of social losses and financial cost of rebuilding the world economy. More or less clear indication of that might be revealed only after investors abandon the massive risk avoid policy.

Moreover, in an environment of sharp deterioration in the economic climate in practically all countries – economic leaders, the hope of improvement due to changes in national monetary policies looks rather illusory. National central banks are unable to overcome the effect of the shock proposal, which is gaining momentum in a pandemic.

According to the Center for Public Health of Ministry of Healthcare of Ukraine as of March 23 in Ukraine there were 73 laboratory-confirmed cases of COVID-19 (daily gain of 26 cases) fixed. Although the Ukrainian March 2020 morbidity statistics appear more optimistic than in many European countries, the extremely difficult socio-economic conditions provide grounds for anticipating a pandemic activation and significant negative effects on the domestic economy.

Regarding the prospects for the development of the Ukrainian economy in the quarantine conditions of pandemic expansion, it should be noted that vulnerability factors due to its own instability are added to the global risks of deteriorating expectations on the financial markets. In particular, according to the Ministry of Finance of Ukraine, in 2020, the amount of servicing the public external debt of Ukraine increases by more than 25% (up to 6.2 billion USD).

Accumulated at the end of January 2020 gold reserves amounting to 26 billion USD cannot be considered sufficient because it covers only 20% of the country's gross external debt (Ministry of Finance of Ukraine, 2020). Additional factors of economic risk are the re-evaluation of the hryvnia due to its strengthening by 19% in the previous year, reducing the chances of successful placement of Eurobonds due to the global tendency of falling in the stock markets, a sharp decrease in the inflow of foreign investments, a change in attitudes in the foreign exchange market, a sharp fall in the consumer activity on domestic market, that go beyond meeting the vital priorities.

In such circumstances, radical measures taken at the highest institutional level to prevent a pandemic have become a significant risk factor for ensuring social security for Ukrainian citizens. This includes, in particular, the temporary closure of borders, restaurants and the non-food trade, restrictions (and sometimes a complete ban) on public

transport, which have led to a decline in activity or forced suspension of many business entities activity and a significant reduction in workload for employees of different industries.

In order to prevent the emergence and spread of COVID-19 in Ukraine, some legislative acts aimed at ensuring the functioning of the state under quarantine restrictions were urgently amended (Law of Ukraine, 2020). In the first place, legislative initiatives were concerned with improving the motivation of healthcare professionals directly involved in medical manipulations towards a pandemic threat. In addition, the public procurement procedure was temporarily simplified, medicines, medical devices and medical equipment intended to prevent the emergence and spread of COVID-19 were exempted from import duties and VAT.

The introduction of a set of legal norms defined the special working conditions during the quarantine period, in particular, confirmed the possibility of remote work for many workers and civil servants. Business owners were given the right to change their customer service regimes.

Due to the situation connected with the announcement of quarantine, the timing of which may vary depending on the epidemiological situation in Ukraine, the Ministry of Education and Science of Ukraine recommended to ensure partial transfer of employees of education and science institutions, as well as other subordinate organizations to work in flexible and / or remote mode, to ensure the studying process with the help of remote technologies in the presence of appropriate conditions, to prevent forced sending of employees on vacations, in particular, without pay, to retain the average wage for workers for a period of quarantine.

In addition, a number of social norms, important, first of all, for maintaining the quality of life of the most vulnerable members of Ukrainian society in the conditions of pandemic expansion – pensioners and persons with chronic diseases – were enacted. In particular, the moratorium on penalties for individuals for late payment obligations on consumer loans and utilities, as well as a decision on a single payment of 1 thousand UAH for pensioners with a pension not exceeding 5 thousand UAH.

There will be no real estate tax for citizens during the quarantine period, and entrepreneurs will be exempted from the obligation to pay a single fee. Social protection will also increase for able-bodied citizens who will be out of work during the quarantine period, simplifying the procedure for providing subsidies for public utilities.

Funding for ongoing activities to restrain the spread of the COVID-19 pandemic in Ukraine today is being implemented within the current budget. The legislative changes announced above, as noted by their developers (Law of Ukraine, 2020), do not require additional budgetary allocations. However, it is obvious that the introduction of social benefits (only for the payment of 1 thousand UAH to low-income pensioners, additional losses of the state budget will amount to more than 10 billion UAH) and a significant reduction of the real sector of the economy can significantly affect the revenue side of both the state and local budgets.

It is clear that the largest burden on the financial system of Ukraine in the case of pandemic expansion will fall on the medical sector. At present, it is impossible to accurately estimate both the number of possible cases of infection and the cost of treating one infected patient, since protocols for diagnosis, treatment and rehabilitation are only being developed, and WHO is making new recommendations on an expedited basis.

But in addition to the direct payouts of saving lives, the threat to social security is also the destruction by the pandemic of the established logic of financial and economic processes. Long-term ban on entire industries (tourism, entertainment, restaurant, etc.), the cessation of foreign exchange earnings from migrant workers who were forced to evacuate in the wake of the pandemic (in 2019, more than 12 billion USD was transferred to Ukraine), changing the internal logistics of cash flows are all force majeure circumstances for the Ukrainian economy, which will be extremely difficult to overcome. Therefore, it is highly probable, especially against the backdrop of the threat of a global recession, that Ukraine may face an economic crisis, for decrease of which it is important to direct all resources available in the country today to prevent the spread of a pandemic.

Thus, with the background of the rapid spread of the COVID-19 pandemic in the world and the threat of its spread in Ukraine, new threats of a social and economic nature are emerging. Absence of treatment protocols can lead to significant mortality among the population, and the inability to predict the extent of pandemic outreach together with the forced ban on the activities of many sectors of the economy can be a starting mechanism for a significant deterioration in the quality of life of many citizens and the onset of social and economic collapse, which requires all state resources to be addressed immediately to overcome this problem.

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Chapter 6

MARKETING ENSURE FOR DEVELOPMENT OF THE ECONOMIC SYSTEMS

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ORGANIZATIONAL AND ECONOMIC PRINCIPLES OF QUALITY MANAGEMENT IN TOURISM

Improving of quality is one of the factors that intensify economic development, improve the efficiency of production processes, and ensure competitiveness in the world and domestic markets. Quality management in most advanced economies is seen as a nationwide problem.

Product quality providing is a set of planned and systematic measures that create the necessary conditions for fulfilling each stage of the quality concept in such a way that the product meets the requirements of the market segment for quality [10, p. 27]. One of the primary principles behind creating a quality management concept for tourism is to define the concept of tourism services quality. The quality of tourist services is considered as a set of properties of tourist services, processes and conditions of service to meet the stipulated or foreseen needs of consumers of services from all components of the complex tourist product.

After summarizing the scientific works of domestic and foreign authors, the main indicators of quality of tourist service are specified. These include: destination, ethics, comfort ability, adaptability, reliability, uniformity, exclusivity, environmental friendliness, safety and the like.

Indicators of destination of tourist products characterize its functional

properties for which it is intended, and determine the scope of its application. Destination indicators describe the components of the tourism service, the expected impact and are one of the main areas for evaluating the activity of a tourism organization. Indicators by destination index should determine the degree of compliance of the offered service to customer expectations: consumer performance indicators, composition of the proposed product, a set of quantitative indicators (journey duration, its route, schedule, etc.). The compliance of the tourist product with the requirements of the destination indicators is not subject to competition. This is a prerequisite for the beginning of competition, that is, the withdrawal of tourism enterprises in this competitive environment. The behavior of the travel company in this environment is determined by other indicators of product quality [4, p. 71].

Ethical quality indicators characterize public opinion, tourists' opinion on the quality of tourist services and the possibility of achieving the goal of travel [7, p. 112]. The value of this tourist service includes the following aesthetic components: harmony, integrity of coverage of the tourist program, compliance with social expectations, skill level of service personnel. Ethical indicators can generally be attributed to social characteristics that express the value of this service. The group of indicators that determine the ethical quality of the tourism service is subjective, but it is a significant complement to the balanced system of quality indicators of the tourism product. The group of ethical quality indicators is crucial in ensuring the competitiveness of the tourism product and the tourist operator. Compliance with the tourism product with ethical quality indicators requires compliance with the high performing, technological discipline and qualification of the staff and the appropriate organizational culture of the tourism enterprise [6].

The groups of indicators of comfort are anthropometric; physiological; psychological; hygienic and other indicators that are of great importance for consumers of the integrated tourism product. Requirements for these indicators relate to the composition of the tourist product, its functional characteristics, construction elements of vehicle, equipment and interior of hotels and restaurants, etc. Anthropometric indicators characterize the conformity of the equipment, the interior, the rooms to the size and shape of the human body and its individual parts. The physiological and psychological indicators of tourist services are mainly related to the quality of excursions, their duration and availability of facilities for recreation and other needs of tourists. Very often, experts justify the competitiveness of their tourism product by the

presence of additional excursions, without taking into account the increase in physical and psychological load on the tourist.

The group of technical quality include patent law (the presence of a license, certification of services), compliance the conditions of service with sanitary standards, compliance of the categories of means of accommodation with the comfort level of the hotel [7, p. 114]. This group of indicators is organically linked to groups of indicators that characterize reliability, environmental friendliness and safety.

Reliability indicators include the guarantee of compliance with the terms of the contract between the tour operator and the consumer of the tourist product, the reliability of technical and other means used in the implementation of tourist services. Reliability indicators cannot be contrasted with other quality characteristics, but without complying with them all other service quality indicators lose their meaning. On the other hand, reliability becomes a true indicator of quality only if it is combined with other characteristics of tourist services.

Indicator groups that characterize the uniqueness and exclusivity of a complex tourism product determine the degree of use in a particular service of standardized, unified, original services. Services that are performed according to international, national and industry standards are standardized. Unified services include services provided by the enterprise standards and used more than in two tourism programs. The indicators of uniformity indicate the high quality of the tourist product.

Exclusive services are offered exclusively for this complex tourist product. Exclusivity is characteristic of a segment of high-value tourism programs that do not fit into the scope of the standard offer. Exclusivity indicators reflect the uniqueness and individuality of this tourist product.

Ecological indicators characterize the state of the environment in tourist travel regions. Currently, eco-tourism is receiving considerable attention, and tourist flows to ecologically clean regions have a positive dynamic [9, p. 151].

Safety indicators determine the degree of risk to the life and health of the tourist route, the type of tourist services and the quality of measures to its counteract [2]. Safety factors in tourism are classified by: trauma safety; environmental impact; fire safety; biological impact; psychophysiological load; radiation and chemical safety; industrial dust and pollution; specific risk factors.

Indicators of all established tourist service quality groups are provided by the staff of various subjects of tourist activity that join forces in the final product at the following stages of its life cycle:

marketing research, design of a new tourist service, technological preparation of production, production (equipment) of services, control, promotion and sales in the market and customer service.

A quality tourism product can be provided by a tourism company with a sufficient level of general management and personnel management. Quality system means the totality of organizational structure, responsibilities, methodologies, processes and resources that necessary for the implementation of general quality management in a tourism organization [1, p. 115]. The quality management system is intended for implementation in tourism enterprises in order to ensure the quality of work and continuous control of the process of conformity of service provision.

In accordance with international standards, any system that aimed at ensuring the quality of service must meet a set of interacting and complementary requirements. The basic structural elements that ensure the quality of the integrated tourist service are: a system of regulating relations in the management of the quality of the tourism product and the activities of the subjects of the tourism industry; quality management system for the tourism enterprise and its contractors and agents. The essence of the model is schematically depicted in Figure 6.1.

Regulation of relations in the sphere of quality management of the tourist product is carried out through a system of normative legal acts, state, interstate and international standards of quality and service of tourists. The quality control of tourist services provided by tourist enterprises is carried out by state and local authorities through the system of licensing of tourist operators and their counterparties, standardization and certification.

State regulation of the quality of tourist services through licensing of activities of tourist operators involves the verification of: availability of documents for the ownership (or lease) of the premises of the tourist enterprise; documents certifying education and work experience in the tourism industry of the head of the tourism enterprise; documents certifying the financial support of the entrepreneurial activity of the tourism enterprise; the existence and content of contracts with an insurance company for the provision of compulsory health insurance and accident insurance for tourists who are provided with travel services.

State regulation of the quality of service provision through licensing is also carried out in the main counterparties of the tourist enterprise: hotels, motels, transport enterprises, etc. When concluding contracts

between a tourist enterprise and counterparty, the position of having a license is stipulated.

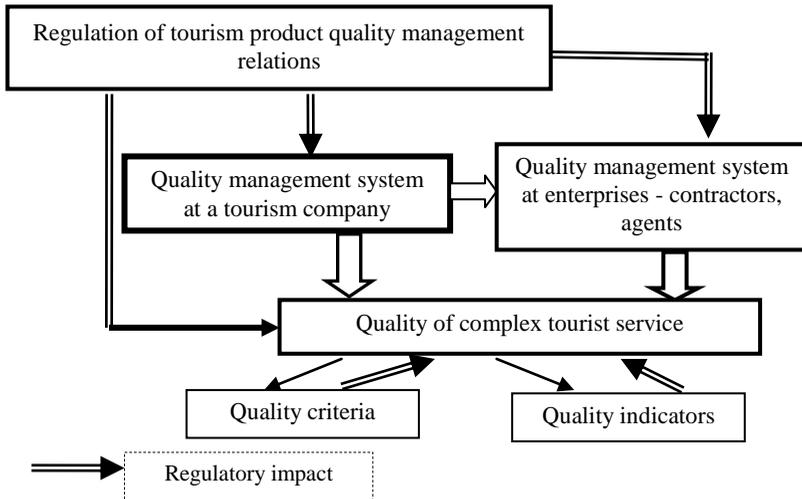


Figure 6.1 The tourism quality management model

Source: compiled by the authors

Standardization of activity of tourist enterprises and counterparties is aimed at: improving the quality of services in accordance with the needs of consumers of the tourism product; protection of life and health of consumers of tourist services, etc.

Certification of services provided by tourism industry enterprises is carried out in order to harmonize standards, norms and rules with international standards, recommendations, norms and rules regarding requirements for visit objects and tourist services, interaction of tour operators, use of limited tourist resources, quality and types of tourist services.

The quality management of the subjects of tourism industry (STI) envisages the introduction of an internal audit system. Quality audit is a systematic and independent evaluation of the quality of the company.

A specific feature of a tourist service is its provision by various enterprises. The tourist service is designed by the tourist operator, its formation and realization is ensured by the coordinated activity between the tourist operator, travel agent and counterparties of the tourist enterprise (hotels, motels, transport companies, tour bureaus, insurance

companies, etc.). Relations between them are formed on a contractual basis.

The quality of the complex tourist service is characterized by the totality of the components of the quality of all provided services and the culture of tourist service. Quality is expressed through a system of criteria that reflects the different types of activities for counterparties. Quality management of tourism services is a process that involves identifying the nature and scope of customer needs, assessing the actual level of quality of tourism services, developing, selecting and implementing measures to ensure and control the planned level of quality. In order to meet the needs of consumers, a comprehensive tourist service must satisfy a set of criteria.

No tourist enterprise is able to organize a tour on its own, provide customers with all the necessary vehicles, provide housing, arrange meals, etc. For this purpose, agreements are usually concluded with specialized enterprises - counterparties of the tourist enterprise. Such entities of the tourism industry include organizations providing accommodation, catering, providing specific and exclusive services, providing tourists transportation, providing tourist support and information services, etc.

In modern conditions it is impossible to provide quality rendering of complex tourist service without the use of the latest information technologies. Just their implementation and use in the practical activity of the subjects of the tourism industry ensures compliance with a set of interacting requirements for quality management in the tourism sector.

Quality of complex tourist service includes: 1) quality of hotel services; 2) quality of food services; 3) quality of transport services; 4) quality of excursion services; 5) quality of information support; 6) quality and range of specific services.

Quality hotel services include:

- compliance with the characteristics of the hotel category;
- state of logistical base;
- speed of placement;
- range of additional services;
- preservation of property;
- ecological status;
- safety for the life and health of tourists;
- level of hospitality;
- animation, children's entertainment, others.

Quality food services include:

- quality of service staff work;
- conformity of the range of products for type and class of establishment;

- level of hospitality;
- aesthetics;
- quality of material base of the enterprise;
- safety for the life and health of tourists.

The quality of transport services includes:

- speed of transportation;
- cost of transportation;
- comfort;
- possibility of luggage transportation;
- preservation of property;
- eating conditions on the go;
- environmental conditions;
- safety for the life and health of tourists;
- transfer and more.

Quality excursion services include:

- satisfaction of interests of excursionists;
- optimization of the excursion program;
- reliability;
- guide's qualification;
- language culture;
- aesthetics;
- safety for the life and health of excursionists;
- others.

The quality of information support includes:

- faithfulness;
- completeness of information;
- accessibility;
- timeliness;
- uniqueness;
- reliability;
- safety for life and health;
- others.

The quality and range of specific services include:

- household;
- excursion;
- cultural and mass;
- sports;

- sports and entertainment;
- therapeutic;
- organizational and scientific;
- safety for life and health;
- others.

The use of information technology is a necessary component of quality management in the tourism sector and the basis for the relationship between the requirements that shape the quality of tourism services and the information technology required for this purpose.

Therefore, the tourist enterprise in the market does not operate in isolation, but in the surround and under the influence of various factors and entities that make up its immediate external environment. Relationships between environmental actors and the tourism enterprise are diverse and interdependent, and by their nature of action, they can have a direct impact on the quality of the tourism product and the competitiveness of the tourism enterprise in the tourism market.

Thus, the analysis of scientific researches of domestic and foreign scientists made it possible to specify the model of quality management in the sphere of tourism, which has three basic structural elements: regulation of relations in the sphere of quality of tourism; quality management of the subjects of the tourism industry and quality of the tourist service. Regulation of relations in the field of quality is carried out through a system of normative legal acts, international, interstate, state standards for quality and tourist services. Quality management of the subjects of the tourism industry is realized through such tools as: enterprise quality policy; quality model, voluntary certification through quality standards. The quality of the tourist service is realized through quality criteria and indicators. The system of indicators of quality of tourist product include: destination indicators; ethical and environmental indicators; indicators of comfort, adaptability, reliability, exclusivity, uniformity and safety. The above indicators are interrelated, inter-conditioned and provided by the staff of various actors in the tourism industry. The system of quality criteria for complex tourist services, which consists of a set of quality systems for hotel services, catering services, transport services, tourist-excursion services, information support, assortment of specific services, is specified.

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**CHINA LOGISTICS INDUSTRY
DEVELOPMENT IMPORT AND
EXPORT MAIN FACTORS
INFLUENCING INTERNATIONAL
TRANSPORT MARKET GROWING**

Introduction

World merchandise trade growth has outpaced growth of Gross Domestic Product (GDP) since the end of World War II and recently accelerated due to free trade agreements and the globalization of the economy (WTO, 2007). In the last decades, China's booming economy has greatly benefited from globalization and trade liberalization. China has found a niche as the world's manufacturing centre and has become an engine of Asian growth and increased geopolitical importance (Mcgregor, 2006).

China is playing a pivotal role in a growing number of global supply chains. China's main exports destinations are the United States, the European Union, Hong Kong, and Japan which represent 68% of exports by value. Almost 50% of total imports come from Japan, Korea, Taiwan, and the European Union. For example, Chinese imports constitute 7.5% of total spending by Americans on consumer goods and import-wise they comprise 40% of clothing, 80% of toys, and 85% of footwear imported to the USA (Barboza, 2008).

China's logistics industry development

This section summarizes the history of Chinese logistics development in the last three decades. Three periods stand out: a period of centralized economy pre-1978, a period of liberalization between 1978 and China's entrance to the World Trade Organization in late 2001, and a recent period of that of continuing trade and economic growth.

a) The Centralized Economy

In the late seventies, almost 30 years ago, China was a closed planned economy with scant amount of foreign trade. Prior to 1978, five-year central economic plans designed and approved by the Chinese Communist party ran the economy.

Product flows were strictly controlled and followed a hierarchical system: shipments were moved from state owned factories to tier-1

facilities, then to tier-2 province and city centres, and finally to smaller tier-3 cities and towns (Luk, 1998).

Without competition, state-owned distributors were able to keep 5% to 17% margins at each layer without offering any value-added and or logistics service beyond basic transport and warehousing services (Jiang and Prater, 2002).

b) Liberalization

The beginning of China's opening to the world economy and the liberalization of its centralized planning economy took place in the late seventies. In 1978, the Chinese government initiated the reform of the three-tier distribution system. In late 1993, further deregulation allowed greater market competition (Pyke et al., 2000, Luk and Sherriff, 1998). Foreign trade practices also underwent dramatic transformations in the eighties. Prior to 1978, the rights to import and export any product were reserved by foreign trade corporations (FTCs). Any import or export had to go through FTCs. By the late 1980s, a few domestic enterprises with large trade volume were permitted to import and export directly (Baldinger, 1998). In 1993 more domestic distributors and manufacturers were granted greater autonomy to handle import and export operations (CGOWP, 2006). By late 1993, foreign investors were allowed to invest in retail business in certain inland cities and joint ventures were granted more flexibility in selling products to the domestic market (Luk and Sherriff, 1998). Initially, foreign capital was allowed only in joint ventures where Chinese partner held a majority (Goh and Ling, 2003).

c) Recent and Future Transport Developments

The first few years of the 21st century have been characterized by the fast construction of transport infrastructure. During the five-year plan 2001-2005 significant transport infrastructure has been built including 250,000 kilometres of highways and 24,700 kilometres of expressways. By the end of 2006, the total length Chinese highway has reached 3,457,000 kilometres and 77,000 kilometres of railways (Waters, 2007).

d) Recent Growth Rates

China's economy has experienced a dramatic and consistent growth since China started its economic reform in 1978. The rate of Chinese economic growth clearly reflects the country's rapid liberalization. China's Gross Domestic Product (GDP) reported an average of 10% annual growth rate between 1980 and 2005. According to National Bureau of Statistics of China, China's GDP has risen from RMB 362.4

billion in 1978 to RMB 20, 941 billion in 2006 (equivalent to 2006 USA dollars \$2,800 billion). In 2006, China achieved the fifth largest GDP in the world after the United States, Japan, Germany, and the UK (Johnson, 2007). In 1999, China's logistics industry reported an annual growth rate of 31%, 35% in 2000, and 55% in 2001 (Bolton and Wei, 2003). Between 1992 and 2004, the average annual growth rate of the China's logistics industry was 22.2% and logistics expenditures accounted for an average of 21.8% of the GDP (Wang et al., 2006).

China's transport and logistics challenges

a) Low efficiency and high logistics costs

The astonishing rate of growth in the Chinese economy and foreign trade has not brought about the most efficient logistics industry. Compared with developed countries, the efficiency of China's logistics industry is still low in terms of the ratio of logistics expenditures to GDP. In 2000, China's logistics expenditures amounted to 20% of the GDP whereas logistics spending accounted for 10.3% of United States' GDP, 14% of Japan's GDP, and 10 to 13% of European Union's GDP (Waters, 2007). Adding the costs of packing, transport, storage and damage, the ratio of total logistics costs to total industry production ranges from 40% to 60% , whereas in the United States this percentage is close to 20% (Smyrlis, 2006). If logistics costs are broken down, transport accounts for 57% of costs, inventory and storage accounts for 29%, and management accounts for 14%. Percentage wise, transport costs in China are twice as expensive as in developed countries (Waters, 2007).

b) Congestion

Despite recent efforts to upgrade transport infrastructure, China's transport infrastructure is still insufficient to satisfy the huge demand generated by its booming economy. Congestion and shipments delay are frequent at Chinese seaports due to capacity shortage (Fallows, 2007). Highway construction and transport bottlenecks augment congestion problems in port areas (Goh and Ling, 2003). Archaic infrastructure and lack of adequate highway networks connecting the developed coastal regions to underdeveloped inland provinces increases rail and river congestion as more companies are moving inland to take advantage of reduced labour costs (Mongelluzzo, 2007).

c) Lack of a nationally integrated intermodal transport network

There exists poor communication and coordination between Ministry of Communications, Ministry of Railway, and Civil Aviation

Administration that regulate highways, railways, and airways respectively (Chung, 2007). A “super ministry” has recently been proposed to streamline government functions and integrate the country’s transport system (CGOWP, 2008).

d) Entrenched regulation and local protectionism

Despite a reduction in national level regulations since China’s entry to the WTO, local governments still set up bureaucratic and political barriers to protect local businesses or products and prevent the entry of outside competitors. This local protectionism is driven by the desire to maximize local economic growth, employment, social stability and tax revenues, and less by concern about the efficient utilization of regional resources or the creation of an integrated national transport network (Jiang and Prater, 2002).

e) Railways

Railways cannot alleviate highway congestion in the near future. The capacity shortage in Chinese rail systems is severe and most of the freight capacity is used to transport bulk materials such as coal, steel, and iron. In 2005 less than 1% of container throughputs at major Chinese ports were moved by a railway service and trucking has been the dominant transport mode for freight due to its reliability and flexibility (Roth et al., 2008). The master plan for the China Railway Container Corporation calls for construction of eighteen inland rail logistics hubs and the addition of double-stack intermodal service to the major seaports (Mongelluzzo, 2007).

f) Poor IT infrastructure and inability to use advance technology

China is one of the largest users of mobile and fixed telephone lines and has the second largest number of internet users after the United States. However, some interior and mountainous areas still lack cable and satellite facilities. Frequent blackout and power outages also hinder logistics development and the modernization of corporate information technology (IT) systems. The absence of web-enabled tools and know-how is affecting Chinese companies’ international competitiveness. IT development is regarded as one of the top challenges for China’s logistics sector (Goh and Ling, 2003).

g) Underdeveloped warehousing service

Most of China’s warehouses were built as single-storey brick structures with low ceilings, poor lighting, no or inadequate sprinklers, poor temperature control devices, and poor dock-levelling. The percentage of food and perishable goods spoiling are thus high overall due to the lack of controlled temperature warehouses and unskilled

management.

h) Ports

Approximately 90% of China's international trade volume is handled through maritime transport. Increased trade volumes, heavy investments in port infrastructure, and intense competition between ports have led to the emergence of highly efficient ports that may easily outshine the productivity of many European and North American ports (Cullinane et al., 2004, Song and Yeo, 2004, Yap et al., 2006, Comtois and Dong, 2007). Although port productivity is not an issue, Chinese ports are affected by inadequate intermodal connections, bureaucratic Custom procedures, and in some cases low customer service (Song and Yeo, 2004).

Conclusions

The objective of this research was to survey the Chinese perspective on international freight transport chains, the impact of delays on supply chain costs and operations, companies' delay and disruption planning, and future transport and logistics planning from the perspective of decision makers in the supply chain field. Importers and exporters identified transit time and reliability as key transport performance indicators, however, the impacts of delays clearly differ for importers and exporters and by the contractual conditions of delivery and supply chain characteristics. The results of the forty-nine company interviews in Shenzhen suggest an industry lacking in advance technology, entrenched in regulation and local protectionism, and increasingly impacted by growing congestion, which in turn is having a significant impact on the competitiveness of Chinese companies in the global market.

The growth in port capacity has kept pace with demand and ports were not mentioned as major bottlenecks despite regulatory and administrative burdens. However, as expensive and scant labour in coastal regions force companies to move west the lack of a reliable national freight transport network will affect the competitiveness of Chinese exporters.

For companies located inland these percentages will certainly be higher, however, the impact of additional inland transport costs will be smaller when there is a long and expensive port-to-port movement.

Regional imbalances between developed coastal economies and poor inland provinces hinder companies' expansion plans; this is especially true for high value shippers. The appeal of lower labour costs

in the Chinese West can be quickly overshadowed by poor infrastructure, longer lead times, frequent delays, and limited availability of closely located suppliers. Moving inland will also have financial implication as extended lead times will affect exporters cash flows. This is compounded by contracts moving from EX-WORK to CIF in the Pearl River delta region (Huddersfield, 2008).

Service level, company reputation, loss sales, cash flow, and safety stock considerations will increasingly affect mode and carrier choice as companies move inland.

Most of the literature has focused on the identification of attributes and estimation of values of time and reliability in freight transport (Shinghal and Fowkes, 2002, Bergantino and Bolis, 2008). Future research efforts should look towards attempting to quantify the impacts of delays and disruptions on importers and exporters' supply chain operations.

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**SYSTEM APPROACH TO
RESERVE DETECTION AND
EVALUATION IN
INCREASING
COMPETITIVENESS OF
WHOLESALE TRADING
ENTERPRISES**

In conditions of high competition, it is extremely important to identify possible reserves that will help determine specific ways of development of enterprises. This is especially important in trade, whose enterprises specialize in wholesale trade and have the necessary prerequisites for the full range of procurement, sales and warehouse technological operations [1, p. 51]. The identification and further evaluation of the reserves to increase competitiveness should be based on certain principles, thereby ensuring orderliness and relative stability in the functioning of enterprises. It is the application of a systematic approach that allows us to reveal the integrity of the object, which is the activity of wholesalers, and to detect the movement of self-development and self-organization mechanisms, the determination of endogenous and exogenous connections and their combination into a single whole.

The complexity and dynamism of market management objectively involves the use of systems theory for the purpose of a comprehensive and in-depth analysis of practical marketing and commercial market activity, the development of a model for its strategy, tactical business plans, processes and managerial decisions on various aspects of the functioning of enterprises and organizations and their strategic business units. This is due to the fact that systemology methods allow rational modeling, construct and effectively manage commercial activities in

various firms of various sizes and forms of ownership, including in the field of wholesale trade. The research is based on the developments to determine the nature and content of a systematic approach proposed by our scientists.

So, V.A. Kharchenko (2013) considers the enterprise within the framework of a systematic approach as an open system, “the activity of which is influenced by many different factors, the consideration of which in the process of business management is the key to the successful implementation of the long-term goals and objectives of the enterprise”, focusing on the particular strategic management of the enterprise when applying a systematic approach [2, p. 158].

V.V. Prokhorova (2009) focuses on the fact that system research “aims to identify the mechanism of life”, that is, “the functioning and development of an enterprise in its internal and external (with respect to its relationship with the environment) characteristics. Conducting a systematic study of the development of the enterprise creates the prerequisites for the effective management of the enterprise and allows you to justify the choice of development direction and determine the degree to which the goals of the enterprise are achieved; to determine that in the processes of functioning and development of the enterprise, the object of management is the dynamics of changes in the level of the main areas of activity and management subsystems; to distinguish, respectively, the stages of the enterprise’s life cycle, the type of enterprise development – crisis, formation, development status (qualitative and quantitative aspects of growth), utilization efficiency, decline effect (depletion), to identify and evaluate the properties of enterprise development, which can increase the efficiency of its management processes; determine the criteria and indicators of the effective functioning and development of the enterprise; in accordance with the objectives to form the optimal structure and the necessary properties of strategic management; to develop and implement strategic and tactical measures to manage the development of the enterprise; to form and effectively solve development problems by generating an effective managerial decision” [3, p. 163].

Using a systematic approach for ensuring competitiveness requires the implementation of a scientific justification for the possibility of applying the concept of „competitive ensuring system” from the point of view of systems theory. A systematic approach to ensuring the competitiveness of enterprises determines the effectiveness of the activities of enterprises and depends on the state of the external

environment, relations with other components of the external environment. The main goals of the systematic approach is to eliminate the contradictions between the goals of the system for ensuring competitiveness in enterprise management and achieving coordination of actions; the search for factors to increase business efficiency and commercial success in the market, in order to achieve and maintain competitive advantages [4].

R.V. Lyashenko (2018) identifies the strengths and weaknesses of the systems approach in the economy, these include:

– strengths:

- determination of goals and criteria for managing the economic sustainability of the enterprise,
- submission of the established conditions to the general goal of the enterprise's functioning,
- consideration of all elements of the system in conjunction,
- application at different levels – from some unit to the entire enterprise. In each case, the control object is considered as a holistic system,
- direction to poorly structured problems, the search for the best solution;

– weaknesses:

- poor orientation to the creation of employees image, that leads to demotivation,
- Inadequate horizontal integration of critical management functions, such as recruiting, evaluating, rewarding and developing employees. Managers perform these functions outside the only integrated approach to staff,
- insufficient involvement of line managers and employees in the development and implementation of management concepts,
- ignoring changes in the value orientations of people, indifferent attitude to the goals of the activities of various groups,
- the use of expensive technologies, automated control systems,
- does not provide decomposition into interrelated procedures both at the “input” with suppliers, and at the “output” with buyers and customers [5, p. 299].

A systematic approach to the issue of managing the reserves of an enterprise implies the realization that such a process is a complex system of elements, united by a large number of interconnections both among themselves and with the external environment, therefore this issue cannot be analyzed in isolation, but it is necessary to take into

account the existing system connections. Here it is necessary to take into account the interconnections of such elements of the enterprise as financial, marketing, and management subsystems. It is also necessary to highlight a system of indicators that most fully characterize these subsystems of the enterprise and their functions, as well as evaluation criteria that make it possible to obtain the corresponding values of indicators. The next step in the systematic approach is to identify the relationships of the enterprise subsystems and indicators characterizing these relationships [6, p. 216]. So, a systematic approach in identifying reserves means the ability to identify and summarize them, taking into account the relationship and interdependence of external and internal factors.

Wholesale trade is carried out by: specialized wholesale trading enterprises, wholesalers, brokers and agents, as well as marketing purchasing offices and branches of manufacturing enterprises. The competitiveness management of domestic wholesalers is based on a systematic approach and is aimed at finding all reserves, their assessment and possible use for further development. Reserves are unused opportunities for increasing the efficiency and competitiveness of enterprises, reflecting the degree of use of factors in certain conditions of a particular enterprise and vary depending on the development of science and technology, improving production and management [7, p. 9-10].

Reserves of competitiveness as unused opportunities are associated, on the one hand, with the features of using certain elements of the internal potential of the enterprise, and on the other, with the use of factors of the external market environment. The latter include reserves in use of rules and norms established by the state and reserves of the most market mechanisms [8, p. 127].

The functioning stability of enterprises depends on the use of all reserves, and the search for reserves to increase competitiveness is an end in itself for each enterprise in the long-term development period [9]. And the effective use of the reserves of wholesalers creates a complex system containing certain elements and relationships and has a clearly set goal, which is achieved thanks to the functioning of the system as a whole.

G. E. Yamnenko (2012) identifies seven groups of reserves, united by a common goal – increasing the competitiveness of the enterprise. These groups of reserves allow a selective approach to the implementation of their assessment.

Despite the existing theoretical developments, the systemic components remain unaccounted for: the object and subject, factors, relationships, directions, analysis and evaluation of the functioning of enterprises. Therefore, we propose a generalized logical scheme of the importance of a systematic approach in identifying and assessing the reserves of increasing competitiveness for wholesalers, which allows us to summarize existing developments and outline the directions of the strategy for their further development (Figure 6.2).

The generalization of the process of identifying and evaluating reserves in a wholesale enterprise and combining them into a single system will allow for step-by-step implementation of competitiveness improvement directions.

The systematic approach scheme allows to identify aspects of the effective functioning of the enterprise and increase its competitiveness due to the most productive reserves that take place at a certain time and for this type of enterprise. Using this method, you can determine the long-term goal of the enterprise, establish the state of its functioning, assess the state of development, develop ways to eliminate the contradictions between the goals of competitiveness, show factors of increasing competitiveness and commercial success in the market to achieve competitive advantages, develop the optimal strategy and determine the necessary components of strategic management.

The identification of reserves to increase competitiveness is based on the determination of its competitive advantages. When working with identified reserves of competitiveness, it is important to understand what kind of concrete form we are dealing, taking into account the features and specifics of the methodology and tools for assessing the reserve.

We consider it appropriate to allocate reserves based on the object of occurrence:

- general reserves are reserves of competitiveness that can be applied by any unit of the enterprise as a system;
- complex reserves – those that may arise in units similar to various factors;
- partial reserves – arise within the same unit of the enterprise, a positive effect of which is possible only if they are implemented in this section.

The use of the competitiveness reserve includes an integrated process, the main purpose of which is to expand the company's position in the domestic and foreign markets.

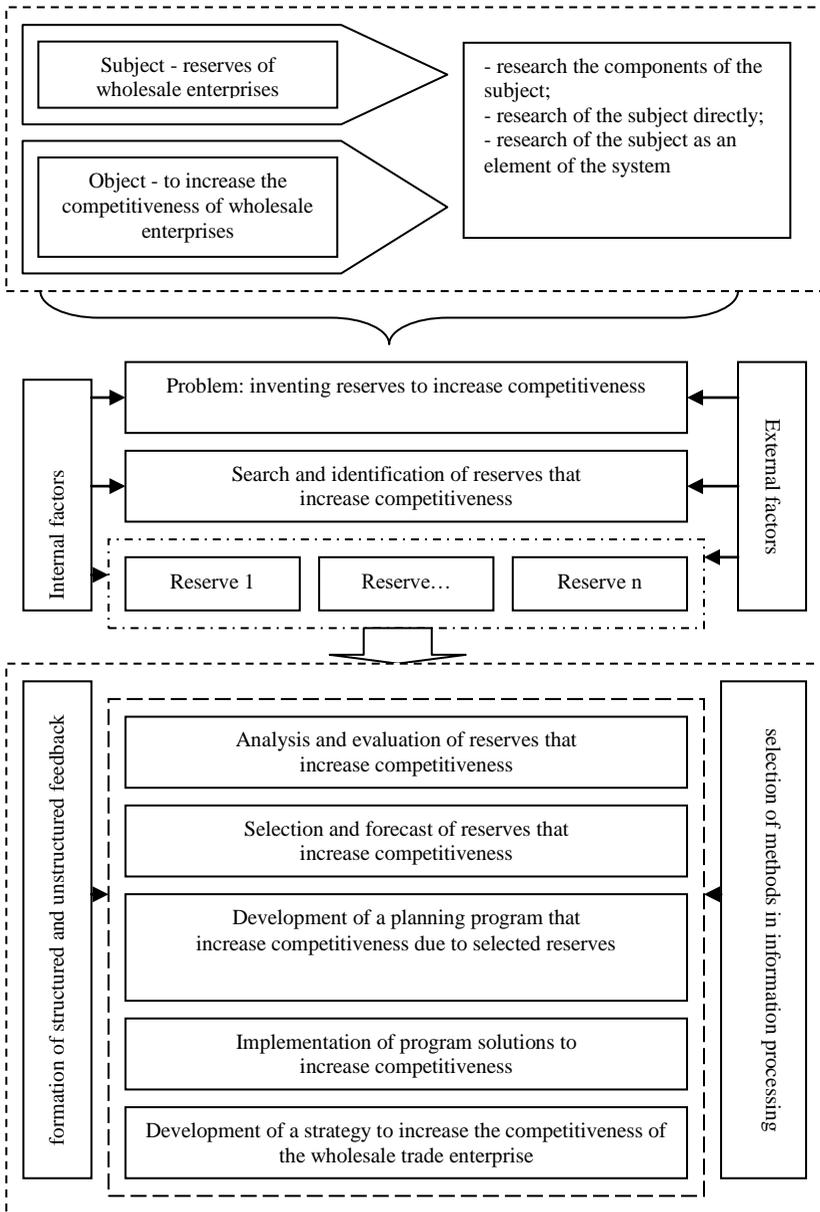


Figure 6.2 The logical scheme of the systems approach

Before proceeding with the optimization of the wholesale business on the basis of the identified reserve, it is necessary to monitor competitive advantages directly in the analysis of competitiveness. In the basis of such an analysis, there should be laid the principles of a systematic approach and comprehensiveness, which form the research sequence as follows: assessment of the personnel component, analysis of financial activities, research of production opportunities, diagnostics of the marketing and strategic component. Due to its features, a systematic approach will be better adapted in the framework of competitiveness analysis at its individual stages [10, p. 78], which will make it possible to use the methods of system analysis, decomposition and deduction and to attract a set of appropriate tools.

The most important issue in identifying reserves is the issue of selecting, processing and evaluating results. The first approach to the selection of reserves is called organizational and structural is based on the provision that all reserves are identified in accordance with the organizational and structural model of the enterprise. Reserves are identified, analyzed, classified and summarized in accordance with each structural unit (unit) of the enterprise. The result of this identification is summarized. There is a problem of heterogeneity of influence of the reserves available at various structural divisions of the enterprise on the general results of its activity and difficulties, in this connection, in generalization of partial (on divisions) results of identification. The second approach that can be used to integrate the results of the identification of reserves can be logistical. This uses a fairly well-known concept of “logistic chain”, which can be implemented by any business entity. In this case, the identification results are considered in accordance with the sequence of stages, stages of the logistic chain for each type of product or operation. The difficulty of implementing this approach is that the company pays for products and activities are unequal in their role for the company, for the environment, which can lead to distortion of the true picture and the results of identification [11, p. 59]. Therefore, one of the possible ways to solve this problem is to apply a systematic approach that will combine organizational, structural and logistical areas and justify this relevance. We have built a block diagram of the implementation of a systematic approach to identify reserves to increase competitiveness in wholesale enterprises (Figure 6.3).

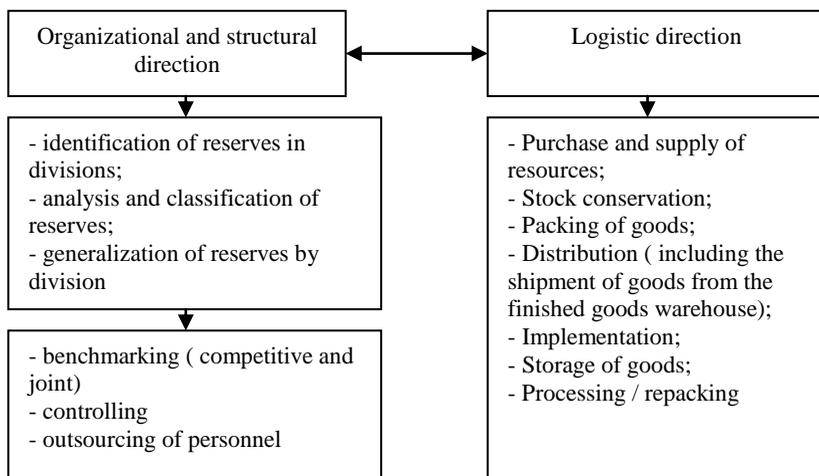


Figure 6.3 The scheme of implementation of the system approach for identification of reserves of increase of competitiveness at the enterprises of wholesale trade

Reserves are identified, analyzed, classified and summarized in accordance with each structural unit (division) of the enterprise. The result of this identification is summarized, here there is a problem of heterogeneity of influence of the reserves available at various structural divisions of the enterprise on the general results of its activity and difficulties, in this connection there is a discrepancy, in generalization of partial (on divisions) results of identification. Certain steps in inventing radical tools in the organizational and structural direction are the involvement of benchmarking, controlling and outsourcing of personnel. Benchmarking allows you to explore competitors and, thus, to determine their own guidelines for further operation. Controlling at the enterprise is carried out in order to identify “weaknesses” and find ways to overcome problems. Staff outsourcing allows you to attract companies that you can work with in the absence of the necessary resources. If necessary, the company can prepare its own reserves for further process. The logistics direction determines the chain of work with the product, at each link of which it is appropriate to trace possible resources and improve their involvement. It is appropriate to use benchmarking, controlling and outsourcing in this process.

Considering the reserves of sustainable development of the enterprise from the standpoint of a systems approach, it should be noted that all the reserves of interaction are interconnected and interdependent. The introduction of new technologies in the organization and management requires staff training and, consequently, attracting additional investment. In addition, the reserves for the use of fixed assets, financial and human resources are closely interrelated.

In general, the considered provisions of introduction of the system approach in economy of the enterprises, allow to emphasize that efficiency of their activity depends not only on a condition of external environment, relations with other components of the external environment, but also from the peculiarities of enterprise management and achieving coherence in the internal space. Thus, the application of a systematic approach to the identification of reserves means the ability to identify and summarize them, taking into account the relationship and interdependence of external and internal factors. The competitiveness management of domestic wholesale enterprises should be based on a systematic approach, which allows the invention of probable reserves, evaluate them and use prospects for further development.

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**INTRODUCTION OF MODERN
INFORMATION TECHNOLOGY IN THE
ECONOMIC SYSTEMS MANAGEMENT**

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AGILE

METHODOLOGIES

AS A DRIVER FOR

EFFICIENT

HUMAN CAPITAL

MANAGEMENT

These days IT companies are among the first ones to introduce innovative ways of management. That is because they are themselves working with innovative products. That is why increasing productivity and implementing innovative tools is crucial for them. Numerous researches [1-5] proved that innovations bring about profits increase for the company. And the company innovativeness itself majorly depends on its human capital. This all speaks of the importance of managing human capital properly to get maximum productivity, though in the way it also stimulates creativeness and innovation, but not just makes its human capital exhausted.

In the recent years, there were many studies dedicated to the importance of soft skills over hard skills [6, 7]. The first type of studies shows us that in the nowadays world with its digitalization and transformation to post economic values, the soft skills tend to grow their importance, especially on top positions (business owners, CEO, CTO, top managers, etc). At the same type, the workers with a higher level of soft skills development are more likely to go smoothly to other career levels. As a results, human capital, especially in the context of soft skills development bring about positive results for both: the company, as well as its workers.

At the same time, many researches prove the importance of general company's human capital development, apart from individual one [8, 9, 10] They show that the well-developed human capital serves to the general creativeness, as the individual workers' human capital without the team interference, ideas sharing and general work may bring much less results than in case of group knowledge. In case of well communicational level, the workers share their background, broad vision, creative ideas and thus increase the level of general human capital of the company.

This all logically brings to the increase in number of methodologies and strategies which pay more attention to harmonizing technical and communicational parts, increase creativity level, soft skills and company's human capital as a whole. There are various ways of managing IT production in the company, depending on the terms, goals and specifics: Agile model, Waterfall model, V-model, Incremental model, RAD model, Iterative model, Spiral model. In the latest years most IT companies transfer to flexible (Agile) methodologies family, as in most cases it proves to be more efficient than others in the context of timing, productiveness and human capital boast.

According to official Agile Manifesto, individuals and interactions are more important than processes and tools, working software is more important than comprehensive documentation, customer collaboration is more important than contract negotiation, responding to change is more important than following a plan [11]. We may draw a conclusion that Agile methodologies family have flexibility and communication as its main distinctive features.

In general, we offer to split the Agile Software Development Life Cycle into two main parts: technical and communicational, as described by us in Figure 7.1.

The basic cycle may vary, depending on the project, terms and specifics. It is stated, that for successful project development, it is crucial for some workers, such as project managers, to develop an efficient two-way conversation between executor and stakeholders, as well as plan, manage and monitor it [12]. Among the requirements for Business Analyst, the globally recognized standard for the practice of business analysis, among technical work, group the stake holder and analyze their communicational needs, state the following requirements, explain the possible solutions to stake holders and their business affects, keep stakeholders engaged, facilitate communication through formal meetings, face-to-face final product review, etc. [13]

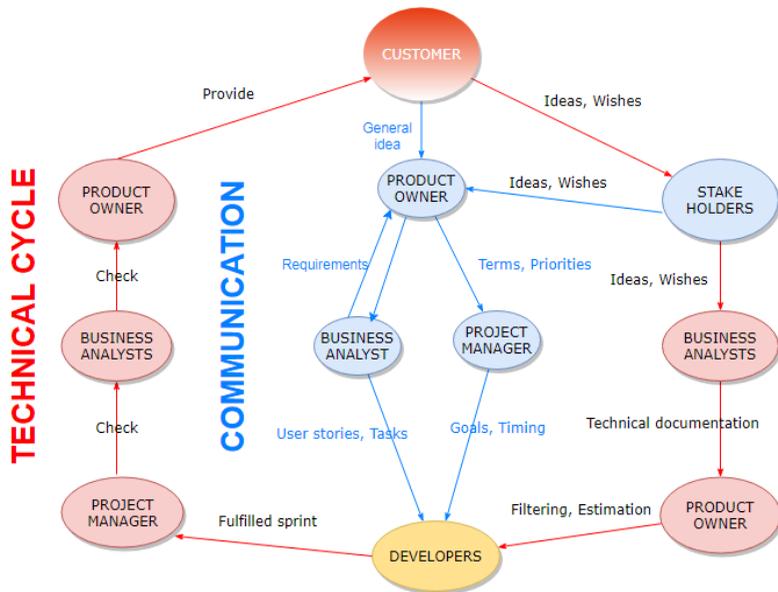


Figure 7.1 A shortened Agile development cycle

Of course, communications, meet-ups and discussions may be rather broad in reality and can easily lead to miscommunication, misunderstanding between customer and vendor sides. That is why in various guides and tutorials it is stressed that each and every idea, message or discussion point must be fixed whether on a simple paper sheet, email message or on special software. Tools, such as mind mapping are also often used for such purposes and bring about clarity and order into the whole structure. This all leads the companies to the demand in proper management, the one with applicable estimations, productivity measures, goal evaluations, controlling and other management tools.

One of the most frequently used development methods for proper management in Agile is Scrum. The big amounts of work are divided into small, but logically finished parts (sprints) that usually start with appearance and design and end with final testing. Before the start of each sprint, all requirements, wishes and tasks are being documented. Such documentations are the results of the communications with stakeholders and require great analytical, logical and structuring skills to bring the most important and required tasks to the developers. All

development process on every sprint should be on full control, as the development itself is performed rather quickly and should be done properly, though in case of bugs, they must be reported as soon as possible and fixed right away.

Agile methodologies were among the first ones to introduce the need of specialists in between of technicians, developers and the customers. They have added workers in between, to estimate, control, communicate, translate general terms into “technical” language and lots of tasks needed to keep good communication and thus prepare a product corresponding to the expectations, estimate tasks and goals and control the development process as a whole. In case we compare the current methodology to the older ones, such as Waterfall, we may see the major drawbacks they have: the whole development is a grand step-by-step process, which is not flexible and any change or mistake may be fatal; the control process is rather complicated and broad as well. One of the biggest disadvantages of using old development methodologies is the unharmonized working force. By this we mean that step-by-step big development brings about the fluctuate load of the workforce, and thus, either unused potential or a big load that eventually exhausts the human capital and is notorious for not being enough productive.

Agile methodologies and their principles can be used as a professional tool for human capital management. One of the common ways to encourage the team being Agile, control and improve the human capital efficiency is to measure and improve the level of being “agile” by dividing the measurement into the following: categories that mean being Agile, the behaviour itself for being agile, and the methods through which it is possible to make measurements. The categories that include being agile may include, but are not limited to the following ones: personal behaviour (which includes sharing the knowledge and thus increasing the group knowledge capital, participating in challenges, etc), which can be measured individually with various indices, team progress level, timing for reaching certain goals and other; the behaviour of the entire team (which includes tangible and intangible measures, such as the level of creativity and innovation, initiative, group knowledge, the attitude, etc), which can be measured through the level of reached goals, timing and other; the relationship between the teams involved (which includes sharing, initiative, readiness for changes, flexibility, meetings and discussions), which can be measured through the number of additional requirements (negative index), comments and feedbacks, number of activities performed together); the results or

outcomes (which include the MVP (minimum viable product), growth, etc), which can be measured through the revenue itself, growth level and other. Since Agile methodologies may bring most benefits to the ones who use it with an efficient team in a healthy environment, the measurements of the general health level also take place in human capital management. The evaluation includes measuring the mood of the workers day by day. Such statistics shows the general attitude, as well as potential and prospective of the team, because one of the accents of Agile is team work, and each team player has affects other ones and as a result, may increase or decrease the timing, attitude and as a result, efficiency and quality of the product. Keeping track of such data may be carried out with the help of various tools, starting from primitive methods like filling the tables and ending with professional software and tools, such as Niko-Niko calendar that tracks the mood of each worker day by day.

The other crucial point of increasing general efficiency and managing the team properly managing human capital of the firm is measuring the team behaviour. One of the ways to do it the way it has biggest outcomes is performing such measurement on each development process stage, starting from planning the sprint and ending with the final review. The main goals that are connected to the team behavior at each sprint may include the following ones: reaching consensus between teams, getting to same understandable conclusions, getting same view on requirements, fast and efficient common work, etc. This can be measured even with simple questionnaires at the end of the meeting/conferences/demonstrations, which include questions and point of view sharing regarding the level of communication clarity, the speed for responding to new requirements and changes, whether it is easy or hard to reach the responsible party, whether the skills correspond to the level of tasks, general experience, etc. By analyzing the data provided, the team management may get a clear understanding on the cooperation between involved teams that leads to the general time frames of delivering/getting a product, its quality and correspondence to the requirements.

In regards to managing human capital efficiency through team outcomes in context of bringing business values, it is important to evaluate the relationship between them. Such, in most of the tasks (whether it is design or code development), the responsible party should find the correlation between the task they do and the business value this task brings – customer satisfaction, higher efficiency, increased revenue

or it limits or reduces the drawbacks like risks or bigger costs. Which is why the worker should be fully aware of how the certain task is applies to the mentioned values and how it influences them so they may build the working process in the way it best assures them.

Each iteration in Agile should be guided by the KPI (Key Performance Indicators) which are vitally important for efficient product development process.

For the business process optimisation, the organizations may divide the KPIs, depending on the business stage or type of work. It may be rather useful to divide them into the following categories: decision-making KPI, Phases KPI, Sprints KPI, SCRUM KPI as per Figure 7.2.



Figure 7.2 KPI divided into development stages

The decision-making process can be taken as the first stage with the own performance indicators. The indicators can serve as an efficient tool for making proper decisions and evaluating them. By using the KPI within the stage of agreeing, the management may concentrate on both – main functionality, as well as on strategic goals. Which is why, taking into consideration main business goals and strategies is being crucial. Decision-making KPI may vary, depending on the requirements, software, timing and other specificities. As well, we emphasise on the importance of the position the certain worker obtains. Such, the decision-making KPI may include the criteria:

- Time spent on creating a meeting plan.
- Meeting continuation.
- Time spent on version review.
- Time spent on discussion.
- Time spent on summary report.

Of course, the timing depends on the workers’ professional knowledge, experience and abilities (the level of their human capital development). Additionally, some methodologies, such as RACI matrix and Influence matrix may be used for a better control of the labour and improving its efficiency and lower the timing. It is reasonable to

consider RACI and Influence matrixes as tools of managing human capital together with KPI. By using them, it is easier to settle the communication part of business, organise all the stages of such process (preparation, approval, goals estimation) together with getting an understanding of responsible parties or workers in each process. These results in shortening the time, lowering the risks of estimating wrong goals, disapproval and other issues connected to wrong communication process (Figure 7.3). Such approach gives managers the tools to understand and properly evaluate the communication part of work, which is notorious for being uneasy to be estimated carefully.

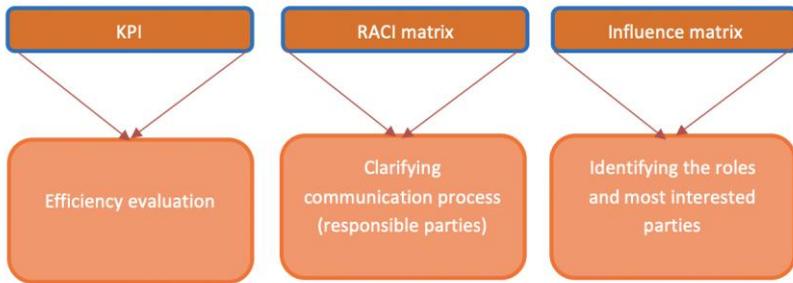


Figure 7.3 Tools for efficient human capital management in Agile decision-making

The other important stage in Agile iterations is sprints. They may be considered as most important part of the software development. Since the sprint usually starts with the list of tasks and all supporting documentation and ends with a release/demonstration, each part of the sprint should be managed to get best efficiency, including evaluation of tasks and proper KPI. Such, sprint design is carried on standardly in Agile, though the design format (style, texts, images, animation, etc) is affected by the KPI, since the creative processes may be carried on for different time frames depending on intangible factors, like inspiration or creativity, which is why the strict time frames, defined in the KPI are defining the potential design. Of course, introducing KPI to creative parts in agile may bring about negative changes in case the management does not have all knowledge of the process and defines the terms which would either lead to poor quality design, or to tremendous time losses, which would afterwards affect other stages of the process. For managing human resources properly, the responsible parties must evaluate requirements for creative tasks (such as design) and correspond them to

timing, after which providing the KPI. Thus, though agile makes possible managing the efficiency of workers that perform creative tasks, by evaluating terms, approving the requirements and tasks (efficiently due to the use of the RACI and influence matrixes as well).

Since most other processes are being more technical, starting from setting the goals, providing proper requirements, getting approvals and ending with the development itself and testing afterwards are being easier to measure. It is important to set the proper priorities in tasks, with taking into consideration the order, importance and the difficulty and timing. The order of tasks should be prepared including the cooperation between workers, so each task is performed in logical order to avoid the dependency conflicts when one task could not be completed without the other one. The team manager should assign the tasks according to the experience and efficiency level of the worker, as well as taking into consideration the soft skills of a team member, because assigning the task that does not properly correspond to soft skills of the worker (though fully correspond to knowledge and experience) may lead to the loss of efficiency and increase in timing as various tasks may require communication, double checking, suggestions or team work. In order to properly assign them, the manager may use the previous tools to get a proper understanding of the capabilities and potential outcomes of the workers, and even form the team accordingly to increase general efficiency.

One of the ways of measuring the team efficiency is though velocity (commitment and work completed), as velocity is vital for the project and its level may influence both – the demand for the developed project (especially if the software needs to be prepared in conditions of some trends, or may be an urgent governmental task), as well as the relationship between customer and vendor. Since each project backlog consists of the number of story points, the velocity measurement is done through comparing the level of completed story points per every sprint in average. By tracking the speed the analysis shows not only the level of the skills of a team, but also gives an understanding for the correspondence between costs and time. It is reasonable to track it for a long period of time in order to draw accurate conclusions. Such, after introducing Agile the team may have low velocity, through after a few months it usually shows increases. In case the level stays the same or even decreases, it may speak of the internal or external factors, apart from skills, that cause such negative tendencies. Among these may be unhealthy environment, exhausted human capital and others. Though, in

case the team members or the team lead has left the certain projects, the calculations and tracking should be measured from the start to achieve the proper results.

Another way to manage human capital and increase efficiency is keeping track of the sprint burndown chart. This method is intended to show general performance, but not just the number of completed tasks per team member or the entire team. The sprint burndown chart has a number of stories that need to be completed in the certain sprint with the sprint days. It should be filled in and built the way it reflects how many stories need to be done to finish the sprint. The perfect sprint burndown chart should be a straight diagonal line from left top corner of the bottom right corner, meaning all the tasks are approximately the same in terms of time and difficulty, and are performed gradually at the same speed. Of course, that is being almost impossible to reach in the real company performance, since the tasks vary from one another in terms of skills needed to complete it, the volume, the number of subtasks and accordingly timing needed to complete it. Though, it is possible to check the average and general team performance with this chart and make the forecasts. As well, in case of the tasks are approximately on the same level, the gaps in the chart may speak of different issues, such as: bad understanding of the task (poor documentation, low level of communication), unclarity, disturbing factors and other.

As well, the efficiency of human capital may be increased by analysing the release burndown chart. This method is often used for such purposes. This chart shows how much work should be done before the release. It clearly indicates the current progress, so in case of managers spot changes or issues in there, they may quickly introduce the changes in time to deliver the product in a proper time frame. Basically, the logic of the chart is almost the same as the sprint burn down chart, though it is more global, as it shows the total amount of sprints (basically, the whole project) and the amount of them that are left till the final release. As in the previous case, the perfect flow is a straight line from left top corner till the bottom right corner. The further it goes from the perfect one, the bigger are the chances of some issues occurring in the project. As well, it is possible to manage the working force so it fits the adjustments that may have been made because of previous changes. The analysis of this chart allows to make predictions whether the release would fit the set deadline, and if not, the management may see when and what may be performed or introduced to speed up the process and not losing the quality at the same time.

These mentioned tools, as well as the KPI, are being effective for a proper human capital management on the development stage. Their proper usage may positively influence the efficiency of both – individuals and team as a whole (Figure 7.4). KPI for an individual or a team may be also considered as per fitting the timeframes and completing the certain task or the list of tasks in certain time frames and corresponding to the proper quality level that can be afterwards approved by testing. Of course, the KPI for an individual varies from the KPI for the entire team, though the logic and principles are kept – timing, quality, efficiency, etc.

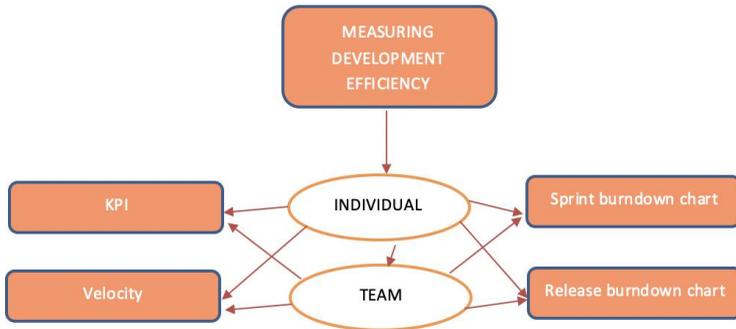


Figure 7.4 Ways to measure individual and team efficiency in Agile development process

All the listed tools and methods for management, measurements and controlling human capital efficiency bring about the data to form the changes whether to increase the outcomes, or lowering negative impacts. By analysing the data, the management can clearly see the points and processes that require changes, as the mentioned measures are split into processes, stages, parties and separate tasks. It is important to harmonise the tangible and intangible aspects, as low efficiency and performance may often be the result of unhealthy environment or poor or exhausted general human capital, but not only hard skills of the workers. Which is why big companies are each year are paying more attention to increasing the human capital and creating the healthy environment by introducing reasonable remuneration packages, offering trainings or courses for the workers, preparing team building activities and improving the general atmosphere in the working spaces such as proper office design, entertainment products, and inside of the office activities to improve relationship between team members that results in

better understanding each other, better communication, and thus flexibility, intention to reach consensus that leads to increased efficiency.

At the same time, we would like to mention that the tools used in Agile methodologies, as well as its main principles may be used not only in IT fields, as the one that is among the first ones to introduce and experience the new methodologies and studies, but as well in other more regular fields like transport, manufacture and other. The new era we came in makes accent on knowledge, communication, relationships and intangible values, which means the human nature is being changed as part of an evolutionary process, and as a result the human capital as whole. Which is why switching to other approaches, methodologies and thus tools, used for measuring and improving its management is crucial.

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**ACCOUNTING
INNOVATION IN
UKRAINE IN THE
CONDITIONS OF
EUROPEAN
INTEGRATION**

Introduction. Innovative transformations are a major driver of modern economic space development, but accounting is considered by both scientists and users to be a conservative and well-established system. Business planners typically do not set strategic goals for

improving accounting and control systems because they do not see these as real tools to improve their financial performance. Nevertheless, modern economic systems worldwide are increasingly being transformed into complexes without isolated links. Therefore, in a post-industrial society, accounting does not remain in absolute isolation from the tendencies of vector-oriented towards international standardization, which can be regarded as strategic management innovation, and comprehensive digitization, which in this context is quite logical to perceive as technological innovation.

Literature review. The issues of introducing innovative shifts in the systems of financial reporting of enterprises have become a subject of interest of domestic scientists relatively recently. Thus, Benko (2010) explored the issue of integrating different processing functions of billing, reference and service information within an automated workplace. The researcher notes that information systems are able to respond flexibly to changes in the algorithms of calculation of indicators, and their interactivity contributes to the most complete satisfaction of the needs for prompt exchange of information. Kononenko (2014) dedicated research to the detection of feedbacks in the accounting information system and proved the need to introduce active-adaptive accounting systems. Sharing in general the author's view of innovation as a generator of new consumer values, it should be noted that the researcher illustrated this thesis by presenting his own classification of innovations in accounting as a target subsystem of innovative activity. Ershova (2016), based on a statistical survey of innovations, identified their place in the strategic management accounting system and suggested their copyright classification features. The author's valuable work is to determine the impact of innovation on the quality of accounting and information support of management decisions. Efimenko, Lovinskaya (2016) defined the theoretical and methodological principles of the organization of monitoring the application of the requirements of International Financial Reporting Standards in Ukraine. The practical guidance provided by the authors is extremely relevant for innovative changes in the accounting and reporting system. Mazina, Oliynyk (2019) explored accounting as a public information system. It is very valuable for researchers to utilize the capabilities of cloud technology, artificial intelligence and blockchain in accounting. However, despite the high value of the studies presented, the question of achieving transparency of information and its impact on ensuring the sustainable development of the enterprise have

remained unresolved.

Much information for further scientific study has been provided by foreign researchers. Walińska, Jurewicz (2009) have convincingly demonstrated that innovations dominate daily accounting practices and are present in both disclosure and detail methodologies and operational activities. Dainienė, Dagilienė (2014) devoted research to defining and benchmarking innovations in traditional and modern accounting. Their conclusion is that traditional financial and management accounting do not disclose full information about the value of an enterprise's innovations, but instead its completeness is fully ensured through the use of standardized reports. Laux, Stocken (2018) examined accounting standards and regulations with a view to their potential impact on entrepreneurial innovation and social well-being. Researchers argue for the positive effects of adhering to stringent standards, because of their stimulating role in seeking to raise equity at lower costs and risks. The Kokina, Blanchette (2019) studies were the closest to the subject of our study, as they concerned the analysis of robotic organization and optimization of operational accounting processes, the analysis of indicators, the tools for ranking tasks, the adjustment of management structures to include digital reports and review the internal control of the financial condition of the enterprise. The findings of the authors show that the company benefits from the automation of accounting processes that are amenable to structuring and digital identification. At the same time, however, the question of criterion analysis in the choice of accounting automation tools based on complex cognitive technologies still remains unaddressed.

The **aim** of this study is to identify innovative opportunities for transformation of accounting procedures in Ukraine in the conditions of European integration.

The main content of the study

The implementation of the strategy of Ukraine's accession to the sole economic space with the EU actualizes the issue of transparency of information flows generated by the accounting system, which requires the use of uniform rules and methods of information formation. According to the research by Walińska, Jurewicz (2009), the active introduction into practice of financial reporting of companies of international accounting standards increases the efficiency of their management, in particular by improving the management of finances, reducing the level of business risks and reducing the cost of raising capital.

International Financial Reporting Standards (IFRS) allow us to unify financial information about an entity’s assets, liabilities, equity, income, and expenses (Table 7.1), which further allows it to be used as an analysis parameter for potential investors in making decisions on the provision of resources to manage equity and debt (IFRS, 2008).

Table 7.1

Financial reporting elements included in the standards IFRS

Paragraph	Element	Description
Economic resource	Assets	The present economic resource controlled by the entity as a result of previous events.
Demand	Obligation	The present obligation of the entity to transfer the economic resource due to past events
	Equity	The residual interest in the assets of an entity after deducting liabilities
Changes in economic resources and requirements that reflect financial performance	Income	An increase in assets or a decrease in liabilities that results in an increase in equity, other than a contribution by holders of equity requirements.
	Costs	Decrease in assets or increase in liabilities resulting in a decrease in equity other than the allocation of holders of equity requirements.
Other changes in economic resources and requirements	Contributions from holders of claims on equity and distribution in their favor	
	Exchanges of assets or liabilities that do not cause an increase or decrease in equity.	

In accordance with the Law of Ukraine “On Accounting and Financial Reporting in Ukraine”, public joint-stock companies, natural monopolies and enterprises of the mining industries prepare consolidated financial statements according to international standards (Verkhovna Rada of Ukraine, 2018). The state policy in the field of international accounting unification provides for the use of taxonomy tools in a single electronic standard XBRL (eXtensible Business Reporting Language), with the definition of the paragraphs and reporting indicators to be disclosed. Compliance monitoring ensures complete and accurate information on the activities of economic entities (Figure 7.5), thereby determining the effectiveness of public

administration decisions. It should be noted that the terms of the publication of XBRL-reporting on the web-resources of enterprises with obligatory disclosure of audit opinion are legally stipulated.

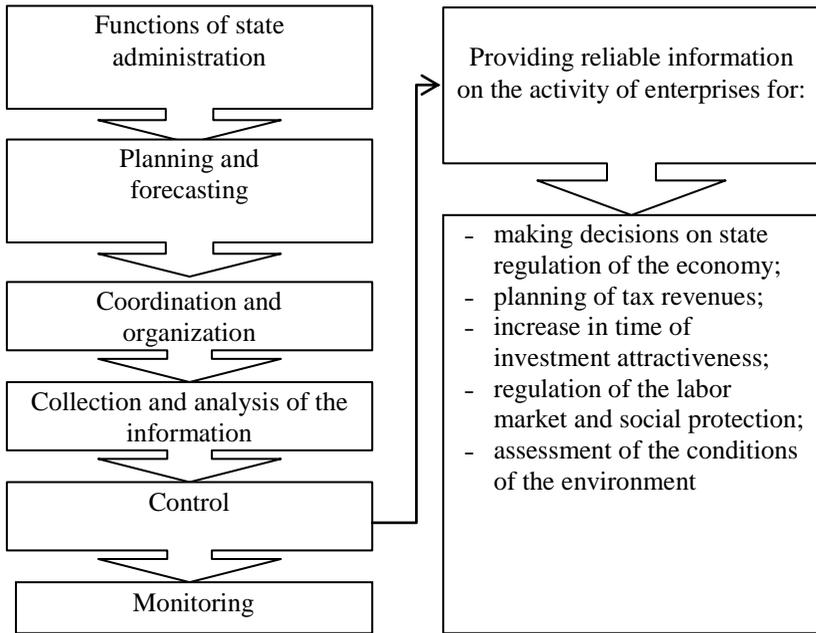


Figure 7.5 The algorithm of state monitoring of compliance with the standards of financial reporting

However, according to the Ministry of Finance of Ukraine (2018), other companies retain the right to independently determine the appropriateness of applying international standards for the preparation of financial reports.

Therefore, the gradual transition of Ukrainian businesses to IFRS financial statements and the introduction of modern resource management standards require systematic IT support for digitization processes.

It should be noted that the integrated IT systems on the market allow not only to automate the accounting system and increase the convenience of using financial information, but also to digitize virtually all financial and managerial aspects of enterprise activity. In particular, the accounting module “Accounting by International Financial

Reporting Standards” provides for the tasks of accounting and reporting according to international standards (Shvets, 2015), parallel accounting by different standards and transformation of the consolidated financial statements.

The integration of all business processes of the enterprise into a sole IT system allows organizing simultaneous receipt of information flows for further integrated analysis. However, most Ukrainian businesses are still reluctant to use customary financial and accounting instruments, as this is not contrary to applicable accounting and financial reporting legislation. However, it should be borne in mind that the limited functionality of such tools is not capable of providing sufficient detail and transparency for effective innovative management systems. It should be considered that the technological maturity of enterprises is usually heterogeneous, so the indisputable standards of leaders of digitization can only serve as a rough guide for investment initiatives for others. In addition, virtually all Ukrainian enterprises require automation of tasks that include data interfaces and data processing mechanisms, as well as improvements in communication systems, in order to optimize financial and reporting processes.

As revealed by Bochulia’s (2019) study, digitization of accounting should not take place according to a well-established algorithm that is the same for all businesses. However, the success of innovative accounting and analytics transformations requires the mandatory introduction of elements of the competency management system, taking into account innovative technologies and trends in the field of activity.

In the Ukrainian business environment, according to Koryagin, Kutsik (2016) automation of accounting and other management functions is being provided through the introduction of a wide range of information systems. Within them, specific economic and managerial tasks are differentiated by subject technology – a predetermined sequence of stages of technological modifications of input information signals into the resulting information blocks. In particular, each operation accounting process involves obtaining arrays of primary documentation, which is transformed into accounting entries, reflected in changes in analytical and synthetic accounting, followed by a generalization of the period balance.

Most accounting and auditing tasks can be fully automated, even in businesses with high risk of business uncertainty whose scope of activity lies in an unstructured environment (science, medicine, etc.) that have a fairly low digitization potential. At the same time, it should be

understood that the processing of arrays of accounting documents is only a partial task of total automation of financial statements, which requires the activation of IT modeling processes, taking into account the increasing complexity of business models and the potential to evaluate other parameters of financial control. The advantages of investing in the IT system of the financial and accounting sphere are reducing the share of routine work, increasing of confidence in the results of the financial statements, freeing up time and capacity of employees to perform the tasks of in-depth analysis of detected deviations from the planned results, etc. In particular, it is advisable to integrate into the IT system the automation of calculations of production costs, deviations, models of staff motivation, planning of reserve funds to cover innovative risks, etc.

Electronic circulation, accounting and invoicing systems are one of the conceptual areas of digitization of accounting, because the automated processing of large amounts of information, in particular in specialized accounting organizations or outsourcing companies, can provide significant savings. With regard to business structures, their hope of implementing IT accounting systems is rather in the plane of comfort, efficiency and ease of access to financial information. Therefore, in this case it is necessary to choose such software solutions that combine the high functionality of the usual local modules for the enterprise with the prospects of obtaining new information and accounting capabilities.

However, the efforts of Ukrainian business to intensify international cooperation must inevitably lead to an increase in the number of enterprises that will become IFRS-compliant. Therefore, modeling of standardized accounting digitization schemes should take these perspectives into account and focus their own services on ensuring that standards in the business model that are fully integrated to achieve enterprise performance targets. Digitization should be seen as a partial element of systematic planning for productivity growth, cost management and performance. Most of these enterprises are faced with the alternative of completely updating the software or at least refining the functionality of the used accounting systems (for example, 1C Accounting). The organizational task of planning such innovations is to introduce additional accounting and financial accounting modules according to IFRS standards, based on current standard configuration information systems.

This approach will inevitably lead to changes in the job descriptions of practicing accountants. IT modeling, which provides cross-cutting

coverage of all enterprise business processes in accordance with IFRS standards, should include the broad involvement of cloud computing technology and workplace virtualization. This is completely in line with the recent trend of extending the boundaries of remote jobs, as digitized data sets will be available to the accountant in real time. The benefits of this are the ability to significantly save resources by reducing labor costs (by reducing the number of staff involved) and servicing jobs. Despite the relatively high initial costs of implementing a virtual model, because of the prospect of significant cost savings in the future, it can be attractive while innovatively reformatting existing or creating new business models.

Conclusions. The systematic implementation of international accounting standards in the activities of Ukrainian enterprises is a significant step towards their adaptation to the requirements of the world market. The implementation of innovative accounting digitization solutions is ensured by integrated IT systems that allow for objective, timely and transparent generation of data on the financial and economic status of the enterprise. Additional benefits of implementing IT systems are the unification of financial reporting results, the ability to integrate with other business modules, and the release of employee potential.

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**IDEA
MANAGEMENTS
SYSTEMS
APPLICATION
FRAMEWORK IN
COMPANIES**

Introduction

The ongoing changes in the world have made the use of knowledge and information technologies for the greater good a clear priority (INSEAD, 2016). There is a scientific and practical topicality of information technologies that help to manage knowledge and information. There are different kinds of information management systems, such as electronic messaging systems, collaborative systems, group decision support systems, etc. Among such tools are web-based idea management systems (IMS). In previously conducted research (Miķelsone, Lielā, 2015), authors have developed a definition of IMS based on more than 70 literature sources. The definition that has developed during the research is that IMS is systematic, manageable tools or tool kits that help users generate, evaluate and continue this process. The authors consider that this definition have to be supplemented with the purpose of this process. Therefore, in this article the authors propose the extended version of the IMS definition that IMS is systematic, manageable tool or tool kits that help users generate, evaluate and continue this process for delivering innovative activities

leading to ensuring innovations.

First, it is essential to research web-based IMS because it coincides with global trends. Three trends that the authors think will increase web-based IMS importance are: (1) in the age of knowledge-based economy tools that provide means for acquiring, evaluation and development of knowledge and ideas are extremely important; (2) the growing role of ICT increase the importance of web-based tools that support innovative activities process; (3) web-based IMS is becoming more important in the context of open innovation and co-innovation, giving access to both internal and external sources of ideas and knowledge.

Efficient use of IMS can contribute to the success of the company if it is strategically planned and implemented (Fairbank, Williams, 2001; Brem, Voigt, 2009, 2007). This chapter will look at the framework for the use of IMS and its constituent elements. As the research method an expert interviews have been conducted to verify and supplement the results obtained.

This paper aims to verify the relationships between the IMS application types and IM results based on adaptive structuration theory (AST) for using ideas management systems in companies leading to increase of the results of ideas management in enterprises.

Theoretical background

The study concluded that the IM was described in the context of innovation management (e.g., Galbraith, 1982; Sandstrom et al., 2010) IT literature and management literature (e.g., Yu et al, 2006), human resources management (e.g., Green et al., 1983), knowledge-based management (Bansemir et al., 2009), management psychology aspects (e.g., Pundt et al., 2005) etc.

In the IMS study, it is essential to look at what IM is, since IM literature gives more insight into the concept of IMS by revealing social (e.g. Selart, Johansen, 2011), structural IM elements (e.g. Deichmann, 2012; Westerski, 2013). The IM literature has mainly studied commercially available or privately developed IMS, their use and potential improvements (e.g. Westerski, et al., 2013; Beretta, 2015), but some researchers study the development of new IMS (e.g. Bothos et al., 2012; Lowe, Heller, 2014). The research focuses on commercially available web-based IMS, their use and impact on expected results. A study of commercially available IMS has been selected as a narrowing point in order to better identify the sample of the study.

Methodology for interviews and their analysis

For the verification of the results, expert interviews are used. The interview questions are based on literature review and IMS database analysis, including key questions. Two interview options have been developed, where question groups do not differ but the wording of the questions is different.

Criteria were developed for the selection of experts: at least 2 year experience in innovation management practically and academically. A total of 10 experts were put forward out of which 6 agreed to the interview.

The experts interviewed are as follows:

1. Viktors Toropovs, TET, Head of Business Development Administration.
2. Signe Luksa, AS “Cēsu alus”, project group leader.
3. Kārlis Karolis, SEB bank, Head of innovation at.
4. Iveta Cīrule, an expert on open innovation, external ideas management consultant.
5. Vita Brakovska, creativity and innovation consultant, a practitioner of ideas management.
6. Ilze Osīte, Zemgale Region Competencies Development Centre, an expert at the Business department, idea management consultant.

Basic idea management framework – a Basic process of the idea management system

See basic framework IM in Figure 7.6.

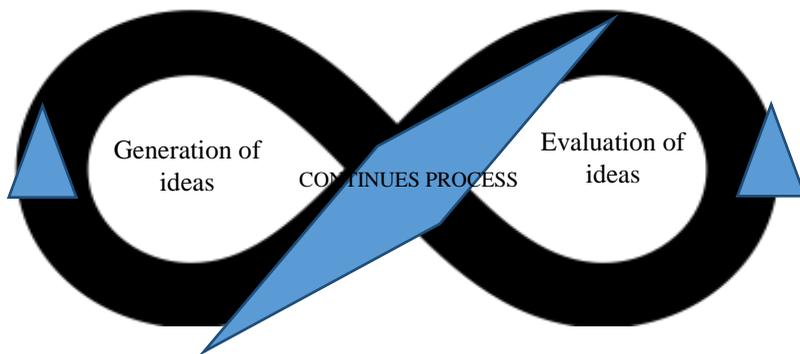


Figure 7.6 Basic idea management framework – basic process of the IMS

Source: developed by the author, based on theoretical and empirical research

IM traditionally begins with generating ideas, which includes preparing and creating ideas, collecting, saving and improving the sub-processes. Next step is the evaluation of ideas, which includes selection, choice and saving of the ideas. Further is the continuation of the process, which includes repeated idea generation and evaluation, to create a concept (improving specific ideas as needed), distributing, saving and rewarding ideas. This indicates that this step can lead to the conclusion of the IM process with the preservation and rewarding of ideas, or to the continuation of the IM with the repeated generation and evaluation of ideas.

The representation of the IM as a non-linear process is the author's contribution to IM literature, as it has so far been portrayed as a linear process with a beginning and an end. The authors believe that the experts who advise and consult in IM, the developers and users of IMS, should understand the potential of using it non-linearly and thus creating continuing process. This approach is seen in IMS Benovative, which is used by medical companies, for example, GE Healthcare (Hungary) which over a period of two weeks, involved over 333 000 employees, creating 133 ideas that with the continuation of IM process resulted in 23 new patent applications (Benovative, 2018).

1.1. User profile of the idea management systems

Based on the results of an empirical study, the authors established a user profile of the IMS. As a good example of IMS practice abroad, the experts mention Google, Spotify, Fastte (Canada), Karlsberg, where the idea generation is centralized and used for all markets. In Latvia – TET (Lattelekom), A/S SEB bank, Latvenergo, Swedbank, IF, also start-ups in IT and marketing were mentioned, as they operate in a highly competitive environment. Based on expert interviews, it is apparent that IMS is used in companies of different sizes, industries and experience, which points at the universal use of IMS.

See the profile of potential users in Figure 7.7.

All experts agreed that companies from every industry and size have the same perspective to use IMS, but industries where the level of competition is high, it must be a daily routine. Expert Iveta Cīrule stresses that IMS is particularly important for creative industries.

1.2. Use of idea management systems model types

In this section the authors will analyze the use of IMS model types based on the quality, quantity and engagement of ideas (Figure 7.8).

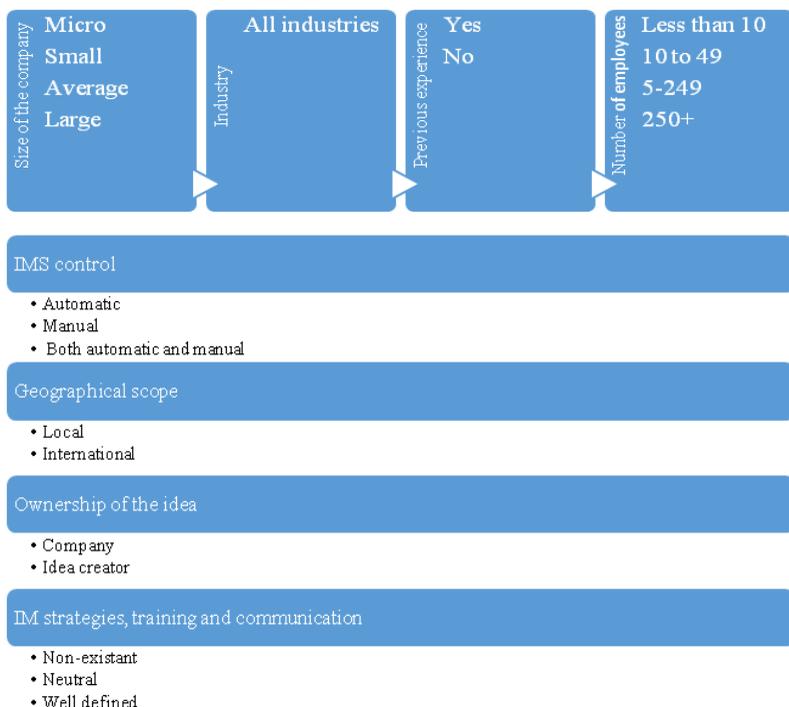


Figure 7.7 User profile of idea management systems

Source: developed by the authors, based on theoretical and empirical research

In the use of IMS, companies must take into account the key elements that define the type of the IMS model that needs to be used, as this has an impact on the result and should, therefore, be aligned with the companies IM strategy.

For IMS types, the organization should decide on the main dimensions (Figure 7.9).

1.2.1. Comparison of usage potential based on IMS focus

Active IMS ensures higher ideas quality, quantity and engagement than passive, but passive is more effective since a statistically higher percentage of passive ideas are realized since the quantity of ideas is very low and a certain number of ideas are being implemented from one draft of the IMS, showing that the organisation can improve their management of ideas. For both IMS types see Figure 7.10.

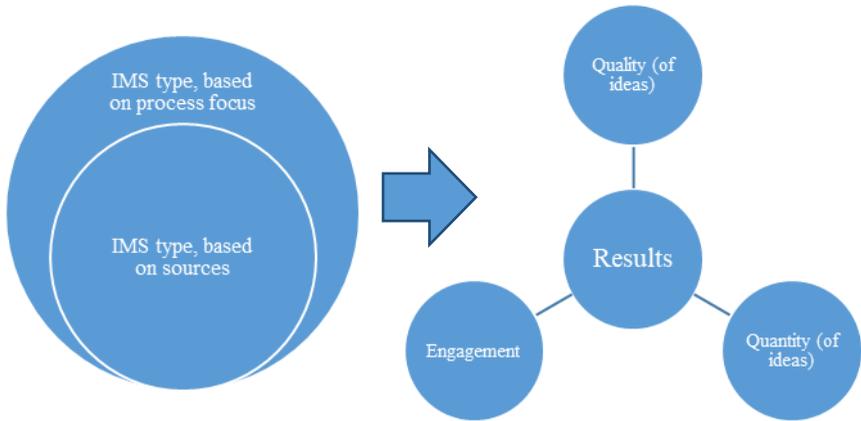


Figure 7.8 Basic framework dimensions

Source: developed by the authors based on theoretical and empirical research

	Business decision	
No focus (Passive IMS)	↔	Focus (Active IMS)
Internal sources (internal IMS)	↔	External sources (External and mixed IMS)
A small circle of engaged stakeholders (Internal IMS)	↔	A large circle of engaged stakeholders (External and mixed IMS)

Figure 7.9 Main elements forming the use type

Source: developed by the authors based on theoretical and empirical research



Figure 7.10 Comparison of active and passive IMS type use

Source: developed by the authors based on theoretical and empirical research

All experts conclude that the largest quantity of ideas is provided by the active IMS and the higher quality of ideas is also provided by the active IMS, as well as a higher number of involved is ensured by active IMS.

The authors recommends the use of an active type of IMS as it provides better results.

1.2.2. Comparison of usage potential based on ideas management sources

Based on the sources involved in the IM, the types of IMS use can be classified as internal or external and mixed (Figure 7.11 for the comparison).



Figure 7.11 Comparison of the type of internal, external and mixed-use of IMS

Source: developed by the author, based on theoretical and empirical research

All experts have concluded that the largest quantity of ideas is provided by external IMS when compared to internal IMS; mixed IMS, when compared to external IMS. Representatives of all the companies interviewed acknowledge that the quantity of ideas created could be higher. As a restrictive factor, e.g. TET mentions that the employees fear the extra work-load. The company intends to address this problem by paying more attention to process management. A/S “Cēsu alus” concluded, that the quantity of ideas depended on the task at hand.

Experts have recognised that a higher quality of ideas is provided by internal IMS when compared with external IMS; mixed, if compared with external IMS. Business representatives would like a higher quality of ideas, but by taking into account the amount of work put in, it is concluded that the quality of ideas is generally satisfactory, because, for example, TET from the last (2018) innovation championship realized 8 out of 11 ideas, but A/S “Cēsu alus” take 4 to 5 ideas from each idea sessions. The ideas are also created by marketers, team representatives

and ideas are brought in from business trips. Companies believe that to promote ideas to be of higher value, perhaps, can be done by encouraging people to participate in the process and by motivating them by also addressing intellectual property issues.

The results of the empirical study indicate:

1. Passive IMS gives higher idea selection efficiency than active IMS.
2. Internal IMS gives higher idea selection efficiency than external IMS.
3. Passive IMS gives higher engagement efficiency than active IMS.
4. Internal IMS provides higher engagement efficiency than external IMS.

Based on the reliability indicators and modal classes analysed in chapter 2, types of IMS, the number of ideas and the number of ideas realised, it can be concluded that although the active IMS shows higher results, the idea selection shows higher effectiveness in passive IMS. This is because passive IMS provides both a lower quantity of ideas (in the sample 3,6 times lower) and quality (in the sample 2 times lower).

A similar situation is with internal IMS since the high-efficiency rate is likely to be linked to an internal network restriction that prevents quantitative achievements. On the other hand, quality stability is ensured by the knowledge of employees on a specific issue. It should be noted that this issue should be further examined in depth. The same situation is with the quality and engagement of ideas. For a comparison of the quality and quantity of ideas, see Figure 7.12 on the following page.

		Quality of ideas	
		Lower	Higher
Quantity of ideas/ Engagement	Higher		A1 Active IMS/ External IMS/ Mixed IMS
	Lower	A2 Passive IMS /Internal IMS	

Figure 7.12 Quality of ideas and Quantity of ideas/engagement based on types

Source: developed by the authors based on theoretical and empirical research

Based on Wood (2004), the authors recommends that companies use type A1, that is proven to show higher quality and quantity of ideas, but

for companies using A2 types, it is possible to improve the IM with other model type use. Based on Figure 7.13 it can be concluded that the choice of the company in regards to the type will affect the results of IM.

Lower engagement, quality and quantity	Business decision	Higher engagement, quality and quantity
No focus (passive IMS)	↔	Focus (active IMS)
Internal sources (Internal IMS)	↔	External sources (Mixed and external IMS)
A small circle of engaged stakeholders (Mixed and external IMS)	↔	A large circle of engaged stakeholders (Mixed and external IMS)

Figure 7.13 Elements of the main use of IMS model types

Source: developed by the authors based on theoretical and empirical research

1.3. Benefits of idea management systems

The results of IMS may vary and depend on the objective pursued by the company. In this chapter, the main benefits of IMS use can be considered based on empirical studies.

Further findings of the expert interviews, noting many benefits, can be seen in Figure 7.14 on the following page, but most importantly, as acknowledged by A/S “Cēsu alus”: is “Full refrigerator of new products”.

In interviews, experts have also highlighted the advantages of managing ideas: creating competitive products, providing sustainability, increasing employee loyalty, etc., highlighting similar aspects as highlighted by the results of the database and questionnaire results. IMS benefits of use:

1. Active IMS have more focused, clear, task, fast feedback and better ideas.
2. For passive IMS, the quantity and diversity of ideas are higher than for active IMS.
3. Internal IMS are higher quality, more realistic ideas, which require the least amount of work to implement and optimize.
4. External IMS ensure access to a wide range of innovators.
5. Mixed IMS deliver creative solutions that “raise” the company to the next level.

Benefits of cooperation

- Better teamwork
- Improved internal cooperation
- Improved external cooperation
- Increased engagement
- Increased importance of teamwork
- Increased motivation for all engaged
- Networking
- Increased job satisfaction
- Strengthened business relations
- Increasing engagement, strengthened confidence in the business

IM benefits of the process

- Identifying new ideas
- Development of new ideas
- Storing of ideas
- Structuring of ideas
- IM control
- Comprehensive IM process
- Saving time
- Use of IM without geographical restrictions
- Use of IV for an unlimited period
- Use of IV without engagement barriers

General benefits for the management

- Helps achieve targets
- More effective decision-making
- Increase in productivity
- Develops information management
- Improving overall management efficiency
- Increase in quality
- Decrease in costs
- Increase in revenue
- Increase in turnover
- Increase in customer satisfaction
- Increase in market share
- Faster new product release in the market
- Faster response to changing environment

Benefits of the innovation process

- Introduction of innovation
- Development of innovation culture
- Increase creativity
- Provides an accelerated development of innovations in the perspective of time
- Increasing innovation potential
- Providing ideas for new products
- Providing ideas for innovation in the process
- Providing ideas for innovations in marketing
- Providing ideas for organizational improvements
- Stimulate the development of open innovation
- Impacts the increase in the number of patents

Figure 7.14 Benefits of the use of IMS

Source: developed by the authors based on theoretical and empirical research

The interviews also assess the shortcomings of idea management: tired employees, lacking enthusiasm, increasing workload, and a higher risk of “burn-outs”.

The authors would like to highlight the main IMS type pitfalls:

1. For Passive IMS ideas repeat year after year. Dealing with extensive problems.

2. For internal workers, it is difficult to “jump” into others responsibility, it is impossible to achieve the quantity and uniformity of ideas.

3. For active IMS limiting creative thinking, failing to give a return, excluding non-standard solutions.

4. External IMS do not consider the specific nature of the company activities. Conceptually it is green ideas.

5. Mixed IMS – hard to manage, issues arise – who has ideas and what resources will drive the idea further.

Expert Iveta Čirule assesses these pitfalls as challenges, saying that there are no pit-falls, only need to know how to collaborate together with people and ensure efficient communication.

1.4. Overall IMS usage framework

IMS provides a systematic and manageable IM for different size industry representatives – Figure 7.15.

Summary

In this chapter the research was carried aiming at verifying the relationship between the IMS application types and IM results in adaptive structuration theory (AST) to create a framework for using ideas management systems in companies .

The scientific contribution of the paper:

1. The IV process framework is created.
2. The IMS user profile is presented.
3. The usage of IMS types models is described.
4. A comparison of the potential for IMS use has been established.
5. A list of IMS benefits is created.
6. Overall IMS usage framework has been established.

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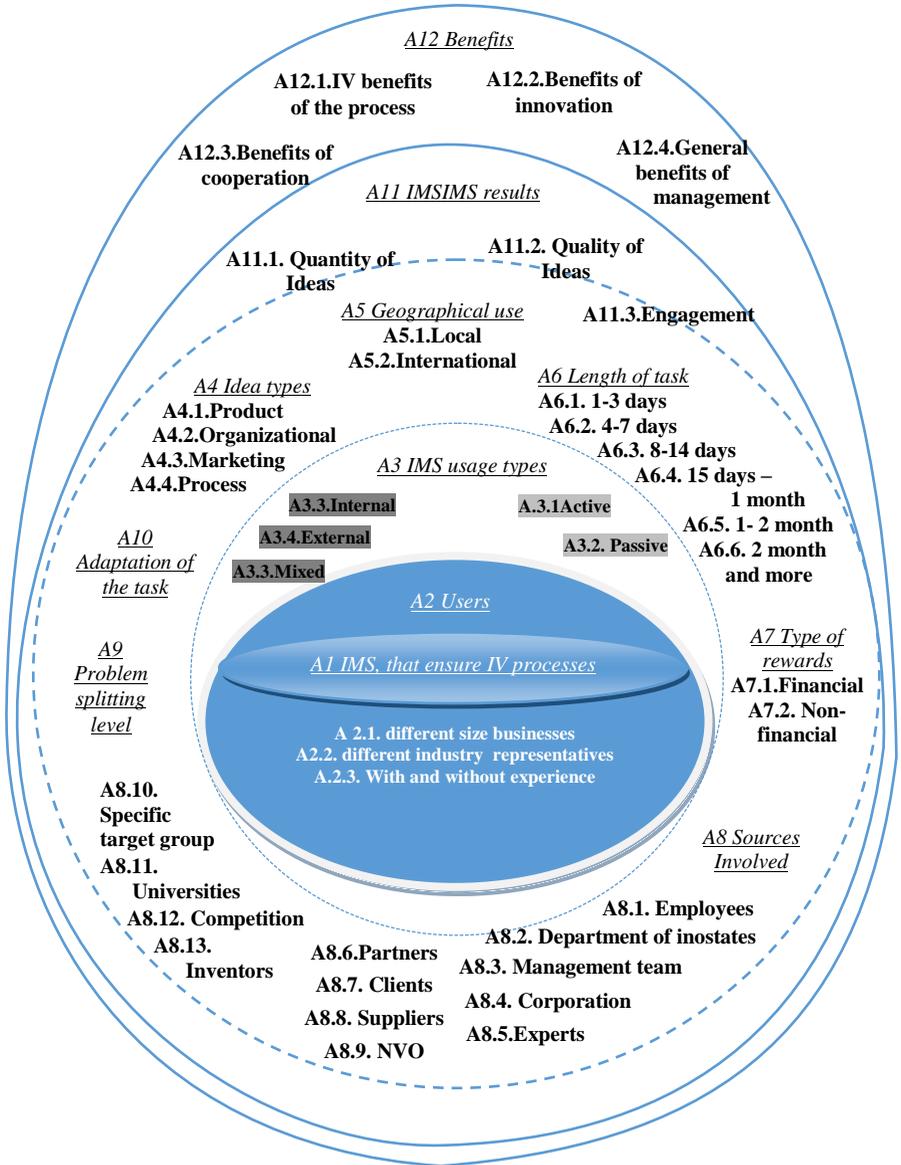


Figure 7.15 Basic elements for the use of IMS

Source: developed by the authors based on theoretical and empirical research

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Chapter 8

ECONOMIC SYSTEMS MANAGEMENT AT THE LEVEL OF INDUSTRY STRUCTURES

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DIAGNOSTICS THE ECONOMIC EFFICIENCY OF AGRICULTURAL ENTERPRISES

In order to ensure stable functioning and development of the enterprise, they evaluate the effectiveness of economic activity. An effective tool for assessing economic activity in modern conditions is economic diagnostics, which allows you to analyze the main indicators of the enterprise, to explore the factors that led to the change in the relevant results and adversely affected the activities of the enterprise. Agricultural enterprises also need such methodological tools for economic diagnostics. However, the existing tools for assessing the effectiveness of economic activity does not allow for a comprehensive assessment of indicators. In addition, the management system of agricultural enterprises raises the requirements for providing a more effective and justified system of evaluating indicators using economic diagnostics.

The vast majority of agricultural enterprises try to periodically review their own systems for assessing the effectiveness of economic activity, taking into account the situation on the domestic and world agrarian markets, changes in the regulatory framework, the influence of environmental factors, and investor requirements. Moreover, the problem lies not only in the excess or lack of assessment indicators depending on the object of study, but the effectiveness assessment system itself does not meet the goals of both the current and strategic management of the enterprise.

The data financial statements of the enterprise do not provide information on factors that affect changes in production and sales, market share and income and profits. One of the directions of the search for estimated performance criteria is the selection of non-financial indicators that will allow forecasting the future financial results of the enterprise. Such non-financial indicators are the level of scientific-research and technical development, innovation in customer service, reject rate, personnel development.

Since the early 90s of the twentieth century American and Western European scientists and practitioners have been widely discussing a new system for evaluating effectiveness – the “Balanced Scorecard”. It was created on the basis of a study conducted by Harvard University professor Robert Kaplan and consultant David Norton. In 1990 10 American companies were investigated with the goal of finding new methods for evaluating performance. The result of scientific research was the creation of a system of indicators with which you can track various types of activities at the enterprise – internal business processes, issues of interaction with customers, interests of shareholders and investors. R. Kaplan and D. Norton called the new toolkit a “Balanced Scorecard” and later described it briefly in an article by Harvard Business Review.

Over the following years, several enterprises have introduced a balanced scorecard and have achieved good results. According to American researchers, in the late 90s, about half of the largest US companies used this system to evaluate performance and successfully implement the strategy. At the same time, R. Kaplan and D. Norton recognize the certain limitations of a balanced scorecard, especially the difficulty in using it as a tool for assessing and motivating personnel.

In our opinion, rethinking the assessment of effectiveness should begin with a consideration of the concept itself. We believe that a set of performance indicators should meet the following criteria:

- be minimal in a set of indicators. A significant number of indicators complicates the calculations, the introduction of new evaluation criteria, as a rule, is carried out due to indicators interconnected with the available ones;

- cover all directions of activity the enterprise. Ideal indicators cover the entire enterprise, that is, they can be used everywhere and have advantages over highly specialized indicators: they can be successively traced from the lowest to the highest levels of management; their changes can be analyzed from the bottom up, that is, to evaluate the effectiveness of the lower levels of management; you can compare them on a horizontal level between different departments of the enterprise;

- have good predictability for forecasting. Non-financial indicators should provide for future financial results, that is, such indicators become determining criteria for efficiency, and financial indicators –of lags – change and accumulate over time;

- have a stable character. Indicators should change gradually so that employees are aware of the strategic goals of the enterprise and their behavior is predictable;

- create opportunities for assessment and motivation personnel.

In contrast to ideal indicators, only two requirements are put forward to a balanced system of indicators: minimum and usefulness for forecasting. In real economic practice it is practically impossible to determine effectiveness indicators that satisfy all of the above criteria. This is due to several reasons, namely:

- enterprises are overloaded with various indicators, and the problem of an excessive number of criteria exacerbates the processes of evaluating economic activity;

- the ability of scientists and practitioners to create and disseminate indicators is ahead of the ability to separate non-financial indicators, including information about financial effectiveness in future, from indicators that do not contain such information;

- few indicators of a non-financial nature are comprehensive for the enterprise, it is easier to choose universal financial indicators;

- effectiveness indicators, especially non-financial ones are constantly changing over time, when used they lose their variability, sometimes quite quickly, and therefore cannot signal high or low efficiency;

- motivation for several effectiveness indicators is quite complicated. If indicators are combined according to some formula, employees will try to ensure that they get the desired result without changing it to

growth. If indicators are combined subjectively, people will not understand the relationship between assessed effectiveness and its motivation.

There is an even more fundamental reason for the gap between an ideal and a real assessment of the effectiveness of activity the enterprise. The modern understanding of efficiency, being, in essence, an economic concept, does not recognize the possibility of its full measurement. The modern concept is based on the assessment of future cash flows and their discount to current value. In other words, an enterprise is regarded as an asset that is capable of generating cash flows – both today and in the future. Cash flows in the future cannot be accurately measured, nor can the long-term sustainability and effectiveness of an enterprise be assessed, without which cash flows will be reduced or run low. Realistically assess current cash flows (financial results), factors affecting future cash flows (non-financial indicators), and give a rough estimate of future cash flows themselves (for example, prices of securities of an enterprise).

On the contrary, economic efficiency includes elements of expectation, or even promise. A noticeable definite contradiction: the vocabulary definition is turned to the present or the past, and the economic definition is turned to the future. At the same time, the definition of effectiveness tends to limit factors and takes into account certain indicators of evaluation. For example, if evaluate efficiency are used to financial results (profitability), indicators of business processes, the level of satisfaction of consumer needs, and innovation and staff are evaluated, then a balanced scorecard is proposed by R. Kaplan and D. Norton [1]. Another measure of effectiveness may be the level of satisfaction of the requirements of the owners of the enterprise (shareholders or investors).

In an effort to find suitable, even if not ideal, means of assessing the effectiveness of economic activity, scientists and practitioners are forced to rethink the activities of the entire enterprise and structural units. All indicators of the economic activity of the enterprise can be divided into single and complex, as well as internal (managerial) and external (financial). Analyzing the whole set of indicators, we can conclude that the more units in the enterprise, the more diverse the types of activities and products, the more different indicators must be used to evaluate effectiveness. This is especially true for agricultural enterprises, which is due to the directions of their activities – crop and livestock complexes.

Not a single indicator is able to give a comprehensive assessment of the economic activity of an enterprise. In addition, those factors of influence that remain assessed will be neglected in an effort to obtain better results on a single indicator. That is, the more the factor is not evaluated, the more fraud is possible in an enterprise with a performance evaluation system. The use of many indicators will make it possible to obtain a more complete performance effectiveness of an activity than a single indicator, but it will be more difficult to collect and combine data for assessment into an aggregated assessment of the overall performance of an enterprise.

At the same time, the overall financial indicators of the enterprise do not allow an assessment at the level of individual departments. On the other hand, it is rather difficult to aggregate the performance indicators of individual divisions into a single generalized indicator at the level of the entire enterprise.

Large enterprises with a complex management structure need more indicators of evaluation than small ones. For small enterprises with a relatively simple management structure, the purpose of performance indicators is to evaluate past performance to predict the future situation, as well as motivating and encouraging employees. In large and more complex enterprises, it is additionally assumed that performance indicators can be aggregated by organization level from bottom to top and distributed in cascades from top to bottom, which helps to compare the effectiveness of individual branches within the association and functional units. Given the above, we determine the place and purpose of indicators for diagnosing the efficiency of economic activity of agricultural enterprises (Figure 8.1).

The data in Figure 8.1 reflect the place and purpose of the individual categories of indicators assessment efficiency. Indicators that allow you to assess the past situation, predict future development, as well as indicators of employee motivation and encouragement are located outside the organizational pyramid, since they are common both for assessing small enterprises and large ones. The indicators intended for aggregation from bottom to top, cascading distribution from top to bottom, as well as indicators used for the purpose of comparison are becoming increasingly important with the increase in the volume of activity of the enterprise, are located within the pyramid. Indicators for assessing the past and forecasting the future are at the top of the pyramid, since these indicators are used to assess the economic efficiency and past achievements of the enterprise as a whole. The

indicators of motivation and remuneration are placed at the base of the pyramid, since they are designed to motivate and stimulate staff activities.

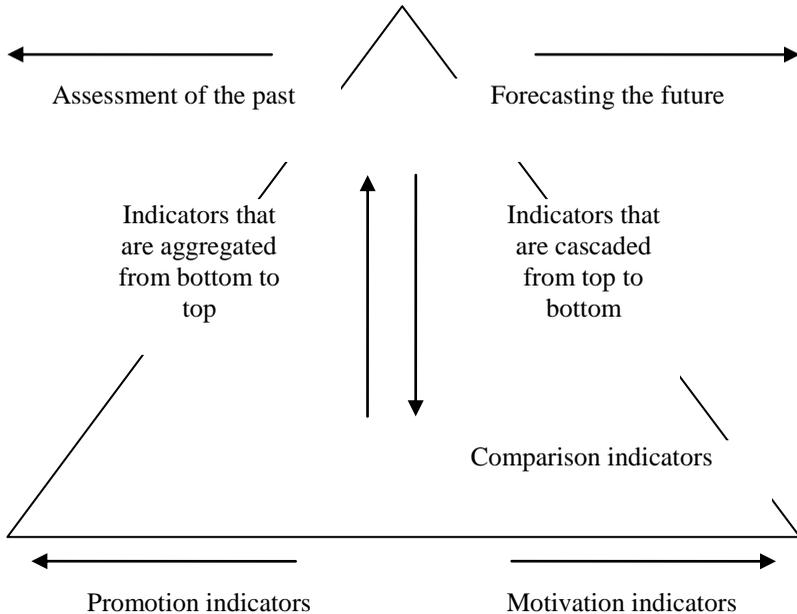


Figure 8.1 The place and purpose of indicators for diagnosing the efficiency of economic activity in an agricultural enterprise

Source: suggested by the author

The indicators for assessment efficiency the economic activity of an agricultural enterprise we propose combining performance in four groups, namely:

1) market assessment of an agricultural enterprise (return on equity, added market value), designed to assessment the activities of the enterprise as a whole, and not of its individual structural units, employees. These indicators cannot be obtained either by aggregation from bottom to top, or cascading from top to bottom. Directions to the future market valuation depends on the degree of efficiency of the financial market, reproduces in its estimates information relating to future cash flows. The considered indicators are widely used to motivate and promote the system of top management of an agricultural enterprise;

2) financial indicators (net profit, return on assets, return on investment, return on sales), which can be used to evaluate the activities

of both the agricultural enterprise as a whole and its individual components – crop and livestock complexes. But these indicators cannot be used to evaluate functional units or employees. Financial indicators are more directed to the past than to the future, as existing performance is reproduced. Although it is possible to note a partial direction of these indicators in the future – higher performance results reduce the cost of attracting financial resources. Financial indicators can be widely used in the field of motivation and remuneration of personnel at the level of management of an agricultural enterprise, but not at the level of structural units. Accordingly, it is possible to point out aggregation and cascading of financial indicators from the level of the enterprise to the level of its structural divisions, which makes it possible to compare the effectiveness of their activities as part of an agricultural enterprise;

3) non-financial indicators (the number of innovative technologies, product quality, consumer satisfaction, consumer loyalty index), which are quite complex and ambiguous. On the one hand, these indicators can cover all aspects of the functioning of an agricultural enterprise (for example, production, sales, management, marketing, innovation); on the other hand, since functional units within a single enterprise are usually specialized, most of the non-financial indicators characterizing the activities of the agricultural enterprise as a whole cannot be applied to individual specialized units. Also difficult is the problem of aggregating non-financial indicators from bottom to top for a generalized assessment of the effectiveness of several units. A similar question arises when it is necessary to compare the functioning of various units, both within a separate agricultural enterprise, and with similar enterprises or with reference values. Regarding future orientation and application possibilities for personnel motivation, non-financial indicators are ambiguous and variable over time, and therefore need constant monitoring of their effectiveness, review and updating;

4) cost indicators with a limited nature of use compared to other types of indicators, since they measure only one aspect of efficiency, namely, costs. Cost estimates are based on past information. Although the trends in these indicators make it possible to make forecasts for the future, the inability to control current costs can lead to adverse future consequences for the agricultural enterprise.

In Table 8.1 we present four groups of indicators for diagnosing the efficiency of economic activity of an agricultural enterprise, depending on the level of their use and purpose.

As the data in Table 8.1 show, indicators that are actually or

potentially facing the future (that is, which are appropriate to use to predict the economic efficiency of economic activity), as a rule, cannot be distributed from bottom to top or top to bottom. For example, a market valuation of an agricultural enterprise cannot be distributed from top to bottom, and functional non-financial indicators cannot be aggregated from bottom to top.

Table 8.1

Types of indicators for diagnosing the effectiveness activity of an agricultural enterprise by level of use and purpose

Signs of comparison	Indicators:			
	market valuation	financial	non-financial	costs
Level of use	enterprise	business units	functional departments	enterprise, business departments, functional units, working groups
Future aspiration	completely	partially (short-term forecasts)	partially (tactical forecasts)	partially (costs line forecasting)
Orientation to the past	partially (only as a comparison base)	calculated based on past information only	partially (only as a comparison base)	calculated based on past information only
Motivation and reward	enterprise (top management)	enterprise (top management and partly managers)	personnel at the functional departments level	personnel at all levels but is ambiguous
Aggregated from bottom to top	absent	from business units in a company	only for similar groups, departments	completely
Cascading from top to bottom	absent	from company business units	only for similar groups, departments	completely
Comparisons	at the individual enterprise level	for different business units	only for similar groups, departments	completely

Source: compiled by the author

Thus, it is rather difficult to find indicators that can be used at different levels of management of an agricultural enterprise and which allow us to make an assumption about economic efficiency.

Financial indicators are focused on the future for the short term; they can be aggregated and cascaded at the level of individual business units, but not functional units or working groups. Only some non-financial indicators are directed to the future and compared at the level of individual company units. The greatest number of necessary features has

the last group – costs indicators. But they only unilaterally evaluate efficiency; show a trend in the level of costs, although they are easily used for aggregation and cascading from top to bottom.

Motivation and remuneration are grouped on the basis of cost indicators, as a rule, are not used at the enterprise, since it quickly causes deterioration of other (primarily qualitative) indicators of economic activity of both individual employees and departments (the desire of the employees of the logistics department to reduce the cost of purchasing fuel lubricants for agricultural work leads to the acquisition of a cheap, but low-quality resource can lead to significant cost overruns when growing crops, obtaining lower-grade agricultural products, etc.).

Effectiveness assessment systems that are used in agricultural enterprises based on current and past results, and owners are more interested in the future prospects and position of the enterprise. That is, economic efficiency is directed to the future, and its assessment always has a certain share of uncertainty. The magnitude of the uncertainty varies depending on the delay (lag) of the influence of factors affecting the assessment, as well as on the variability of the external environment. On the other hand, the larger the enterprise and the more complex its management system, the less perfect is the evaluation of performance indicators. This occurs for several reasons: the division of labor becomes deeper, which causes a great need for specialized functional units; to lead to a unified assessment and comparison of non-financial indicators at the level of specialized units and financial at the level of business units and the company as a whole is almost impossible.

Thus, in modern conditions there is a need for the formation and use of more justified methodological instruments for assessing the efficiency of economic activities of agricultural enterprises, which combines a market assessment of economic activity, financial and non-financial indicators, operating costs. An assessment of the efficiency of economic activity of agricultural enterprises of Ukraine is carried out, which the economic entities of the agricultural sector, using the available resource potential, are trying to use it effectively. However, the economic and market conditions do not always contribute to the achievement of positive results, since there is a decrease in the sown area of agricultural land (especially for growing grain and leguminous crops), an increase in average prices for the sale of agricultural products is characterized by a negative trend. The positive dynamics in the activities of agricultural enterprises of Ukraine is an increase in the volume of cultivation and yield of certain types of crop production (sugar beets, sunflower seeds,

potatoes and vegetables) and livestock production (meat, milk, eggs and wool).

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APPLYING OF MODERN INFORMATION AND COMMUNICATION TECHNOLOGY STRATEGY TO IMPROVE EFFICIENCY OF VALUE CREATION OF COMMERCIAL ENTERPRISE

Introduction

The main reason why commercial companies choose an Information and Communication Technology (ICT) strategy is to update economies of scale and reap the benefits of information technology [Kearney, 2017]. The dynamics of environmental changes, including expansion of modern information technologies, means that modern commercial enterprises must quickly and effectively use all opportunities for effective business and development. Among the main factors of the company's success there is innovation, which contains conditions for

understanding the value creation process [Dymitrowski, 2014]. The resource concept (derived from Resource Based View – RBV) is undoubtedly the most universal and comprehensive to show the possibilities of success and development of an enterprise. Nevertheless, the concept of drawing profits from innovation (PI) focuses directly on the levers of retaining the value of technological innovations [Najda – Janoszka, 2013]. In the world for profit, the reason and justification for existence is the creation of economic values. The retained part of the generated economic value represents the captured economic value necessary primarily for the continuation of economic activities. Some authors emphasizing the possibility of treating modern information technologies as intangible resources also point to the use of the ICT link with resource theory for creating value of commercial enterprises [Marczuk, 2011]. The growth of ICT technology brings many opportunities, from the use of which the development of modern business entities depends to a large extent. The Internet and other modern technology means are increasingly perceived as a tool enabling the development and quick transfer of information on products and services of commercial enterprises. By using ICT, it has become possible that enterprises can more effectively promote their products and services, conduct marketing research and market analyses. Enterprises are constantly growing due to the spread of ICT. The Internet, as a source of information, is increasingly used in the decision-making process and allows you to reach more customers from offers. Many companies began to see ICT, not only as a means of advertising and marketing, but as a medium through which one can successfully run a business. The impact of information technology on commercial enterprises can lead to cost reduction when carrying out a sale via electronic commerce rather than in a traditional store involve physical establishment, order placement and execution, customer support, staffing, inventory carrying, and distribution [Lee, 2009].

From the enormity of problems that are related to the use of ICT strategies by commercial enterprises, this study has focused on the following: the benefits of the possibility of using modern technologies (in particular the Internet) by commercial enterprises in the context of creating value; opportunities and threats that digital marketing gives and opportunities arising from the use of e-management. The main hypothesis that the study will try to examine in a broad sense is that today the Internet is essential for creating value for commercial enterprises.

The Benefits of Using ICTs in Business – in the context of creating value

Examples of creating economic value can be seen in the activities of most profit-oriented companies, whether small, regional or global. A commercial enterprise is a business of people who exchange things or services for money. Thus, a “commercial enterprise” is an organization that has a profit motive. For the effectiveness of functioning in contemporary conditions of life dominated by business activity in the “network”, the speed of information is most important.

Fast information transfer, which in the modern world allows ICT to be treated as one of the most important resources in the enterprise. Information plays a key role in the functioning of any enterprise because it is a factor in both decision making and knowledge creation. There is an inseparable connection between information, value creation and achieving competitive advantage. The value of benefits resulting from the use of information increases with the level of business complexity and the development of ICT potential. The goal of ICT strategy is to create value for or the company. This goal will not be achieved unless the value is “maximized”. To do this, use the least amount of resources to get the most profit. Due to the rapid spread of information technology in the business world, having ICT strategies has become a necessity for the survival of commercial enterprises. The main reason commercial companies choose an ICT strategy is to update economies of scale and acquire the benefits of information technology. Market entities, and especially enterprises, try to use the opportunities that appear before them to improve the flow of information both within the organization and to improve interaction with their business environment. Modern technologies also allow for structural changes in the organization and functioning of individual departments of enterprises, in the long run positively influencing the improvement of their efficiency, competitiveness and increase of innovativeness of used solutions and proposed products and services. Technological support serves both the collection and selection of information. On the one hand, ICT enables the acquisition, processing, transmission and storage of information at all stages of processes in an enterprise. The real value of ICT is to provide the user with information that is useful to him. It should be noted, however, that the potential benefits of providing information will only appear if better decisions are made on their basis. Information and communication technologies support both communication techniques and the use of information and knowledge resources. At the same time,

the possibilities of using ICT are strongly conditioned by a number of factors, which include digitization, appropriate information infrastructure and favourable environmental factors [Jain & Jadav, 2017]. These are the basic requirements that must be met for a company to create value using ICT [Wachnik, 2015]. The ease of searching the Internet for information about the company and its activities increases the transparency of activities as factors affecting the success of enterprises.

Technological progress of commercial enterprises has contributed to increased production, capital accumulation and the creation of intense competition among manufacturers [Impacts of information technology (IT), 2018] Information Technology is an all-pervasive change, which is affecting the design of many existing commercial enterprises (and their products and services), as well as the mode of producing and marketing almost all of them [Kearney, 2018]. The Internet is seen by companies mainly as a good way to reach potential customers and new markets. There is no doubt that one of the most significant outcomes of the progress of information technology is probable electronic commerce over the Internet, a new way of conducting business. [Lee, 2009]. Nowadays, enterprises have started to notice the potential of the Internet in other areas of their activity, such as better coordination of cooperation with partners, lower transaction costs and development of new services. The main commercial uses of the Internet are the exchange of information (e.g. e-mail, chat, video conference) and the use of websites for informational or transactional purposes. The most popular and most often used form of Internet presence by enterprises is the business website.

Creating value by commercial enterprises with digital marketing

Digital marketing involves using digital media allows effective way to reach as many customers as possible. The basic communication channels are: social media, email, SEO, SEM and the so-called “content marketing” focusing on content. Strategies for using information from the network include: maintaining the availability and accuracy of commercial enterprise business data in all business processes; use of information infrastructure ensuring high efficiency and reliability of ICT services for marketing in a commercial enterprise. The ICT strategy in the business world also includes; supply strategies for a company operating on the basis of digital marketing requiring ordering and selling services and products of only the right quality, at the right price and with

appropriate control, as well as a strategy for information security included in digital marketing ensuring protection and controlling confidentiality, integrity and availability of information [James & Durham, 2016].

The big advantage of digital marketing is the use of tools and methods that, thanks to a direct connection to the Internet. This allows to immediately analysing the marketing activities of commercial enterprises. This type of marketing includes not only activities on the Internet, but also SMS, TV, smartphone applications or billboards. In digital marketing, a necessary step is to plan a digital strategy, by the way of which various models are usually used. An additional advantage of digital marketing is called omnichannel, which is the complete integration of all channels, with no distinction between the online and the physical channel. Using omnichannel allows for direct creation content through any ICT channel [Chaffey, 2019]. The SOSTAC model is a method of planning strategic steps that the company wants to take to reach a potential customer with its message [Ibid.]. This method works very well in campaigns conducted on the Internet. This model is very flexible and adapts to the dynamics of the environment, i.e. the Internet and clients. And this is very important if we are not able to direct our strategy to one specific target group. The RACE model (whose name is short for the first letters) means: [Ibid.]

- Reach, i.e. reaching the target group and making them aware of the brand
- Act, i.e. the involvement of its clients in interacting with the company
- Convert, i.e. conversion to the target purchase
- Engage, i.e. creating loyalty with your customers.

Omnichannel, SOSTAC and RACE propose a strategic approach created to connect communication channels such as: Internet, sms, e-mail, telephone and video with sales channels. The solution is that the customer has access to all services offered [Stecyk, 2012]. Social media (interactive Web 2.0 Internet-based applications including for instance Facebook, Twitter, YouTube, and corporate blogs) represents a new trend for companies, too, who are trying to communicate with their consumers on online or offline media platforms [Gáti & Markos-Kujbus, 2012].

New opportunity for commercial enterprises - digital management

It can be assumed that the company currently functions naturally in a

networked environment. Based on the conducted research, Jablonski after conducting the research stated that the coherence of a strategic hybrid is built on a business model. Strategy and business processes constituting a key determinant of the effectiveness of an enterprise embedded in the network [Jabłoński, 2013]. The Internet network forces entrepreneurs to create new business models [Wyrębek, 2011]. In a network economy, the business model can be much more complex, and innovations can affect any of its elements. The very concept of the business model appeared in management theory and practice along with the introduction of the ICT system, which are innovations resulting from the need to redefine existing operating principles of enterprises. The business model can be the basis for defining the company's strategy and the use of digital management, especially important in enterprises that are completely based on e-management. Due to the use of the Internet on the market, companies using the network and virtual companies are distinguished as e-business. The concept of e-business refers to the use of Internet technologies for the purposes of communication, coordination and management in an enterprise. However, in fact a virtual company have business model, which takes into account the properties of the Internet to achieve business goals. Modern technology leads to a change in the way the value creation process is managed. Enterprises can focus on better meeting customer needs and seek profits also at individual stages of the value chain such as research, programming solutions, brand and distribution chain. [Orzechowski, 2008]. In the e-business enterprise model, the Internet becomes a growth lever for companies, because it creates opportunities to build an effective network of business connections. This solution has the potential to create significant added value. In the model solution, the company becomes a centre for managing the entire value chain, which, through intelligent marketing, constant contact with the customer and designs an optimal product, which in turn ensures customer loyalty. The Internet contributes to the value creation process by providing global coverage, flexibility and optimized management. The global scale of operations allows the use of resources from countries with lower production costs and operating on many markets. On the other hand, flexible cooperation with suppliers and effective use of distribution channels leads to improvement of supply chain management. The role of the Internet as a factor in creating economic value for enterprises increases with its progressive adoption in the economy due to the phenomenon of network externalities. Nowadays, an important issue in

commercial enterprises is also the pursuit of the best strategic match between ICT and business. Business- ICT matching means applying information technology in the right way and at the right time, in harmony with the strategy, goals and needs of business [Orzechowski, 2008]. Good business fit – ICT affects the business operations in three main ways: it increases the efficiency of investment in ITC, helps to gain a competitive advantage through the appropriate application of ICT, and ensures flexible response of the company's information system to new business and technological opportunities [Ibid.]

The fast transfer of information, which in the modern world allows ICT, can be treated as one of the most important resources of basic resources in the enterprise. Information plays a key role in the functioning of any enterprise because it is a factor in both decision making and knowledge creation. There is an inseparable relationship between information, value creation and achieving a competitive advantage. Information is a contribution to a data system that is used to manage an enterprise. Management leads to value creation, but it is not enough to maximize it. Therefore, for a company to be able to maximize value, it must achieve a competitive advantage, whose source is, among others, unique knowledge and competences [Pisano, 2015].

The accessibility of the internet in the media community is beyond doubt. This accessibility gives a lot of benefits from the viewpoint of the business side of commercial enterprises, but on the other hand is associated with many possibilities of computer crimes. As a result of computer crimes and computer frauds, companies are sometimes exposed to large financial losses. It should be emphasised that all companies need to follow five specific steps to effectively protect against cyber-attacks: secure your hardware, encrypt and backup all your data, encourage a security-cantered culture, use robust firewall and anti-malware software, and invest in cyber security insurance [Popat, 2018]. Many Internet strategy failures are rooted in the perception of the network only from the perspective of its benefits and capabilities. Every internet venture requires a rational approach from both a planning and implementation point of view. It is also worth remembering that the Internet is a constantly growing business channel that forces enterprises actively operating online to constantly update their knowledge in this area. Its dynamic nature also significantly translates into models and strategies implemented by enterprises in the network. The Internet allows you to gain a competitive advantage in many ways. The most important are interactivity and individualization in customer

relationships, access to information, choices, convenience, saving time and costs, creating new communities, entertainment and trust. Interactive communication is a separate chapter in marketing connections, helping to solve many existing problems. Interactive communication has been used, e.g. on the Internet it also enables conversation on a global scale, even by small enterprises. The added value generated by the network consists mainly in managing activities, providing useful information and facilitating contact. The Internet network is above all a mine of cheap and up-to-date information: about the market, legal provisions, financial regulations, events of great importance or market opportunities. Monitoring what is happening on the web, browsing websites, catalogues and databases allows to keep a good orientation in the environment, which is an important element of the role of every entrepreneur and company manager. The network also creates the possibility of mobile management of companies and running the office from anywhere in space, which allows better use of time and freedom of movement. Of course, access to the network also allows quick and cheap contact with clients and contractors.

In companies where the path for the development of digital strategies has been clearly marked, the Chief Digital Officer (CDO) is increasingly appearing as the highest-ranking person responsible for digital transformation [Musiatowicz-Podbiał, 2020]. According to Singh & Hess [2017], CDO can perform the functions of “Digital Innovator”, “Digital Evangelizer”, “Digital Coordinator” in enterprises. The possibility of performing the fourth function of CDO, namely: “Digital Lawyer” was noticed by Haffke, I., Kalgovas, B. J., Benlian, A. [2017]. “Digital Lawyer” should appear in organizations that anticipate the significant impact of digital change on its functioning, but need a person who will bring a spirit of change and will enthusiastically implement key people in the company.

Conclusions

The analysis confirmed the hypothesis assuming the possibility of maximizing the efficiency of operations and business results of commercial enterprises by increasing the use of modern ICT technologies (mainly the Internet) as well digital marketing and digital management. It should be noted that the characteristics of individual social enterprises determine the indirect effectiveness of Internet use. Organizational effectiveness can be defined as the efficiency with which a commercial enterprise is able to meet its objectives. The research

results show that organizational efficiency of enterprises is a factor on which the success of using the Internet depends to a large extent. Internet resources are infrastructure that enables the generation and use of information resources. Nevertheless, the very fact of having the highest-value online resources is not an indicator of the highest business performance. The impact of Internet performance is high in those commercial enterprises that have used the appropriate business model and highly qualified personnel with knowledge of information technology. The scale of benefits from using the Internet depends on the skilful state of the technology used. The efficiency of using the Internet is positively related to the size of enterprises. The results of the study provide empirical confirmation of the role of the Internet as a leverage of commercial enterprise resources. The analysis also indicates the existence of synergies associated with the use of the Internet, which in turn leads to strengthening the competitive advantage resulting from the complementarity of intangible assets. There is a further need to develop better interaction between contractors in commercial marketing, identify the conditions for using the pros and cons of technological innovation in digital marketing, and use digital management. The future of commercial enterprises is work in the digital economy. The most effective ICT strategies are those that not only connect with the marketing strategy, but also with the management strategy. All these strategies have a common logical structure, and the differences are manifested in the specifics of implementing technological solutions. The business strategies of commercial enterprises, ICT strategy, management and marketing strategies must be closely coordinated. The ICT strategy adapts ICT capabilities to the business capabilities of the enterprise and vice versa. This process is also known as adapting ICT to business or adapting business to ICT or adapting business technology. Skilful matching of ICT to business becomes a source of building company value. Factors conducive to the implementation of management strategies linked to ICT include: control mechanisms ensuring the implementation of the strategic business goals of a commercial enterprise connected to ICT; preparation of an operational model facilitating digital management through functional adjustment of business and ICT structures; and mapping business processes and technologies to enable effective delivery of change, business continuity and strategic decision making.

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**THE IMPORTANCE
OF VINNYTSIA
AIRPORT IN THE
ECONOMIC
DEVELOPMENT OF
CENTRAL UKRAINE**

The airport is an effective tool to increase the investment and tourist attractiveness of the city of Vinnytsia as well as the whole region. The development of the airport determines the multilevel economic impact

on the city and the region through the contribution to the region's GDP and job creation.

The city of Vinnytsia and its airport are located at the crossroads of European routes from West to East, connecting the northern border of Ukraine with Belarus and the southern border with Moldova. The strategic potential for Vinnytsia will also be played by the GO Highway project of the Ministry of Infrastructure which is the construction of a high-speed highway that will connect Vinnytsia with Odesa and Polish ports on the Black and Baltic Seas, respectively.

Vinnytsia is a unique city in Ukraine, as it is a strategic transport hub, where the Intercity high-speed railways connect North and South (in particular, Kyiv and Odesa) and East and West (in particular, Kharkiv, Kyiv and Lviv). At the same time travel prices for tickets to and from Vinnytsia are affordable for both domestic and foreign tourists.

Due to such a favorable location, Vinnytsia Airport can be attractive not only for residents of Vinnytsia, but also for neighboring regions of Ukraine, connected by a convenient and inexpensive road and/or railway.

Almost all of Ukraine's largest international airports are located near its borders. Vinnytsia Airport is the only operating international airport in the central region. There are no other active airports with an international checkpoint and experience in servicing modern aircraft A320 and B737-800 within a radius of 200 km.

The city of Vinnytsia has a variety of attractive places that may be of interest to both domestic and foreign tourists: museums, churches and cathedrals, the M. Sadovsky Regional Academic Music and Drama Theater, the Regional Philharmonic, medical institutions and diagnostic centers. The city offers a variety of entertainment and events that attract tourists from different cities of Ukraine and abroad.

The number of hotels grows every year to accommodate tourists. Their level of service and number of rooms increases. The largest 4* hotel is the Hotel France, and an example of a 3* hotel is the Optima Hotel of the Reikartz Group. The number of small hotels of 10-15 rooms also constantly grows.

Vinnytsia region also has a lot to offer for tourists:

– sanatoriums: the most famous and powerful in terms of attracting domestic and foreign tourists for treatment and recreation are balneological sanatoriums in Khmilnyk and Nemyriv; with the development of their infrastructure and service, they can become a key

factor in attracting significant incoming tourist flows to Vinnytsia and Vinnytsia airport;

- religious tourism: Lyadovsky Usiknovensky rock monastery; annual programs of Tsadik Nahman’s visit to Uman with the arrival of 4-5 thousand aviation tourists-pilgrims from Israel during the Jewish New Year through the airport “Vinnytsia”;

- active sports: rafting on the Southern Bug River; Butterfly resort complex, etc.;

- Historical and architectural monuments: Potocki palaces of the 17th-19th centuries in Tulchyn, Dashev and Pechersk; Countess Scherbatova’s palace in Nemyriv; Nemyriv Dendrological Park, etc.;

- Museums: Voronovytzia Museum of the History of Aviation and Cosmonautics of Ukraine in the Grokholsky-Mozhaisky Palace and others;

- events: International Opera Festival “Operafest Tulchyn” (June) in the park of the Potocki Palace in Tulchyn and others.

In addition to the above popular attractions of the city and region, in the service area of the airport “Vinnytsia” can also attract tourists to the airport:

- sanatorium and resort complexes in the town of Sataniv in the Khmelnytsky region,

- Mezhybizh State Historical and Cultural Reserve and Hasidic pilgrimage sites to the town of Mezhybizh in the Khmelnytsky Region;

- Sofiyivka Arboretum in Uman, Cherkasy Region, etc.

Thus, Vinnytsia Airport has a significant potential to attract aviation tourists, airlines and launch new direct flights.

In 2015-2019, charter programs were actively developed from Vinnytsia Airport, which proves the significant potential of outbound aviation tourism for the city and the region. Several tour operators are interested in launching their own charter programs from the airport, mainly to Turkey in summer and Egypt all year round. The traditional destinations are Antalya in Turkey and Sharm el-Sheikh in Egypt. However, since the summer of 2017, charter flights to Turkish Dalaman have also been operated.

The number of charter flights from the airport was limited mainly due to insufficient carrying capacity of artificial surfaces, which necessitates either the use of less commercial loading of flights, which is not economically feasible, or the limitation of the number of flights. This applies to Boeing 737 and Airbus 320 aircraft, which carry loads on hard surfaces at the Airport greater than their current carrying

capacity.

The operation of Vinnytsia Airport is significantly influenced by the export-import activity of the region. The foreign trade balance of the Vinnytsia region continues to remain positive.

Foreign trade operations with goods of the region's economic entities were carried out with partners from 125 countries.

Exports increased the most to Austria, Benin, Georgia, Djibouti, Egypt, Yemen, Israel, Indonesia, China, Kuwait, Lebanon, Libya, and the United Arab Emirates.

Among the partners of the Vinnytsia region, the EU countries occupy a prominent place. The expansion of cooperation with them is especially important in the context of deteriorating ties with Russia. In recent years, trade and economic relations between Vinnytsia and EU countries have significantly deepened.

There are more than 200 industrial enterprises in Vinnytsia, including PJSC "Vinnytsia Oil and Fat Plant" (industrial group ViOil), PJSC "Vinnytsia Confectionery Factory" (ROSHEN), LLC "Green Cool" (holding UBCGroup), SE "Electrical Systems", including enterprises with foreign capital: Ukrainian-Spanish joint venture Sperko Ukraine LLC, Agrana Fruit LLC.

Analyzing the commodity structure of exports with EU countries, it should be noted that special demand is for vegetable products (\$ 164,6 million), wood and wood products (\$ 94,8 million), fats and oils of animal or vegetable origin. (\$ 73,9 million), cooked food products (\$ 73,4 million), machinery, equipment and machinery, electrical equipment (\$ 58,1 million), textiles and textile products (\$ 30,4 million) million dollars), live animals, products of animal origin (26,6 million dollars), products of chemical and related industries (\$ 5,5 million), mineral products (\$ 4,9 million), various industrial goods (\$ 4,0 million) and base metals and articles thereof (\$ 2,6 million).

The main items of import revenues of the region from EU countries are machinery, equipment and mechanisms, electrical equipment (\$ 83,3 million), land transport, except rail (\$52,1 million), chemical and related products industries (\$ 44,3 million), wood and wood products (\$ 25,7 million), polymeric materials, plastics and articles thereof (\$ 22,1 million), textiles and textiles articles (\$ 18.8 million), base metals and articles thereof (\$ 15,1 million), finished food products (\$ 11,9 million), animal fats and oils rope origin (\$ 9,6 million), live animals, animal products (\$ 9,2 million) and wood or other fibrous cellulosic materials (\$ 6,4 million).

Despite the political and economic challenges, the Vinnytsia region is characterized by growing trends in exports of goods and services and a positive balance of foreign trade.

In recent years, enterprises of the Vinnytsia region have significantly expanded foreign trade relations with businesses from other countries. In particular, in 2010 cooperation was established with business entities from 100 countries, in 2011 – from 108, in 2012 – from 110, in 2013 – from 113, in 2014 – from 129, in 2015 – 121, in 2016 – out of 135, in 2017 – 142, in 2018 – 138 countries, in 2019 foreign trade transactions with goods were carried out with partners from 148 countries.

On September 16, 2019, five years have passed since the ratification of the Association Agreement between Ukraine and the EU. The fourth year of its economic part of the free trade zone, which came into force in early 2016, has come to an end.

Today we can state a clear definition of the strategic vector of Ukraine’s foreign policy – European integration, which has become an official priority of national politics.

The European Union includes the most developed European countries that actively trade on the world market and are attractive economic partners of enterprises in Vinnytsia.

According to the Main Department of Statistics in the Vinnytsia region, the dynamics of foreign trade of Vinnytsia goods with EU countries in 2016-2019 is positive (Table 8.2).

Table 8.2

Dynamics of foreign trade in goods of Vinnytsia region with EU countries in 2017-2019

Export-import operations	Years					
	2017		2018		2019	
	million USD	in % until 2016	million USD	in % until 2017	million USD	in % until 2018
Export	445,38	137,5	499,1	112,1	542,9	108,8
Imports	211,44	139,0	270,5	127,9	309,0	114,2

In recent years, goods count for 90% in the overall structure of foreign trade with the EU, and the rest is services (in 2019 – 89,8%).

Exports of goods in 2019 amounted to \$ 542,9 million, and imports to \$ 309,0 million 37,3% of total exports of goods were exported to EU

countries (34,9% in 2018), 48,9% of total imports of goods were imported from EU countries in 2019 (48,0% in 2018). Foreign trade operations with goods of the region's economic entities were carried out with partners from 27 EU countries.

The leading place in foreign trade in goods among the EU countries is occupied by such countries as Poland (\$136,0 million), Romania (\$ 71,1 million), the Netherlands (\$ 63,8 million), Germany (\$ 61,8 million), Spain (\$ 42,0 million), Italy (\$ 37,2 million), Austria (\$ 24,8 million), Lithuania (\$ 23,5 million), Belgium (\$ 17,6 million), the United Kingdom (\$ 12,4 million), and France (\$ 11,8 million).

Thus, world markets, in particular the markets of the EU, are quite attractive for enterprises in the central region of Ukraine not only in terms of effective demand, but also in terms of incentives to improve logistics, production base, transport infrastructure, namely roads, rail and air services.

At the beginning of 2020, regular flights to and from Vinnytsia Airport were operated only by the domestic airline Ukraine International Airlines (domestic flights in partnership with the Wind Rose carrier). Charter flights are operated by SkyUP (JoinUP tour operator), BRAVO (TPG tour operator) and others.

General statistics of passenger traffic through the airport "Vinnytsia" are given in Table 8.3.

Table 8.3

Passenger traffic through Vinnytsia Airport in 2014-2019

Passenger traffic (thousands of passengers)	Years					
	2014	2015	2016	2017	2018	2019
Total	8,7	4,5	30,0	52,7	60,9	40,1
Annual dynamics, %		-48%	+567%	+76%	+16%	-34%

With the overall positive dynamics of passenger traffic at Vinnytsia Airport for the third year in a row, in 2018 the growth rate decreased significantly, and in 2019 the volume of passenger traffic decreased by a third. The main reasons for the negative indicators of recent years were:

– problems with charter airlines and tour operators of Ukraine, which have led to a significant reduction in flight programs with the cancellation of a great number of scheduled flights in the summer season;

- launch by Ukraine International Airlines of domestic flights from Kyiv on small Embraer 145 aircraft for 48 passengers and termination of flights to Warsaw on Boeing 737-500 aircraft (112-120 passengers);
- lack of an active marketing campaign in Vinnytsia region to support the demand for launched flight programs;
- limitation of airport infrastructure.

Successful development of passenger traffic through Vinnytsia Airport is possible provided that: there is no restriction of infrastructure for airport development – reconstruction of the aerodrome and passenger terminal is carried out in 2019-2020 with a minimum time of airport closure; constant active marketing campaign (participation in international events, meetings with airlines, advertising, etc.); in 2021-2023, an airline with efficient regional aircraft with 50-80 seats will start operating on the Ukrainian air market, which will promote the development of domestic passenger traffic.

Thus, in the case of the project of reconstruction of the airfield and terminal in 2019-2020, as well as taking active marketing measures, by 2030 the airport “Vinnytsia” can reach 1.5 million passengers a year.

For the development of air transportation, the availability of appropriate light-signaling, aeronautical and radio-technical equipment also plays a critical role. The characteristics of this equipment must meet the requirements of international airlines to add the airport to their network of routes. In this case, the airport can count on an increase in the number of takeoff and landing operations, as shown in Table 8.4. At the same time, in 2030 it is planned to increase the level of flight congestion and attract more aircraft with more capacity, which will increase passenger traffic with the same number of flights as in 2029.

According to the current certificate, Vinnytsia Airport can service A320 / B737-800 aircraft only with restrictions.

Among the elements of infrastructure those need improvements are: replacement of obsolete aerodrome equipment, replacement of the external fence with one that will meet ICAO requirements and construction of a patrol road.

The passenger terminal has a capacity of 150-180 passengers per hour, but can only serve an international or domestic flight at a time. Also, the terminal does not have an equipped business hall or VIP hall. The terminal is not equipped with modern engineering systems and the use of the area of the terminal building does not exceed 50%, and accordingly there is a possibility to increase the capacity of the terminal and install the necessary equipment and systems without additional space.

Table 8.4

**Forecast of takeoff and landing operations through the airport
“Vinnytsia” for 2020-2030 (units)**

Years	Scenario development		
	optimistic	pessimistic	average
2020	1098	1098	1098
2021	3068	1529	2298
2022	4544	1856	3200
2023	5586	2093	3839
2024	7148	2488	4818
2025	8168	2846	5507
2026	10028	3334	6681
2027	11128	3614	7371
2028	12116	3980	8048
2029	12824	4088	8456
2030	12824	4088	8456

For a positive decision to launch scheduled flights, the airport must meet certain basic requirements for technical condition and equipment. Without meeting these standard basic requirements, airlines do not enter into commercial negotiations on the terms of flights to the Airport.

According to the forecast of passenger traffic and take-off and landing operations, the existing configuration of the passenger terminal will be able to provide non-passenger traffic of up to 120 thousand passengers per year or 180 passengers per hour.

For efficient service of at least 250-300 thousand passengers per year it is necessary to reconstruct the passenger terminal and provide:

- possibilities of simultaneous service of international and domestic flights;

- capacity of the international sector of the terminal: up to 380 passengers per hour one way, including a business hall up to 20 passengers per hour which is the 2nd A320 / B737-800 aircraft per hour;

- capacity of the internal sector of the terminal: up to 150 passengers per hour, including business halls up to 10 passengers per hour which is approximately 2 ATR72 / Q400 or one B737 per hour.

It is expected that the airport will be able to agree with airlines on maximum use of time during the day, to avoid peak loads on the airport – the need to simultaneously serve more than one aircraft at the airport, and more than two international and two domestic flights in the passenger terminal to reach 300-400 thousand passengers per year.

After that, the construction of a new passenger terminal and / or the completion and second reconstruction of the existing terminal will be relevant. After reaching the number of approximately 600-700 thousand passengers per year, it may also be necessary to build a section of the main taxiway (MRD) at least at the main landing course, which will connect the end of the runway and the platform. And after 2030 and the achievement of more than 1.5 million passengers per year and more than 12 thousand takeoff and landing operations (ZPO) – may be relevant to complete the second half of the main taxiway from the other end of the runway. An appropriate opportunity should be provided when planning the use of land at the aerodrome and subsequent stages of design and survey work.

Priority infrastructure projects for the period up to 2021.

1. Reconstruction of the aerodrome.
2. Reconstruction of the passenger terminal.

Elements of the project of reconstruction of the passenger terminal:

– arrangement of technologically independent international and domestic sectors in the terminal for arrival and departure (with business halls);

– increasing the capacity of the terminal to 380 passengers per hour in the international sector and 150 passengers per hour in the domestic sector;

– arrangement of a VIP-hall for 15 passengers;

– arrangement of a conference hall for 25-30 participants;

– engineering communications in the terminal and external engineering networks.

As for the impact of Vinnytsia Airport on the economy of the central region, it is undoubtedly positive and consists in the creation of additional jobs (staff expansion) and an increase in gross domestic product (GDP) due to the intensification of the airport.

Categories of economic impact of the airport according to the methodology of ASI Europe:

– direct impact – indicators as a result of the main activity in / around the airport: (the airport itself, airlines, air traffic control, customs, etc.);

– indirect impact – indicators as a result of related activities: on-board catering, ticket sales, shops, legal and audit services for the airport and airlines, etc.;

– the impact – indicators as a result of economic activities not related to the airport: personal expenses of staff from the first two categories for

restaurants, purchase of own cars, real estate, household services, etc.;

– catalyzed impact (extended economic benefits) – indicators that show the impact of the airport on other sectors of the economy: trade, investment, tourism, etc.

Thus, in any scenario of airport passenger flow development (and even pessimistic), Vinnytsia Airport has a significant impact on the economy of the central region of Ukraine through job creation and contribution to GDP. At the same time, on average, for each job created directly at the airport, an additional 6 jobs are created in the region in related and other industries.

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**INCREASING THE
LEVEL OF
COMPETITIVENESS
OF INDUSTRIES OF
UKRAINE THROUGH
THE INTRODUCTION
OF CLUSTER MODELS**

Analysis of tendencies of development of industry of Ukraine demonstrates the need for identifying positive and negative factors of influence on competitiveness of companies in the industry and finding ways of improving its level. Providing conditions conducive to establishment of desired level of competitiveness of the sector, raises the problem of the analysis of a set of objects – the enterprises which are parties to the trade market and indicators of competitiveness according to level of development. To this end, proposed clustering of domestic enterprises. Priorities for search of ways of increase of competitiveness of industries is the effective interaction between producers, consumers, financial and credit system, local authorities and infrastructure elements with a view to taking the managerial decisions that would best meet the economic interests of all actors. Proven to be an effective form of security for such cooperation are clusters. The implementation of the cluster approach gives the opportunity to identify and assess the critical factors of influence on formation of competitiveness of the industry.

The principles of the developed technique of diagnostics of the competitiveness of enterprises can be used for decision-making with comprehensive market research and selection of the most promising enterprises in the development of measures to improve the competitiveness of products, elaboration of proposals towards the

development capabilities of the enterprise and the development of activities aimed at creating competitive advantages. Thus, on the basis of the proposed method are determined by changes in competitiveness and its components that becomes an information support of scientific-analytical substantiation of administrative decisions on the development and organization of a set of actions aimed at supporting factors in the functioning of the enterprise in the market. Bases of management of regional clusters originate from initiatives for their formation, which can offer groups private sector of the economy, the structural unit of the public sector, other institutions, primarily in order to increase the competitiveness of economic entities in a particular geographic region. Often these initiatives come from the underdeveloped (depressive) regions. At the same time, the Ukrainian experience shows that these initiatives are limited to one administrative region – region and beyond its limits, at least for three reasons:

- the lack of macroeconomic policy (state), and therefore local interest in the formation of clusters;
- low availability of external funding, in particular the lack of budgetary support from Central and local;
- the inability to implement effective governance model inter-regional cluster.

The last reason is particularly relevant for Ukraine, despite the existence of different phases of cluster development, which requires appropriate strategies to improve first of all the business processes, including through innovation, foreign direct investment.

This implies that, in addition to market mechanisms, the system of cluster management should include coordination mechanisms that can be implemented formally or informally, organizational through the main or through a specialized firm.

Coordination may cover individual functions, and the design, production, logistics, marketing, training, and their complex. Described allows, firstly, to assert the relevance of a clear promotional policy of the state regarding the establishment and development of clusters in Ukraine. Second, despite the current low availability of financial resources to implement the objectives of the cluster, its development is not provided in the Central and local budgets for direct financial support of clusters, a real source of financial support for the development of clusters are foreign direct investment. However, the very existence of the cluster can attract attention from investors, but the priority in terms of investment attractiveness are the national factors stable financial,

legal, fiscal and administrative policies, as FDI always exist in two dimensions: risk and return. In addition to stability, investment attractiveness of regions should consider the presence of special economic zones. Thirdly, as to create and develop clusters on a voluntary basis on their own initiative and without loss of legal personality by its participants, the major factor is the maturity of the intangible conditions for the functioning of the region, the sign of which is the social capital that cannot be bought or borrowed, but you can create and develop. According to the World Bank definition social capital is social norms and relationships that provide coordination of people and achieve the desired goals. Without going into a scientific debate regarding definitions of social capital, let us take the paradigm that social capital arises in the triangle “government–enterprise–society” and has a structural dimension–relationships and the cognitive dimension [7].

Observations of the author allow us to state in Ukraine, the lack of traditions of entrepreneurship and institutional support, which is an important factor in the poor state of clustering of the regional economy. The result is therefore a low level of use of labour resources and the chance for international integration and globalization. In General, social capital can be interpreted as the source of the creation and development of long-term forms of cooperation in the region, which are clusters, and with the help of four blocks:

- relationship and participation;
- trust and understanding;
- education and knowledge;
- culture and behavior.

A high level of achievement in these blocks has a positive effect on the economy of the region, however, a moderate level leads to a decrease in welfare, the growth of transactional costs of formation of group conflicts, growing income inequality and the like.

In General, we can say that the weakest links of public capital in Ukraine is:

- a) unwillingness to cooperate (due to low confidence);
- b) unwillingness to risk;
- c) low creativity.

And, actually, this is a significant obstacle for the creation of regional clusters along with the absence of reasonable belief of potential cluster members regarding the possibility of obtaining significant korista from cooperation in terms of cluster.

One of the effective tools of persuasion can be considered a pattern of good practice for the operation of the cluster and systems management. So, there are many barriers or “bottlenecks” in implementing the idea of cluster creation in Ukraine. For lack of entrepreneurs with the appropriate level of entrepreneurial culture and experience of cooperation with contractors on the principles of cooperation, the key role is public policy promoting the development of clusters [6].

Theoretical generalizations of beneficial effects of integration of the enterprises in the cluster were given the opportunity to determine their structure, defining the potential of competitiveness of enterprises:

- economic effect: the effect of the system (increase in production, lower unit fixed costs, reducing the specific transaction costs, improve market position, increase the value of firms);

- effect of restructuring (concentration on core competencies, outsourcing optimization);

- the effect of diversification (increasing the elasticity relative to market conditions, the weakening of the influence of seasonality, stabilization of the financial condition, risk reduction);

- in effect, due to legal conditions (tax benefits);

- socio-economic effect: increasing the level of skills of workers;

- wage growth;

- the improvement of working conditions;

- better service;

- improvement in the quality of products, which are consumed in the market;

- environmental and economic effect, which occurs due to more rational use of natural resources: reducing the negative impact on the environment (use of non-waste technologies, use of energy saving technologies, implementation of international standards for environmental management – ISO 14001).

The deepening of the level of detail the components of the cluster effect makes it possible, firstly, to increase the level of validity of decisions on the formation of a cluster, and secondly, to create a suitable methodology for forecasting expected results, and thirdly, to avoid repeated calculation of the relevant components of the effect and a General disregard of other essential components, in fourth, makes it possible to identify the strategic effect of the cluster taking into account its impact on the local market and the natural environment for the public, including human capital.

Characteristics of the model the success of a cluster in a structured way will allow us to formalize the procedure for calculating the expected economic performance of the cluster, in particular, and the impact on the competitiveness of its participants. The prospects of further researches are seen in the deepening of the study of applied aspects of the creation and implementation of clusters in the economy of Ukraine.

In economic research the most widely used concept of the mechanism of management competitiveness of the enterprise as a set of means and methods by which the impact on the whole of the available internal capacity of the enterprise in the external environment, taking into account tendencies of development of the market situation with the aim of obtaining the desired level of competitiveness [1].

Dividing the overall methodological approach relative to the given definition of the category of mechanism of management the competitiveness, we consider it necessary to focus on some controversial provisions.

First of all, the basic elements of the management system are: define mission, goals, motives, activities, and management methods, development of optimum organizational structure of management, the formation of a system of indicators of enterprise activity, diagnostics of internal and external factors that affect competitiveness, the development of competitive strategy and rationale of ways and methods of increase of competitiveness.

All these elements are used in the full interaction. With this in mind, the more meaningful is the concept of the mechanism of competitiveness management of the enterprise as a complex of actions for definition of the strategic prospects, analysis of factors influencing competitiveness, and risk assessment of the level of competitiveness and development prospects.

Agreeing with the above definition of the mechanism of management competitiveness of the enterprise, there are basic conditions and organizational and economic measures to ensure and enhance the competitiveness of enterprises:

- the application of scientific approaches to strategic management;
- the choice of strategic prospects of development;
- ensuring the unity of development of technics, technology, Economics, management;
- application of modern methods of research and development;
- ensuring the priority of products;

- identification and use of price factors to improve competitiveness of products;
- influence directly to the consumer by providing monetary or commodity credit;
- studying the activities of competitors to improve similar products;
- organization of informational support of managerial processes.

The system-oriented approach is the base on which are formed the future direction and carried out concrete actions in the field of competitiveness [8].

In our opinion, cluster competition – a special form oligopolistic competition that determines the market fighting for the minimization of costs and maximization of income between horizontally and vertically integrated structures.

The cluster theory of economic development, N. Porter suggests that one or several firms, reaching competitiveness in the world market, extending its positive impact on the immediate environment: suppliers, consumers and competitors. And the success of the environment, in turn, affects the further growth of competitiveness of the company [4].

The result is a cluster community of firms, closely related branches, which are mutually promoting growth of competitiveness of each other. For the whole of the state economy clusters carry out a role of points of growth of the domestic market. After the first formation of new clusters and international competitiveness of the country as a whole increases. She keeps on strong positions of separate clusters, whereas outside them, even the most developed economy can only give mediocre results. In the cluster benefit applies in all areas of relationships:

- new manufacturers coming from other industries, accelerate its development by promoting research and providing the necessary resources for the implementation of new strategies;
- there is a free exchange of information and the rapid spread of innovations along the channels of suppliers or the consumers having contacts with numerous competitors;
- the relationship inside the cluster, often absolutely unexpected, lead to new ways of competition and generate all other possibilities;
- human resources and ideas form new combinations. The main thesis of M. porter [4] is that the prospective competitive advantages are not created externally and on the domestic markets.

In General, there are three broad definitions of clusters, each of which emphasizes the main feature of its functioning [3]:

- is limited forms of regional economic activity within related

sectors, usually linked to the other scientific institutions;

- do the vertical industrial chain, narrowly-defined sectors in which adjacent stages of the production process form the core of the cluster (“supplier-manufacturer-marketed money-client”). In the same category there are networks emerging in major firms;

- is industries defined at a high aggregation level or set of sectors at an even higher level of this process.

Besides, allocate cluster strategies that complement each other is the strategy aimed at improving the use of knowledge in existing clusters

Over time, effective clusters cause large investment and close attention of the government, i.e. the cluster becomes greater than the sum of its individual parts. The concentration of competitors, their customers and investors facilitates efficient specialization of production. The cluster provides employment to many small firms and small businesses. Besides, the cluster form of organization leads to a special form of innovation – “aggregate innovative product”. Join a cluster based on vertical integration forms not spontaneous concentration of various scientific and technological inventions, and certain system of distribution of new knowledge and technologies. The most important condition for the effective transformation of inventions into innovations, and innovations into competitive advantages is the formation of a network of sustainable relationships between all members of the cluster. Thus, cooperation is becoming more necessary, but it also carries with it known risks – the possibility of loss of autonomy (ability to self-conduct in the market for independent development of new products, new technologies, etc.). That’s why in some countries in recent decades has assumed such importance of an efficient “cluster strategies” that are based on the centres of business activity that has proven its strength and competitiveness in the global market. The government concentrated efforts on supporting the existing clusters and creating new networks of companies previously not exposed between them. The state thus not only contributes to the formation of clusters, but itself becomes a participant in the networks.

With accumulated experience specialists described seven key characteristics of clusters, a combination which is based on a particular choice of cluster strategy [2]:

- geographical: the construction of spatial clusters of economic activity, ranging from purely local to global;

- horizontal: some industries/sectors can enter into a larger cluster;

- vertical: in clusters may be present adjacent stages of the

production process. It is important which of the network participants is the initiator and the final executor of innovation within the cluster;

- lateral: in the cluster together different sectors, which can provide savings due to economies of scale, which leads to new combinations;

- technology: a set of sectors that use the same technology;

- focus: cluster of companies, concentrated around a single center – enterprise, research Institute or educational institution;

- quality: is important here is not only the question of whether firms collaborate, but how they do it. The network is not always automatically stimulate innovation. Sometimes, in networking, by contrast, suppressed innovation processes and promotes protective behaviours. Relationships with suppliers can stimulate innovation processes, but they also can be used for shifting costs for partners and infringement of their financially. In the latter case, networks are neither stable nor stimulating.

An important feature of cluster is its innovative orientation. The most successful clusters form where there is ongoing or anticipated “breakthrough” in the field of engineering and production technology with the following entry into new “market niches”. In this regard, is actively used by the “cluster approach” in the formation and regulation of national innovative programs. Particular attention is paid to the definition and support for those innovations that provide long-term business development.

Therefore, we believe that the cluster approach used in studies of competitiveness, it is necessary to apply for the solution of such tasks as:

- analysis of competitiveness (state, region, industry);

- development of programs of regional development;

- the basis of stimulation of innovative activity of enterprises.

Analysis of tendencies of development of industry of Ukraine demonstrates the need for identifying positive and negative factors of influence on competitiveness of companies in the industry and finding ways of improving its level. Providing conditions conducive to establishment of desired level of competitiveness of the sector, raises the problem of the analysis of a set of objects—the enterprises which are parties to the trade market and indicators of competitiveness according to level of development. To this end, proposed clustering of domestic enterprises. Priorities for search of ways of increase of competitiveness of the industry is the effective interaction between producers, consumers, financial and credit system, local authorities and infrastructure elements with a view to taking the managerial decisions

that would best satisfy the economic interests of all the entities in the relationship. Proven to be an effective form of security for such cooperation are clusters. The implementation of the cluster approach gives the opportunity to identify and assess the critical factors of influence on formation of competitiveness of the industry.

Implementation of theoretical provisions and practical recommendations for the development and implementation of organizational-economic mechanism of management the competitiveness of the industry will contribute to its effective functioning and development.

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CONCLUSION

In the context of global change one of which is the COVID-19 pandemic, the most important factor in ensuring the sustainable functioning of economic entities is the introduction of new models of economic systems management. Achieving sustainable functioning of economic entities largely depends on the available resource potential, its preservation and maintenance of value, expanded reproduction and innovation ensure. Due to the changes in the market environment caused by the pandemic, the theoretical foundations and methodology of economic systems management need to be improved and substantially supplemented. The problem is partly solved by the introduction of modern information technology in the economic systems management and the transition of individual economic entities online, which have such an opportunity. For other economic entities, digitalization has become an effective instrument for growth and expanse of volumes of activity, which has formed a new model of economic systems management.

The results of the author's research in the collective monograph are devoted to solving the problems of formation and implementation of new models of economic systems management and mechanisms of their implementation in modern global challenges based on strategic management and making management decisions.

An important component of the collective monograph is the developing of new models of innovation management, financial-credit and investment ensuring, approaches to modeling socio-demographic processes, directions of rationalization of marketing ensure for economic systems management.

The results of the research presented in the collective monograph reflect the theoretical and practical aspects of the implementation of economic systems management mechanisms that ensure the preservation of resource potential of economic entities in the current perspective and the possibility of developing scenarios for its development in the future, including in various sectors of the economy.

It is established that ensuring the efficiency of economic systems management in the current global challenges is based on improving the management process of innovative economic entities.

Overcoming the crisis provoked by the COVID-19 pandemic and creating conditions for preserving the resource potential of economic entities require the developing and implementation of a balanced economic policy aimed at economic systems managing in the country, ensuring optimal use of resources on this basis. In a complex set of priority changes one of the important places belongs to the rational ratio of self-regulated and regulated levers functioning of economic systems, the formation of a balance of interaction of market self-regulation and the role of the state in ensuring favorable economic conditions.

The current global scientific-technological, information, cyber and environmental revolution require appropriate changes in the models of economic systems management. Each economic entities, based on available resources and capabilities, market conditions, should developing its own model of economic activity management, which, based on the latest global challenges and opportunities, would ensure the preservation, efficient function and development in the future.

That is why we believe that the innovative model of economic systems management in accordance with the current state of economic entities and global challenges has no alternative among other models of economic functioning (such as the model of traditional development, the model of catching up, etc.). And only the transition of economic systems to the model of conservation and progressive development, in which the main source of economic growth will be scientific knowledge, technological innovation and information, can ensure the effective functioning of economic entities, create conditions for solving socio-economic problems and challenges caused by the COVID-19 pandemic.

The results of the study of world experience show that recent history knows no example of the formation of a highly developed, flexible, efficient functioning economy without a market, or a highly efficient socially oriented market economy without a leading regulatory role of the state. Therefore, the state should make efforts to maximize the preservation of economic entities by providing appropriate financial assistance, various social transfers and develop public-private partnerships in the most attractive areas and directions of economic activity. Such measures will promote the formation of parity of state regulation of the economy and market self-regulation, which will ultimately ensure effective management of economic systems.

Effective management of economic systems requires financial-credit support for the creation of new technologies, first of all, the emergence of social innovations, the development of online technologies and digitalization. In the context of globalization challenges, dynamism of external and internal processes there is a need for a fundamental understanding of the theory of management of economic systems in the transition to the principles of conservation of resource potential, formation of ecological systems and development of theoretical-methodological provisions and methods of making flexible management decisions.

The impact of the pandemic and the dynamism of the market environment require the introduction of organizational-economic measures by economic entities aimed at maintaining stability, adaptability and flexibility of functioning. However, maintaining an appropriate level of functioning of economic entities necessitates their sustainable development, which can be defined as balanced quantitative, structural and qualitative changes that meet the objectives and take into account the constraints imposed by the external environment and resource potential. Ensuring the effective functioning of economic entities 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 that 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 implementation of management decisions, certain objects and subjects of development management, clearly defined management functions, selected structural elements of the mechanism and the peculiarities of their use.

The process of implementing economic systems management models taking into account the available resource potential, innovations and processes of transformation of economic entities should be planned and managed in advance, which is possible to create an optimal program of change. Its development should be based on the parameters of changes in economic activity, certain options for implementing the developed program and approaches to the transformation, the proposed method of optimal use of resources for the development program and taking into account the presented system

of constraints.

In general, the authors of the collective monograph are convinced that in modern conditions the innovation and knowledge should be the main factor in stabilizing the socio-economic state of economic entities. Ensuring the sustainable functioning of economic systems will help to form an appropriate science-innovation policy in accordance with the strategy of preserving, maintaining and increasing the resource potential of economic entities, which will gradually restore business activity and normalize the economic situation in the pre-pandemic period.

**New trends in the economic systems
management in the context
of modern global challenges**

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